CITY OF MARICOPA

PROUD HISTORY • PROSPEROUS FUTURE

AIRPORT FEASIBILITY STUDY

EXECUTIVE SUMMARY

The City of Maricopa, in cooperation with the Arizona Department of Transportation, commissioned this Airport Feasibility and Site Selection Study to provide a market, siting, and financial feasibility analysis of the potential for a general aviation airport to serve the City of Maricopa and the western Pinal County area. The study was conducted in three phases to consider these three critical aspects to airport development. Each phase was reviewed with an advisory committee and presented to the Maricopa City Council for review and approval before continuing onto the next phase of the study.

Phase I involved the examination of the market potential for the airport. The specific objectives of the Phase I Airport Feasibility Study included:

- Review area socioeconomic characteristics, local and regional community planning, area physical and environmental characteristics, and weather data as they may relate to airport development potential.
- Review physical and operational characteristics and constraints at other area airports.
- Determine current and projected aviation activity that a new airport could reasonably expect.
- Conduct research of other airports and identify possible market niches for a new airport.
- Establish the general airport requirements for a new airport.
- Perform a preliminary cost/benefit analysis on a potential airport.

Phase II involved a search of the study area for locations that could accommodate the type of airport outlined by the airport requirements in Phase I. This search included acquisition and analysis of geographic data through GIS, coordination and interviews with city staff, and windshield site visits. The number of potential airport sites was reduced, and the remaining candidate sites were evaluated in more detail. A recommended site evolved from this phase of the study.

Phase III was undertaken to further examine the financial feasibility of constructing and operating the airport. The cost of constructing the airport, the cost to operate the airport over the next 20 years, and sources of funding were developed and evaluated. It was shown that initially the airport would have a negative annual operating revenue (much like any new business), but could ultimately become self-sufficient.

The City Council approved the final phase of the Maricopa Airport Feasibility Study on September 2, 2008. The next two steps will involve the preparation of an Airport Master Plan and an Environmental Assessment of the proposed site.

PHASE I – MARKET FEASIBILITY

SOCIOECONOMIC PROFILE

Aviation demand can normally be linked to the population base, economic strength of the region, and the ability to maintain a strong economic base over an extended period of time. Demographic and economic information cited in the Phase I Report were collected from several local, state, and federal sources.

Population is one of the most basic elements to consider when planning airport needs. An examination of population statistics should concentrate on areas of influence within the study area. For this study, historical and forecasted population was examined for the City of Maricopa, Pinal County, and Maricopa County.

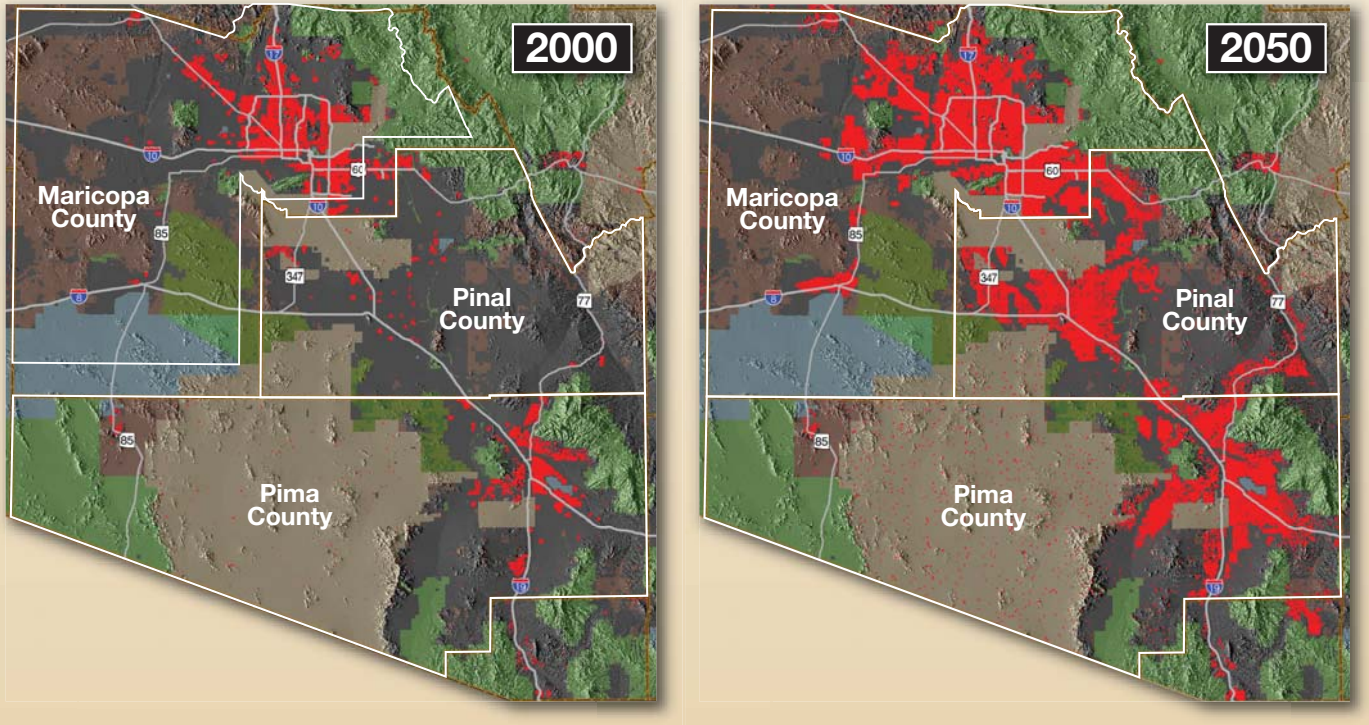
Exhibit 1 – Population Growth South Central Arizona was derived from a graphic prepared by the Maricopa Association of Governments (MAG). The exhibit shows the anticipated growth of population centers in Maricopa, Pinal, and Pima Counties between 2000 and 2050. It becomes quite evident from this depiction that Pinal County is developing into a metropolitan center between the Phoenix and Tucson metropolitan areas.

Table 1 presents population projections for Pinal County. The County's population is expected to grow at an average annual rate of 10.9 percent over the next twenty years, reaching a total population of nearly two million by 2025. According to the *Pinal County Small Area Transportation Study (SATS)*, the areas projected to experience substantial growth include Eloy, Maricopa, Casa Grande, Coolidge, and Florence.

Because the City of Maricopa was not incorporated until 2003, limited historical data is available. Between 2000 and 2006, the City experienced phenomenal population growth, increasing from approximately 1,040 residents in 2000 to over 24,000 in 2006. This represents an average annual growth rate of nearly 70.0 percent.

Locally referred to as "hyper-growth," projections for the City of Maricopa and the surrounding area are staggering. Fueled by this explosive growth, the population of

Exhibit 1
POPULATION GROWTH SOUTH CENTRAL ARIZONA



Source: Maricopa Association of Governments.

Table 1
POPULATION PROJECTIONS PINAL COUNTY

Study Area	2005 Population	2025 Population	Population Increase	Average Annual Growth
Western	94,000	789,700	695,700	11.2%
North Central	121,900	884,200	762,300	10.4%
Eastern	32,200	280,100	247,800	11.4%
County Total	**248,100**	**1,954,000**	**1,705,800**	**10.9%**

Source: Pinal County Small Area Transportation Study (August 2006).

Maricopa is expected to increase at a rate greater than 50 percent per year for at least the next five years.

Table 2 presents growth assumptions for the Maricopa Planning Area through 2025. These projections are based on the continuance of current growth patterns, which are driven by the housing market in the city and county, reasonable access by John Wayne Parkway, land availability, and other factors. Population projections utilize 2.8 persons per dwelling unit and sustained rapid growth to reach an estimated population of 350,000 by 2025 for the Maricopa Planning Area.

Table 2
GROWTH ASSUMPTION MARICOPA PLANNING AREA

	2005	2025
Population	14,000	350,000
Dwelling Units	5,000	130,000
Employment	2,400	189,400
Commercial (s.f.)	300,000	12,350,000

Source: The Maricopa General Plan.

Employment is projected to grow at an even faster rate than population based upon an expectation that the growth of the Phoenix metropolitan area to the north and the Tucson metropolitan area to the south will continue to extend into Pinal County. While growing essentially as a suburban community (home prices in Pinal County remain approximately 80 percent of those in Maricopa County), the goods and services required by the residents would create jobs and expand the economy within Pinal County.

At the local level, Maricopa's businesses and industries have traditionally been geared toward farming and ranching. However, its economic base has been diversifying through companies such as Volkswagen and Nissan, both of which have proving grounds in the area. Harrah's Ak-Chin Casino also contributes to the growing economy. The largest industries are agriculture, retail, and manufacturing.

AREA AVIATION

Typically, general aviation airports which could have any significant influence on the proposed airport are within a 15-mile range. **Table 3** presents an inventory of the airports in the vicinity of the City of Maricopa. The location of these airports can be viewed on **Exhibit 2 – Area Airspace**.

As shown in the table, there are several airports of various sizes, capabilities, and functions within 17 miles of the City of Maricopa. In fact, there are currently 18 airfields with Maricopa or Stanfield addresses. Most of these are privately owned for private use and require prior permission to land. Many are affiliated with farms or ranches, and some are bases for aerial agricultural applicators. Public owners of restricted use airports in the area include the Ak-Chin Indian Community and the University of Arizona Maricopa Agriculture Center.

The **Mobile Airport** located to the northwest in Maricopa County is a private restricted use airport that is used exclusively by the Airline Training Center of Arizona (ATCA) for pilot training. The airport features a paved 4,500-foot runway with a full-length parallel taxiway and high intensity runway lighting.

Table 3: MARICOPA AREA AIRPORTS

Airport	Distance (miles)	Owner	NPIAS Role	Runway		Based Aircraft	Annual Operations
				Length (ft)	Paved		
Public Use Airports							
Estrella Sailport	6 W	Private	None	2,520 3,740	Yes No	42/40	20,000
Phoenix Regional	8 ESE	Private	None	5,000	Yes	12/10	NR
Gila River Memorial*	13 NNE	Private	None	8,560 5,200	Yes Yes	61/0	25,500
Casa Grande	15 ESE	Public	GA	5,200	Yes	101/10	98,500
Stellar Airpark	15 NE	Private	None	3,913	Yes	152/1	39,000
Chandler Municipal	17 NE	Public	RL	4,870 4,401	Yes Yes	449/0	269,072
Restricted Use Airports							
Ak-Chin Community	4 S	Public	None	2,950	Yes	3/0	4,300
Donnelly Residence	10 SSE	Private	None	1,650	No	NR	NR
Flying Bucket Ranch	15 SW	Private	None	2,900	No	5/0	NR
G.M. Ranch	12 SW	Private	None	2,640	No	1/0	NR
Mel's Ranch	17 W	Private	None	2,000	No	1/0	NR
Millar	6 W	Private	None	2,300	No	1/0	NR
Mobile	12 WNW	Private	None	4,500	Yes	NR	NR
Potters Field	10 SE	Private	None	2,400	No	10/0	NR
Schu Ranch	12 W	Private	None	2,000	No	12/6	NR
Serene Field	14 SW	Private	None	3,960	No	3/1	NR
U of A Maricopa Ag Center	4 NE	Public	None	5,300	No	NR	NR
Walter Ranch	13 SW	Private	None	2,600	No	2/0	NR

* Airport is currently restricted use but Master Plan calls for future public use
NPIAS Roles: GA – General Aviation; RL – Reliever; None – Not included in the NPIAS
Based Aircraft: Total aircraft based/based ultralights or gliders
NR: Not Reported

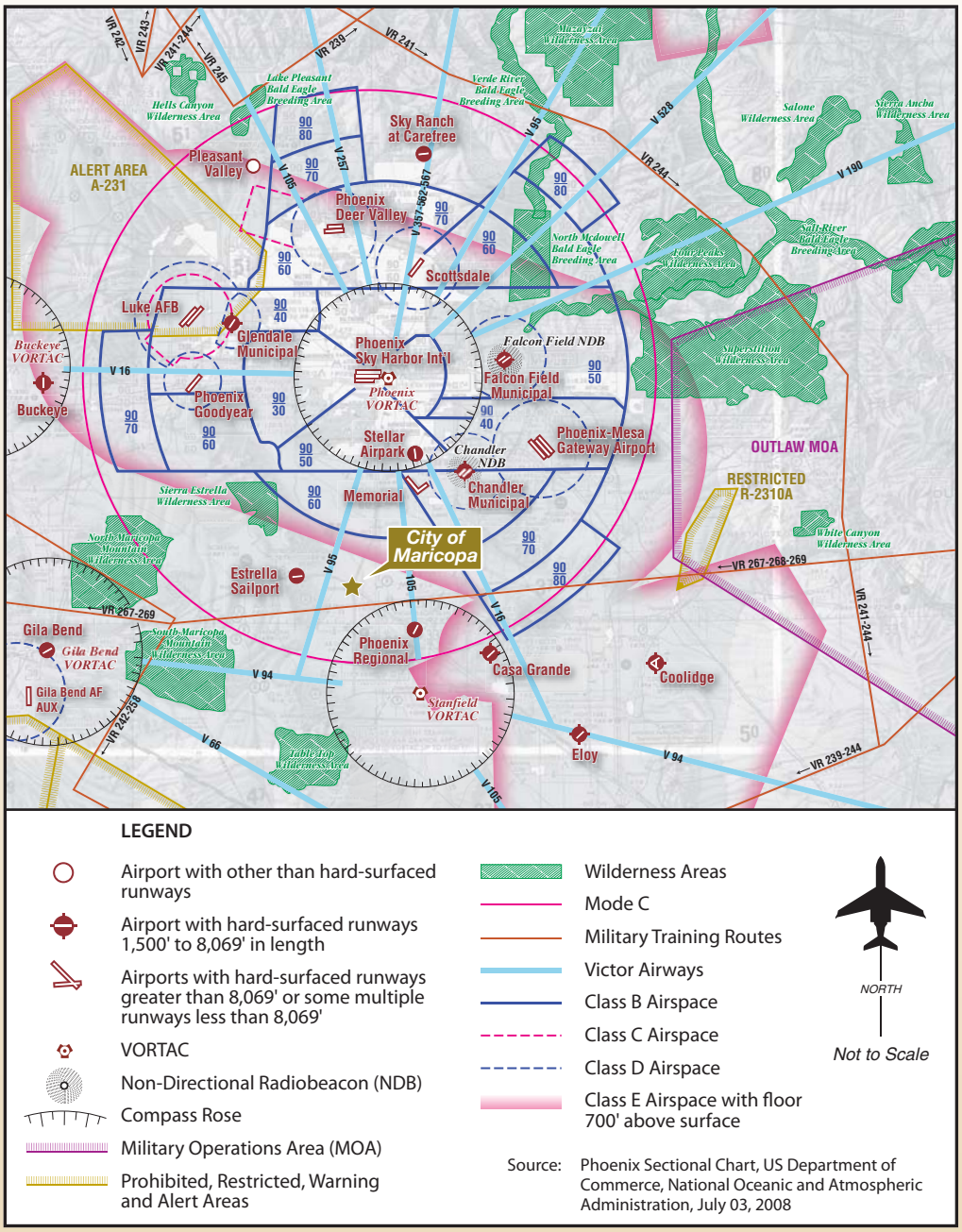
Estrella Sailport is the closest public use airport to Maricopa. As the name suggests, the airport is dedicated almost exclusively to aerial soaring, and is an internationally recognized gliderport that takes advantage of its location and weather in serving the recreational soaring market. The airport is located close to the Phoenix metropolitan area, but is outside of Class B airspace. The sunny and warm Arizona weather maximizes the conditions conducive to sailing. The location at the foot of the Estrella Mountains provides excellent opportunities for ridge and wave flying nearby.

Phoenix Regional Airport was privately developed as part of a 2,000 acre master planned community. The original vision for the airport was to combine the market nuances of Scottsdale Airport and Stellar Airpark at one location with both residential and industrial access to the airfield.

The current facility does have a small industrial park with airfield access, but the residential airpark has yet to evolve. The airport has recently been sold to the Ak-Chin Indian Community. The future of the facility is unknown as indications are that leases are not currently being renewed.

Gila River Memorial Airport is an airport facility located approximately four miles southwest of downtown Chandler. The most recent master plan was prepared in 2003 and recommended abandoning the existing runway and constructing a new primary Runway 13-31. A shorter parallel runway was also planned to

Exhibit 2: AREA AIRSPACE



Source: Phoenix Sectional Chart, US Department of Commerce, National Oceanic and Atmospheric Administration, July 03, 2008

accommodate potential small general aviation aircraft training operations. Landside recommendations included a terminal facility, as well as several hangar facilities. Large areas for potential commercial and industrial development were also reserved. At this point in time, none of the recommendations from the master plan have been implemented.

Due to its close location to Interstate 10, Gila River Memorial Airport could readily serve as a general aviation reliever to Sky Harbor International Airport; however, facilities would need to be refurbished and improved to accomplish this. The primary constraint facing Gila River Memorial Airport is its complicated property ownership and management issues.

Casa Grande Municipal Airport is located approximately four miles north of downtown Casa Grande and is classified in the *National Plan of Integrated Airport Systems* (NPIAS) as a public-use general aviation airport. Equipped with a precision instrument landing system (ILS) approach combined with its location outside of the Class B airspace around Phoenix, the airport hosts many instrument training operations on a daily basis.

There is an industrial park located adjacent to the airport that was originally developed with taxiway access. However, the park was released from the airport and parcels are now sold rather than leased. Any airport access from the park would now require a "through-the-fence" agreement that would have to be approved by the FAA.

Casa Grande Municipal Airport should continue to experience growth in based aircraft and general aviation operations due to the population growth in the Casa Grande area. The airport is currently updating its master plan, which includes extending the runway to an ultimate length of 8,400 feet.

Stellar Airpark is a privately owned and operated airport located in Chandler that has successfully developed as both a residential and industrial airpark. The residential airpark is located on the west side of the airport and includes gated taxiways into a series of residential lots complete with adjacent or attached aircraft "garages." The east side of the runway also includes taxiway access in an aviation business park setting.

The airport is also open to public use with a fixed base operator (FBO), Stellar Air, providing fuel and aircraft maintenance. The runway length of 3,913 feet is not conducive to significant corporate aircraft activity, but sufficient for the private aircraft and small aviation businesses that thrive there.

Chandler Municipal Airport is located approximately three miles southeast of downtown Chandler and is currently classified as a reliever airport in the NPIAS. The airport is capable of handling most small general aviation aircraft and limited business jet aircraft and has four FBO tenants.

Chandler Municipal Airport drives economic activity for the City of Chandler. Chandler Airpark is planned adjacent to the airport and could potentially boost local economic activity. This airpark provides areas for all kinds of business development in an enterprise zone, which allows for tax incentives.

The recent master plan recommends extending the primary runway to a length of 5,700 feet. Development encroachment limits the ability to extend the runway any farther. This length would allow the airport to accommodate some additional business jet activity and create even more economic potential for the airport and the community.

Potential Market Niches

Based upon the market description of the other public use airports in the area, as well as the assets and constraints of the Maricopa area, several opportunities or niches can be identified. The four niches described below each take advantage of assets available in the Maricopa area. These include:

- **Pilot Training** – This is a significant business in the Phoenix metropolitan area, taking advantage of the high percentage of visual flight conditions the area experiences. Some area flight schools have contracts with foreign airlines and countries for the initial flight training of their future pilots. The Maricopa area's location outside of the Phoenix Class B airspace would be attractive for pilot training as already evidenced by the training activity at Casa Grande Municipal Airport and at Mobile Airport. One potential concern with an extensive flight training program would be the military training route that crosses almost directly over Maricopa.

- **Recreational Aviation** – A recreational airport would tend to cater to the smaller general aviation users, including the glider activity now being served by Estrella Sailport. A strictly recreational airport, while valuable in attracting visitors to the area, would be limited on its ability to attract business and industry to the community. Depending upon the site location, however, this is a use that might need to be incorporated into the future airport.

- **Industrial Airpark** – An industrial airpark would provide an attraction for business use as well as an employment center. In its planning to date, the City of Maricopa has viewed the area around the Estrella Sailport as a potential employment center. Ideally, an industrial airpark would be planned with taxiway access to available sites. Private airports such as Stellar Airpark and Phoenix Regional Airport have an advantage in this area because they can subdivide and sell lots with airport access. At federally obligated public airports, direct airfield access from privately owned property is considered "through-the-fence" and discouraged by the FAA. Still, Casa Grande Municipal and Chandler Municipal Airports have business parks developing adjacent to them, just without direct airfield access.

- **Corporate Aviation** – To date, other than Williams Gateway Airport, no airport on the south side of the Phoenix metropolitan area has developed a true niche of serving corporate clientele on a level comparable to Scottsdale Municipal Airport. With the exception of Gila River Memorial Airport, which is presently not open for public use, the longest runway among the area public use airports is 5,200 feet at Casa Grande Municipal Airport. Chandler Municipal Airport has plans to extend its runway to a maximum length of 5,700 feet, but this will still serve only limited corporate jet activity. Casa Grande Municipal Airport's current approved airport layout plan does include a runway extension of 3,000 feet.

As a growing community, Maricopa's airport development interests should focus first on facilities that can grow with the community. This should include serving local aircraft that will grow with the population, as well as corporate aircraft that serve the diversification of the area as an employment base. The ability to develop a business or industrial park either on or adjacent to the airport would be a plus.

If necessary, the airport should also consider the existing recreational uses in the area. This could result in an ultimate design that has a primary runway designed for corporate aircraft use. A second parallel runway could be developed for flight training with an adjacent dirt strip for use by glider aircraft. Flight patterns would be maintained on opposite sides of the airfield, as would corporate and recreational landside activities.

AVIATION FORECASTS

With an indication of the market potentials, the next step is to quantify the potential demand for the airport use in the form of aviation activity. The primary indicators of general aviation demand include:

- Based aircraft
- Annual operations
- Fleet mix

The number of based aircraft is the most basic indicator of general aviation demand. By first developing a forecast of based aircraft, the growth of aviation activities at the airport can be projected.

The number of aircraft based at an airport is, to some degree, dependent upon the nature and magnitude of aircraft ownership in the local service area. In addition, a new Maricopa airport would be one of several airports serving the general aviation needs in Pinal and Maricopa Counties. Therefore, the process of determining based aircraft potential begins with a review of historical and forecast aircraft registrations in the area.

There were a reported 276 aircraft registered in Pinal County in 1997. This number has since increased, with 356 registered aircraft reported in the County in 2006, which represents an annual average growth rate of 2.6 percent.

The selected forecast for registered aircraft in Pinal County is based upon a slowly decreasing ratio of registrations per 1,000 residents. The selected forecast yields 500 registered aircraft by 2010, 790 registered aircraft by 2015, and 1,950 registered aircraft by 2025. This represents a 9.4 percent average annual growth rate. **Table 4** summarizes the registered aircraft forecasts developed for Pinal County, as well as the selected forecast.

Table 4: MARKET SHARE OF REGISTERED AIRCRAFT (PINAL COUNTY)

Year	New Maricopa Based Aircraft	Pinal County Registered Aircraft	Market Share of Based Aircraft
2006	54	356	15.2%
Increasing Market Share			
2010	80	500	16.5%
2015	140	790	17.5%
2025	350	1,950	18.0%

Source: Historical Registered Aircraft - Avantex Aircraft & Airmen CD;
Forecast Registered Aircraft – Analysis By Coffman Associates.

Distribution of aircraft to the new Maricopa airport was made based upon proximity to the Maricopa planning area. In zip codes that are located within the planning area, two of three registered aircraft were assigned to the new airport. In zip codes on the fringe of the planning area, ten percent of the registered aircraft were assigned to the new airport. The result was a potential for an initial basing of 54 aircraft at a new airport were it to open today.

This baseline number of 54 based aircraft at the new Maricopa airport represents 15.2 percent of the total aircraft registered in Pinal County in 2006. An increasing market share forecast was developed and is presented in **Table 4**. This increasing market share forecast assumes that with the projected boom in the population, the airport will begin capturing a greater share of registered aircraft in the County. This increasing market share projection yields a selected forecast of 350 based aircraft by the end of the planning period.

Since the process of developing a new airport can typically take from three to ten years to complete, it is difficult to rely on forecasts based upon time. The longer it takes to establish the airport will directly delay the realization of the projections. Therefore, the airport demand timeframe will be related to the initial opening of the airport rather than a particular calendar year. A new airport is not likely to be open until after 2010. Therefore, the initial planning period will represent the five-year horizon, the intermediate term period will reflect a ten-year horizon, and the long range period will reflect a twenty-year planning horizon.

Table 5 outlines the projected fleet mix. The national trend is towards a larger percentage of sophisticated aircraft and helicopters in the fleet mix. Growth within each category at the airport has been determined by comparison with national projections, which reflect current aircraft in production.

Aircraft operations are classified by air traffic control towers as either local or itinerant. A local operation is a take-off or landing performed by an aircraft that operates within sight of the airport, or which executes simulated approaches or touch-and-go operations at the airport. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport. Generally, local operations are characterized by training operations. Typically, itinerant operations increase with business and industrial use since business aircraft are used primarily to carry people from one location to another.

For planning purposes, operations at the potential new Maricopa airport were estimated at 600 annual operations per based aircraft. An examination of airports in the area revealed that approximately 40 percent of total operations are itinerant. It is estimated that itinerant operations at a new Maricopa airport would initially be 35 percent. As the airport matures with more business-related traffic, the ratio of itinerant operations is expected to gradually increase to 40 percent. **Table 6** presents the forecast of annual operations.

FACILITY REQUIREMENTS

To properly examine the feasibility of a new airport, it is necessary to translate projected aviation demand into the specific types and quantities of facilities that can adequately serve this expected demand. Having established these facility requirements, general

Table 5: BASED AIRCRAFT FLEET MIX

Year	Total	Single Engine	Multi-Engine	Turboprop	Jet	Rotorcraft
Baseline	54	46	5	1	0	2
Percentage Share						
Baseline	100.0%	85.2%	9.3%	1.9%	0.0%	3.7%
FORECAST						
Initial	80	66	7	2	2	3
Intermediate	140	111	10	5	8	6
Long Range	350	270	22	12	30	16
Percentage Share						
Initial	100.0%	82.5%	8.8%	2.5%	2.5%	3.8%
Intermediate	100.0%	79.3%	7.1%	3.6%	5.7%	4.3%
Long Range	100.0%	77.1%	6.3%	3.4%	8.6%	4.6%

Table 6: GENERAL AVIATION OPERATIONS FORECAST

Year	Based Aircraft	Itinerant Ops	Local Ops	Total Ops	Ops Per Based AC
Baseline	54	11,300	21,100	32,400	600
Constant Ratio Projection					
Initial	80	17,000	31,000	48,000	600
Intermediate	140	31,000	53,000	84,000	600
Long Range	350	84,000	126,000	210,000	600

Table 7: AIRFIELD FACILITY REQUIREMENTS

	Initial	Intermediate	Long Range
Airport Reference Code	C-II	D-II	D-III
Primary Runway Length (ft.) Width (ft.) Strength (lbs.)	 5,500 100 30,000 SWL	 7,300 100 30,000 SWL	 8,300 100 75,000 DWL
Secondary Runway ARC Length (ft.) Width (ft.)	NA NA NA	NA NA NA	B-II 4,400 75
Dirt Runway (if required) Length (ft.) Width (ft.)	A-I 3,700 120	A-I 3,700 120	A-I 4,400 120
Taxiway Width (ft.)	Parallel 35	Parallel 35	Parallel 50
Navigational Aids	PAPI-4 GPS	PAPI-4 GPS	PAPI-4 GPS ATCT
Lighting	MIRL REILs Beacon	MIRL REILs Beacon	MALSR MIRL REILs Beacon
Marking	Nonprecision Segmented Circle Wind Cone	Nonprecision Segmented Circle Wind Cone	Precision Segmented Circle Wind Cone

estimates of development costs can be estimated for considering the financial feasibility of the airport facility. The requirements for new facilities have been expressed for the initial airport as well as the intermediate and long range planning horizons. Airfield requirements are outlined in **Table 7** above, and terminal area requirements are outlined in **Table 8**, on the following page.

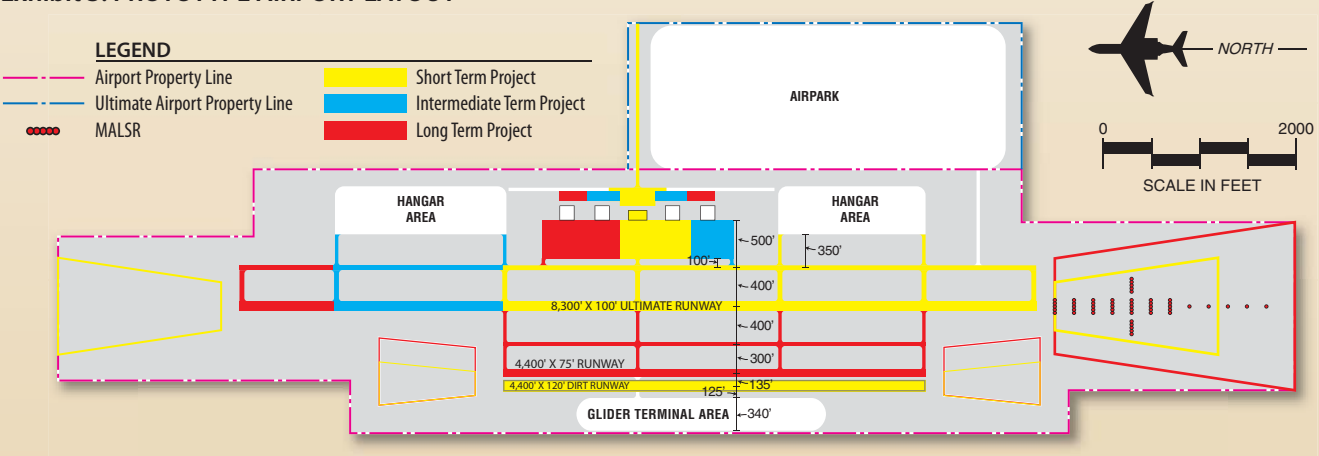
Exhibit 3 – Prototype Airport presents a prototype airport for the City of Maricopa. The primary runway would be initially constructed to a length of 5,500 feet and a width of 100 feet. The runway could eventually be extended to 8,300 feet. A parallel runway is also planned for the long term when additional operational capacity would be needed. There may also be a need to support glider activity at the planned airport. For this purpose, a graded dirt landing strip is located parallel to the training runway. The dirt runway is planned to the same length as the training runway (4,400 feet) and is 120 feet wide.

The total area of this prototype airport is approximately 650 acres. This is the minimum that the City of Maricopa should consider when acquiring property for airport use. Only those portions of the property necessary for the basic airport and support facilities would need to be developed at the outset.

Table 8: TERMINAL AREA REQUIREMENTS

	Initial	Intermediate	Long Term
Based Aircraft	80	140	350
Annual Operations	48,000	84,000	210,000
Aircraft to be Hangared			
Piston	62	103	248
Turbine	4	13	42
Helicopter	3	6	16
Total	69	122	306
Hangar Positions			
Shade or T-Hangars	56	93	223
Conventional Hangars	13	29	83
Hangar Storage Area (s.f.)			
Shade or T-Hangars	67,200	111,600	267,600
Conventional Hangars	22,400	57,400	171,800
Maintenance Hangar Area (s.f.)	14,000	24,500	61,250
Aircraft Parking			
Positions			
Local Tiedowns	11	18	44
Apron Area (s.y.)	3,900	6,300	15,400
Transient Ramp			
Positions	21	39	105
Apron Area (s.y.)	14,300	27,200	74,300
Terminal Building (s.f.)	2,000	3,700	10,200
Auto Parking			
Spaces	68	124	326
Area (s.f.)	23,800	43,400	114,100

Exhibit 3: PROTOTYPE AIRPORT LAYOUT



ECONOMIC BENEFITS

Revenues generated from operations at general aviation airports often do not meet the required annual expenditures to operate, maintain, and improve the facility without additional funding from the governing entity. As such, general aviation airports are often criticized for not operating at a profit and causing a drain on local taxpayers.

When airports are perceived in this limited way, their role in attracting business and facilitating spending in the community is overlooked. It is true that a goal of an airport should be to strive for self-sufficiency; however, there are limits to the amount of revenue that can be obtained from airport users in meeting operating expenses and necessary capital costs for airport

improvements. An analysis of direct and indirect impacts of airport development provides some insights into the amount of economic activity generated by the presence of an airport.

The economics of an airport reach beyond a simple balance sheet of revenues and expenditures. Since businesses often choose to locate near transportation centers, the presence of an airport can provide a substantial benefit to the community it serves. Similar to the locational advantages of waterways and railroads of the past, airports now are considered attractors of economic development opportunities.

In 2002, the Aeronautics Division of Arizona Department of Transportation (ADOT) commissioned a study of the statewide economic impact of aviation. *The Economic Impact of Aviation in Arizona* not only studies the statewide impact but also the impact of each individual airport in the state. **Table 9** presents the results for several area airports including Phoenix Regional Airport and the Estrella Sailport, the two public use airports in the vicinity of Maricopa.

The study determined Buckeye Municipal and Glendale Municipal Airports to have annual economic contributions of $19.2 million and $36.7 million dollars, respectively. The projected basing potential of a new airport to serve the Maricopa airport falls within the range of these two airports. The long term operations level projected for the Maricopa airport would be comparable to that of Chandler Municipal Airport, which had an economic impact of $53.9 million in 2002.

Table 9: ECONOMIC IMPACTS OF AREA PUBLIC USE AIRPORTS – 2002

	Estrella Sailport	Phoenix Regional	Casa Grande Municipal	Buckeye Municipal	Glendale Municipal	Chandler Municipal
On-Airport Direct Impact						
Employment	19	4	28	35	124	160
Payroll	$720,242	$145,894	$1,074,316	$1,904,671	$4,843,339	$6,164,148
Sales	$1,619,846	$310,481	$2,535,337	$5,784,819	$11,023,290	$14,163,853
Visitor Spending						
Employment	2	6	228	68	116	203
Payroll	$33,036	$127,793	$4,523,841	$1,354,176	$2,311,021	$4,038,123
Sales	$81,235	$314,243	$11,124,120	$3,329,918	$5,682,797	$9,929,740
Total Primary Impacts						
Employment	21	10	256	103	240	363
Payroll	$753,274	$273,687	$5,598,157	$3,258,847	$7,154,360	$10,202,271
Sales	$1,701,081	$624,724	$13,659,457	$9,114,737	$16,706,087	$24,093,593
Total Impacts with Multiplier						
Employment	38	23	399	236	516	778
Payroll	$1,281,918	$601,032	$9,915,806	$7,204,437	$15,452,764	$22,445,580
Sales	$2,901,494	$1,397,500	$23,934,485	$19,283,702	$36,717,702	$53,877,443

Source: Arizona Department of Transportation

PHASE II - SITE ANALYSIS

The site selection process utilized in identifying a preferred site for the new general aviation airport will encompass the following:

- Refinement of the airport search area
- Identification of candidate sites
- Evaluation of candidate sites
- Selection of preferred site

AIRPORT SEARCH AREA

Since the proximity of an airport to business centers is the number one factor for aircraft owners when selecting an airport, it was determined to limit the search area to the Maricopa Planning Area as defined in the Maricopa General Plan. The airport service area as defined by the Maricopa Planning Area provides a wide area for potential airport sites and it reflects several natural or man-made barriers. To the west is an expanse of Bureau

of Land Management (BLM) property and mountains. To the south is Interstate 8, to the north is the Gila River Indian Community, and to the east is the growing City of Casa Grande.

With the establishment of an airport study area, additional geographic data was compiled using a geographic information system (GIS). This data was topically examined to determine areas which should be explored further.

Several exclusionary factors were then applied to further refine the search area, including land use (existing and future urbanized), highways and arterial roads, canals, tribal lands, and terrain (elevation). In addition, features such as power lines, communications towers, schools, churches, and railroads were all buffered and considered exclusionary.

From this base map, 14 initial sites were identified. These sites were then further grouped into five distinguished regions. The optimal runway locations within each of these five regions were identified. **Exhibit 4 – Candidate Sites** depicts the location of the five candidate sites.

Each of the five candidate airport sites were then ranked based on engineering and environmental factors. The engineering factors included: proximity and access, site layout and design, property acquisition, earthworks and drainage, and airspace. The environmental factors included: social resources, physical resources, ecological resources, farmland resources and historical and cultural resources. **Table 10** summarizes the site rating.

The site analysis indicated that Sites 1, 10, and 11 are the most suitable locations for an airport to serve the City of Maricopa. The three sites appear to have distinct advantages over the other two candidate sites.

The greatest advantages for Site 1 are its location adjacent to the state highway, it is an existing airport site, and most of it currently belongs to a single landowner, the Arizona State Land Department. In addition, the City has already considered Site 1 as a potential airport site in its community planning to date.

Site 10's location on level agricultural property is an advantage from a development standpoint. Its location is not as ideal as Site 1, and community planning for the area calls primarily for residential development in the future.

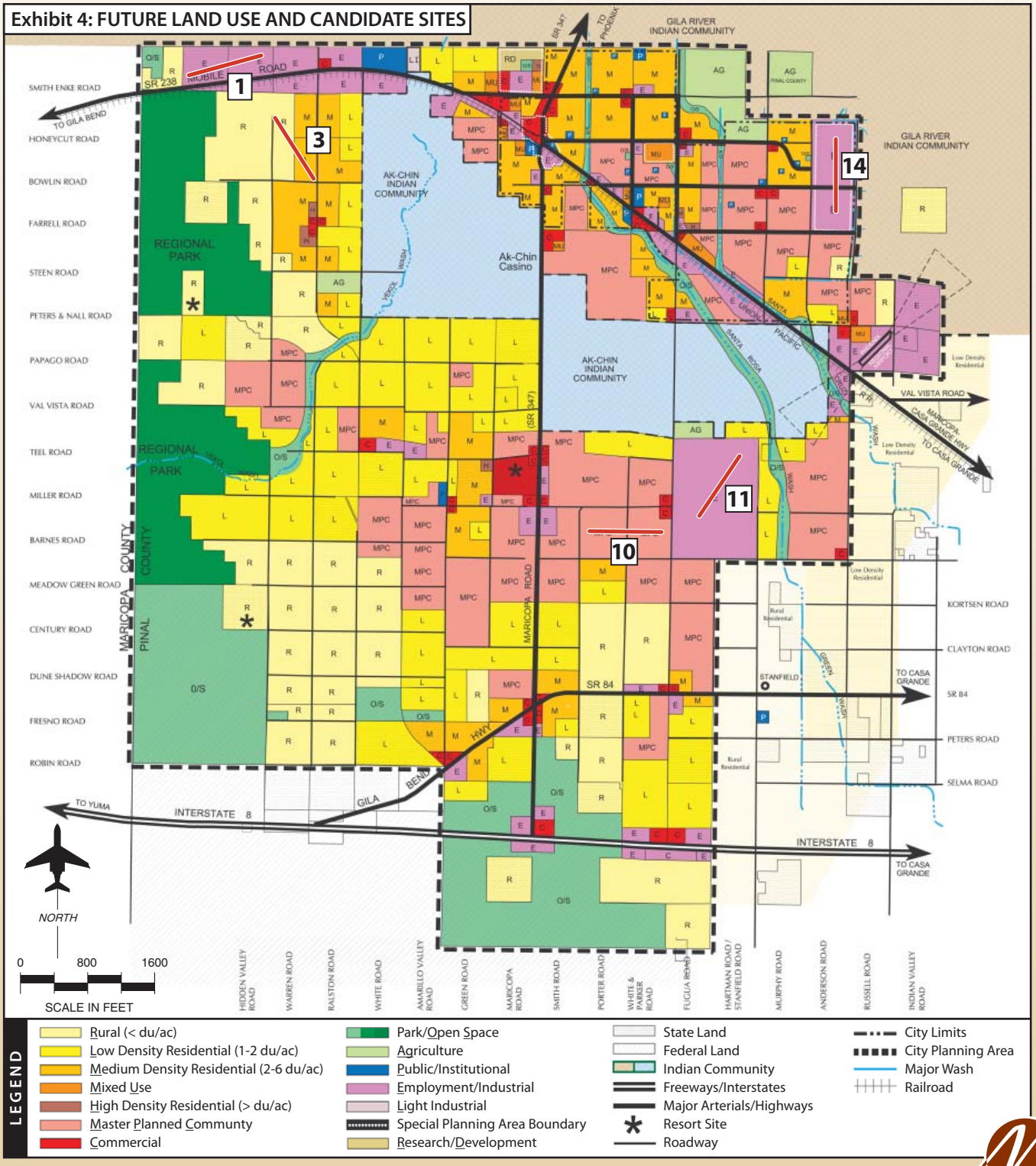
Site 11 has strong potential for accommodating the physical airport site, but has potential for airspace conflicts with two nearby private airports. Perhaps the most serious drawback to implementation, however, is its current use as a test track. Unless this use is nearing the end of its useful life for its owner, the cost of acquisition and re-development as an airport could be prohibitive if even possible.

Table 10: RATING OF CANDIDATE SITES

	POTENTIAL AIRPORT SITE				
EVALUATION CRITERIA	**Site 1 (Estrella Sailport)**	**Site 3 (Millar Airfield)**	**Site 10 (John Wayne Road)**	**Site 11 (Nissan Test Track)**	**Site 14 (Volkswagen Test Track)**
ENGINEERING FACTORS					
Location and Access	10	2	5	5	5
Site Layout and Design	8	5	8	8	5
Property Acquisition	8	2	8	2	2
Earthworks and Drainage	8	2	8	5	5
Airspace and Obstructions	5	2	8	5	2
Engineering Subtotal	**39**	**13**	**37**	**25**	**19**
ENVIRONMENTAL FACTORS					
Social Impacts	5	0	5	8	5
Physical Impacts	5	2	5	8	5
Ecological Impacts	8	8	8	8	8
Farmland Impacts	10	8	2	5	8
Historical & Cultural Impacts	8	8	8	8	8
Environmental Subtotal	**36**	**26**	**28**	**37**	**34**
GRAND TOTAL	**75**	**39**	**65**	**62**	**53**

Therefore, it appears that the most effective means for serving the existing and future aviation needs of the City of Maricopa and the surrounding area is to acquire and re-develop the existing Estrella Sailport, identified as Site 1. This would provide an immediate airport tenant (Arizona Soaring, Inc.) and allow the existing activity to continue to thrive and grow. At the same time, the facility can evolve into an airport capable of providing the general aviation services that will support the long term growth plans for the City of Maricopa. As a result, Site 1, the Estrella Sailport site, was recommended for further consideration.

Exhibit 4: FUTURE LAND USE AND CANDIDATE SITES



PHASE III - FINANCIAL ANALYSIS AND OPERATING SCENARIO

The financial feasibility of constructing and operating a general aviation airport at the current location of the Estrella Sailport was analyzed. Cost estimates for the initial and long term construction of the airport were evaluated based on site specific conditions. Additional environmental analysis, including potential noise impacts, was also analyzed.

AIRPORT LAYOUT & STAGING

The Estrella Sailport is currently a privately operated public-use airport that specializes in glider activity. There are over 40 based gliders at the airport and several single engine tow aircraft. The FAA estimates 20,000 yearly operations.

The Sailport has developed an international reputation for glider activities. Several national and international glider pilot champions call Estrella home. The meteorological conditions in the region provide for nearly ideal year-round flying. This business provides the Maricopa area with a unique economic stimulus that draws airport users and tourists from around the world. Therefore, if possible, it is important to allow the glider activities to continue while the new airport is being constructed.

In order to do so, the new general aviation runway is planned parallel to and 700 feet south of the paved glider runway. This separation will allow simultaneous operations under visual conditions (1,000-foot cloud ceiling and three mile visibility). When the new runway opens, the glider runway can continue to operate. Many of the existing hangar facilities will also be able to remain in place as they would be located outside the runway object free area associated with the new runway.

The planned airport layout for the Estrella Sailport site is presented on **Exhibit 5 – Airport Layout**. The taxiway system is designed to provide maximum efficiency of movement between the runway and hangar areas. In addition, a taxiway leading to the north side glider area is planned with the initial construction. This taxiway will allow better integration of the glider activities with the rest of the airport. The airfield can be expanded to the ultimate length of 8,300 feet in stages as needed to meet demand.

On the landside, an example of staging of hangar needs for each planning horizon is provided. Initial development should include a centrally located aircraft apron and FBO hangar complex. The initial apron encompasses 26,666 square yards of pavement. At least two T-hangar structures, each able to accommodate 20 storage units, are also planned. As demand warrants, more T-hangars can be added to the east and larger conventional hangars can be located to the west.

To accommodate the long term airport property need, approximately 746 acres of property needs to be acquired. Of this total, 684 acres is owned by the Arizona State Land Department (ASLD). The remaining 61 acres is privately owned to the immediate west of the planned runways. The remaining 347 acres of ASLD property immediately adjacent to the airport could be acquired and utilized for industrial development.

DEVELOPMENT FUNDING

The initial development of the airport is estimated to cost approximately $59 million. This would provide a 5,000-foot by 100-foot runway immediately south of the existing paved runway currently serving the Estrella Sailport. This runway would be capable of accommodating all piston and turboprop aircraft, as well as small business jets such as the Cessna Citation I. The full 20-year development costs are presented on **Exhibit 6 – Estimated Airport Development Costs**.

As can be seen on the exhibit, the construction of an airport is eligible for both federal and state grants. Most projects are eligible for 95 percent FAA funding. These projects are also eligible for 2.5 percent from the state, with the remaining 2.5 percent being the responsibility of the City.

Exhibit 6
ESTIMATED AIRPORT DEVELOPMENT COSTS

	Total	FAA Eligible	ADOT Eligible	Local Share
Initial Construction				
Environmental/Planning Documentation	$800,000	$760,000	$20,000	$20,000
Property Acquisition - Airport (746 acres)	$37,300,000	$35,435,000	$932,500	$932,500
Site Preparation	$5,467,000	$5,193,650	$136,675	$136,675
Airport Utilities	$630,000	$598,500	$15,750	$15,750
Primary Runway (5,500' x 100')	$4,706,000	$4,470,700	$117,650	$117,650
Taxiway Paving (parallel and 6 entrances)	$3,482,000	$3,307,900	$87,050	$87,050
Taxilanes for T-hangars	$933,000	$886,350	$23,325	$23,325
Airfield Lighting and Marking	$1,128,000	$1,071,600	$28,200	$28,200
REILs	$70,000	$66,500	$1,750	$1,750
PAPIs	$112,000	$106,400	$2,800	$2,800
Aircraft Parking Ramp	$2,053,000	$1,950,350	$51,325	$51,325
Airport Beacon	$80,000	$76,000	$2,000	$2,000
Perimeter Fencing	$1,103,000	$1,047,850	$27,575	$27,575
Airport Access Road to North Side (un-paved)	$93,000	$88,350	$2,325	$2,325
Airport Access Road to South Side	$360,000	$342,000	$9,000	$9,000
Auto Parking	$350,000	$332,500	$8,750	$8,750
Weather Aids	$256,000	$243,200	$6,400	$6,400
Initial Construction Costs	**$58,923,000**	**$55,976,850**	**$1,473,075**	**$1,473,075**
Intermediate Term Construction				
Environmental/Planning Documentation	$900,000	$855,000	$22,500	$22,500
Terminal Building	$1,120,000	$450,000	$603,000	$67,000
Site Preparation	$2,229,000	$2,117,550	$55,725	$55,725
Primary Runway Extension (1,800' x100')	$1,540,000	$1,463,000	$38,500	$38,500
Taxiway Extension (parallel and entrance)	$941,000	$893,950	$23,525	$23,525
Airfield Lighting and Marking	$636,000	$604,200	$15,900	$15,900
Navigational Aid Relocation	$56,000	$53,200	$1,400	$1,400
Taxilanes for T-Hangars	$1,434,000	$1,362,300	$35,850	$35,850
Aircraft Parking Apron	$1,711,000	$1,625,450	$42,775	$42,775
Auto Parking	$292,000	$277,400	$7,300	$7,300
Intermediate Construction Costs	**$10,859,000**	**$9,702,050**	**$846,475**	**$310,475**
Long Term Construction				
Environmental/Planning Documentation	$900,000	$855,000	$22,500	$22,500
Site Preparation	$2,776,000	$2,637,200	$69,400	$69,400
Primary Runway Extension (1,000' x 100')	$856,000	$813,200	$21,400	$21,400
Taxiway Extension (parallel and entrance)	$599,000	$569,050	$14,975	$14,975
Airfield Lighting and Marking	$435,000	$413,250	$10,875	$10,875
Navigational Aid Relocation	$56,000	$53,200	$1,400	$1,400
Taxilanes for T-hangars	$1,655,000	$1,572,250	$41,375	$41,375
Aircraft Parking Apron	$4,107,000	$3,901,650	$102,675	$102,675
Auto Parking	$700,000	$665,000	$17,500	$17,500
Site Prep (north side - 100 acres)	$4,206,000	$3,995,700	$105,150	$105,150
Airport Utilities (north side)	$630,000	$598,500	$15,750	$15,750
Parallel Runway (4,400' x 75')	$2,823,000	$2,681,850	$70,575	$70,575
Parallel Taxiway (35' wide)	$1,961,000	$1,862,950	$49,025	$49,025
Airfield Lighting and Marking (parallel system)	$1,169,000	$1,110,550	$29,225	$29,225
REILs (parallel)	$70,000	$66,500	$1,750	$1,750
PAPIs (parallel)	$112,000	$106,400	$2,800	$2,800
MALSR (south side)	$2,100,000	$1,995,000	$52,500	$52,500
North Side Access Road (paved)	$863,000	$819,850	$21,575	$21,575
Airport Traffic Control Tower	$4,900,000	$4,655,000	$122,500	$122,500
Long Term Construction Costs	**$30,918,000**	**$29,372,100**	**$772,950**	**$772,950**
TOTAL DEVELOPMENT COSTS	**$100,700,000**	**$95,051,100**	**$3,092,500**	**$2,556,500**

KEY
FAA: Federal Aviation Administration
ADOT: Arizona Department of Transportation - Aeronautics Division
REIL: Runway End Identification Lights
PAPI: Precision Approach Path Indicators
MALSR: Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights

CASH FLOW ANALYSIS

With the presentation of the site specific capital program, analysis was prepared regarding the potential revenues and expenses associated with constructing and operating the airport. This cash flow analysis assumes that the City of Maricopa will operate the airport as a department within the City.

Detailed revenues and expenses from several area general aviation airports were examined and considered in the preparation of this analysis. **Table 11** presents the financial analysis based on site-specific criteria and development cost estimates.

As presented in the table, in the initial development term (years 0-5), it is estimated that the airport would experience a net annual operating loss. This is not unusual for most general aviation airports. This certainly could be expected for a new airport, just as it is common for a new business to have an operating loss for a period of time after start-up. In growing and busy aviation activity areas of the country, such as Arizona, general aviation airports are much more likely to have a net positive operating situation once the airport is established.

In the intermediate planning period, approximately 10 years, the airport could be expected to show a substantial net positive cash flow of $142,000 from an operating perspective. By the long term (approximately 20 years), the airport more than doubles its net positive cash flow to $351,000 annually.

It should always be a goal of the airport to be able to generate enough revenue to not only break even from an operating perspective, but also to fund matching grants for major capital improvements. The bottom half of **Table 11** presents the financial impact of the airport construction and subsequent capital improvements.

In the initial development phase, approximately $58.9 million is needed to construct the airport. Approximately $1.5 million of the total would be the responsibility of the City as a matching grant. In the table, it is assumed

Table 11
FINANCIAL ANALYSIS ($2008)

	Initial Development	Intermediate Development	Long Range Development
Operating Revenues			
Fuel Flowage	$65,763	$223,281	$380,800
Tie-down Fees	11,520	16,920	45,720
Land Rentals	128,141	198,074	371,564
Terminal Rentals	NA	28,800	73,440
Total Operating Revenues	**$205,424**	**$467,075**	**$871,524**
Operating Expenses			
Personal Services	$110,000	$130,000	$210,000
Maintenance and Supplies	130,000	160,000	250,000
Miscellaneous	25,000	35,000	60,000
Total Operating Expenses	**$265,000**	**$325,000**	**$520,000**
Operating Income/Loss	**$(59,576)**	**$142,075**	**$351,524**
Capital Improvement Financing			
Total CIP	$58,923,000	$10,859,000	$30,918,000
Federal and State Funding	$57,449,925	$10,548,525	$30,145,050
Remaining Local Share	**$1,499,325**	**$310,475**	**$772,950**
Debt Service 20 yrs. @ 6%			
New Debt Service	$151,086	$31,844	$79,277
Carry-over Debt Service	NA	$151,086	$182,929
Total Debt Service	**$151,086**	**$182,929**	**$262,207**
Net Cash Flow	**$(210,662)**	**$(40,854)**	**$89,318**

Note: All costs are average annual estimates.
Source: Coffman Associates analysis

that the local share would be financed in full. Assuming a 20-year amortization schedule at a six percent annual interest rate, the airport would assume an annual debt service of $151,086.

In the intermediate term, approximately $10.9 million in capital improvements is planned. Of this total, approximately $310,000 would be the responsibility of the City. Were the City to finance this portion, approximately $32,000 would be added to the amortization schedule.

In the long term, approximately $31 million in capital projects is planned, with the City responsible for approximately $773,000. This would add approximately $79,000 to the debt service.

Over time, the debt service will be reduced as the airport or City pays down the financing. In the short term, the City is forecast to realize a net negative cash flow when considering capital expenditures. By the intermediate planning term, the airport nearly breaks even, and by the long term, the airport is fully self-sustaining with the ability to fund all airport operations and capital improvements directly from revenues generated on the airport.

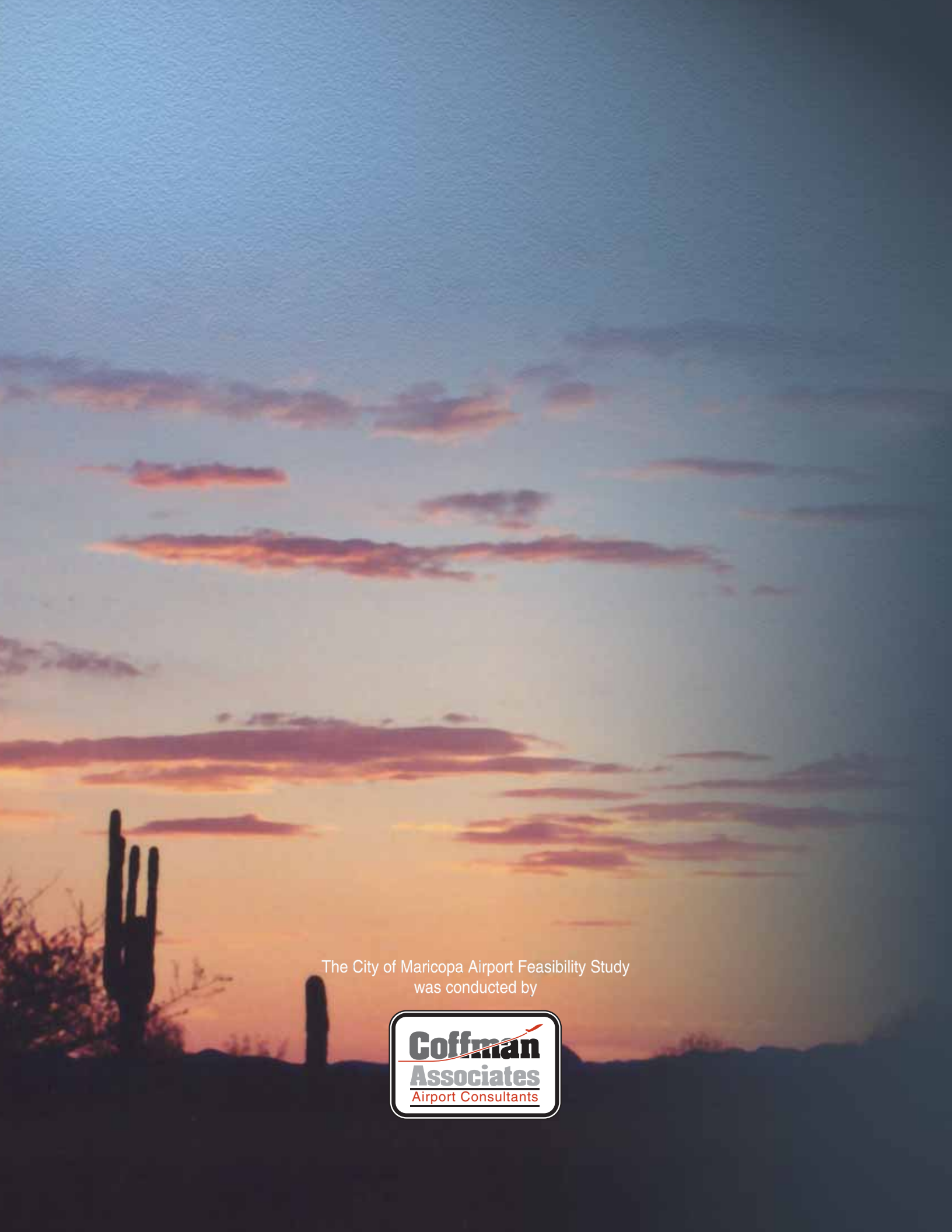
CONCLUSION

The three-phase study has indicated that there is a market for a general aviation airport in the Maricopa area. In fact, the potential is such that the airport could support over 50 based aircraft after initial development. The second phase of the study examined potential airport sites in the area and recommended the Estrella Sailport site as the best site for development.

The final phase of the study determined the initial construction of the airport is estimated to cost approximately $58.9 million in 2008 dollars. Of this total, the airport sponsor, the City of Maricopa, would be responsible for approximately $1.5 million. While much of the initial airport development and subsequent capital projects are eligible for grant funding, realistically not all will be funded. Airport capital projects will be prioritized and funded as it is available. The figures shown in the development costs therefore represent the baseline starting point for funding eligibility.

Through reasonable management of the airport and the use of standard accounting principles, the airport can become profitable from an operating perspective by the intermediate planning period (years 5-10). When including matching grant funds for federal grants for capital improvements, the airport can become entirely self-sustaining within 20 years. Active management of the airport finances by a dedicated airport manager is recommended in order to achieve these goals.

Now that the Maricopa Airport Feasibility Study is complete and approved by the City Council, the next step in the planning process is the development of an airport master plan, airport layout plan, and environmental assessment.



The City of Maricopa Airport Feasibility Study
was conducted by

Coffman Associates
Airport Consultants