CHANDLER AIRPARK Area Plan

Airpark Area Plan

November 5, 1998

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4 December 1998

Mr. Doug Ballard, Director
Planning and Development
215 East Buffalo Street
Chandler, Arizona
(602) 786-2801

Re: Chandler Airpark Area Plan

Dear Mr. Ballard:

BRW is pleased to submit to you the Chandler Airpark Area Plan. The Area Plan culminates 12 months of collaborative planning efforts by City staff, City Council, Planning and Zoning Commission, citizens, stakeholders, committee members and the BRW staff. This collaboration included extensive community participation, achieved through a series of newsletters, public meetings, planning charettes, and special exhibits. The result is an Airpark Area Plan that achieves a successful balance of integrated land-use types that will promote economic vitality, while protecting the interests of nearby residents.

We have sincerely appreciated the support and cooperation of the City staff, the City's elected and appointed officials, and the citizens of Chandler for their contributions and assistance in the preparation of this Plan. We are confident that the recommendations contained in the Plan establish a solid foundation and long-range consensus direction for the Airpark Area and the City of Chandler. It has been our pleasure to assist the City in the compilation of the Airpark Area Plan and we look forward to partnering with you on future projects.

Sincerely,
BRW, Inc.

Celeste C. Werner
Planning & Development Director

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1.0 Introduction

The Chandler Airpark Area encompasses nine square miles surrounding the Chandler Municipal Airport and is located approximately 15 miles southeast of downtown Phoenix, as shown on Figure 1-1, *Regional Location*. The Airpark Area is bounded on the north by Pecos Road, on the south by Ocotillo Road, on the west by Arizona Avenue and on the east by Gilbert Road as shown on Figure 1-2, *Airpark Area Plan Boundaries.*

The Chandler Airpark Area represents the last great chance for economic development in the City of Chandler. The intermodal transportation links in the Airpark Area include the Paseo System comprised of pedestrian and bicycle trails, the San Tan Freeway, roads of regional significance, the Southern Pacific Railroad and in the heart of this economic development opportunity, the Chandler Municipal Airport. Few other areas in the southwest can boast such access and economic development potential in one location.

The Chandler Municipal Airport serves as the centerpiece of the Area Plan. The Airport provides recreational and private (passenger and air cargo) air service to the local area. The Airport consists of a double runway, on approximately 480 acres, and generally provides service to smaller aircraft (turboprop) and an occasional corporate jet. The facility had approximately 184,000 flight operations in 1997 (an 18 percent increase over 1996) and generated revenue of over $490,000 for the City of Chandler.

The Chandler Airpark Area Plan provides the City of Chandler with a document that will strategically guide future development in and around the existing airport. The two major goals of this Plan are the protection of the Municipal Airport from residential encroachment and the aggressive economic development of the Airpark Area.

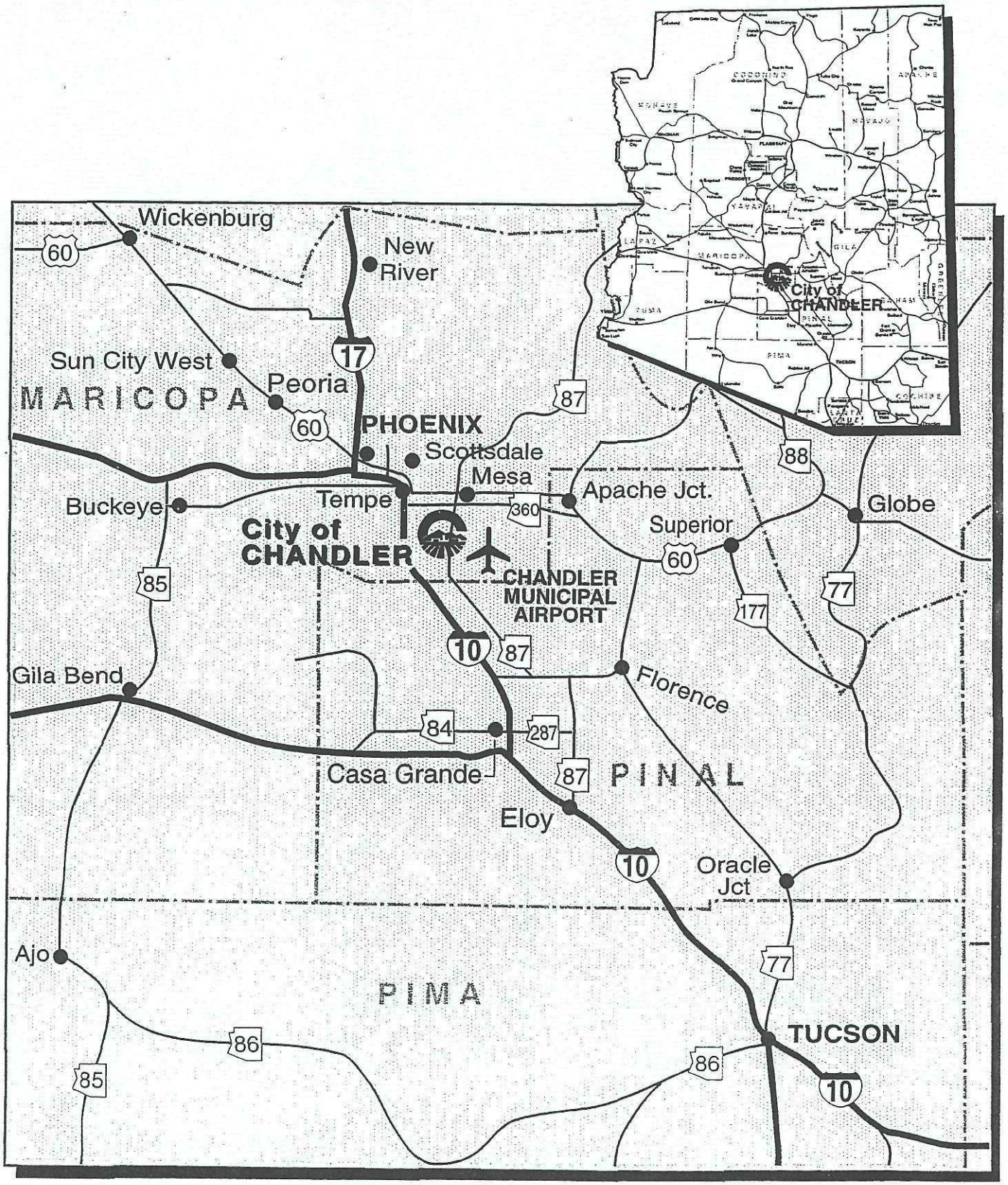
An overview of the Airpark Area Plan is presented in the following subsections:

1.1 Planning Process
1.2 Planning Context
1.3 Organization of the Area Plan

1.1 Planning Process

The Chandler Airpark Area Plan was completed according to a work program that included eight technical tasks, designed to sequentially complete the project in a 10-month time frame. Phase I comprised the Inventory and Analysis of the Airpark Area, which was presented in Report #1, *Existing Conditions Report.* Phase II comprised Issue Identification and Visioning, which was presented in Report #2, *Vision, Goals and Policies.* Phase III comprised Alternatives Development and Evaluation, which was presented in Report #3, *Alternatives Report.* Phase IV comprised Development Policies and an Implementation Program, which is presented in the Final Report #4, *Chandler Airpark Area Plan.*

An ongoing Phase of this project included a Community Involvement Program that included three community workshops, five newsletters and various policy meetings with the City Staff, Planning and Zoning Commission, City Council and the Airport Commission.



CHANDLER AIRPARK Area Plan

Figure 1-1
Regional Location

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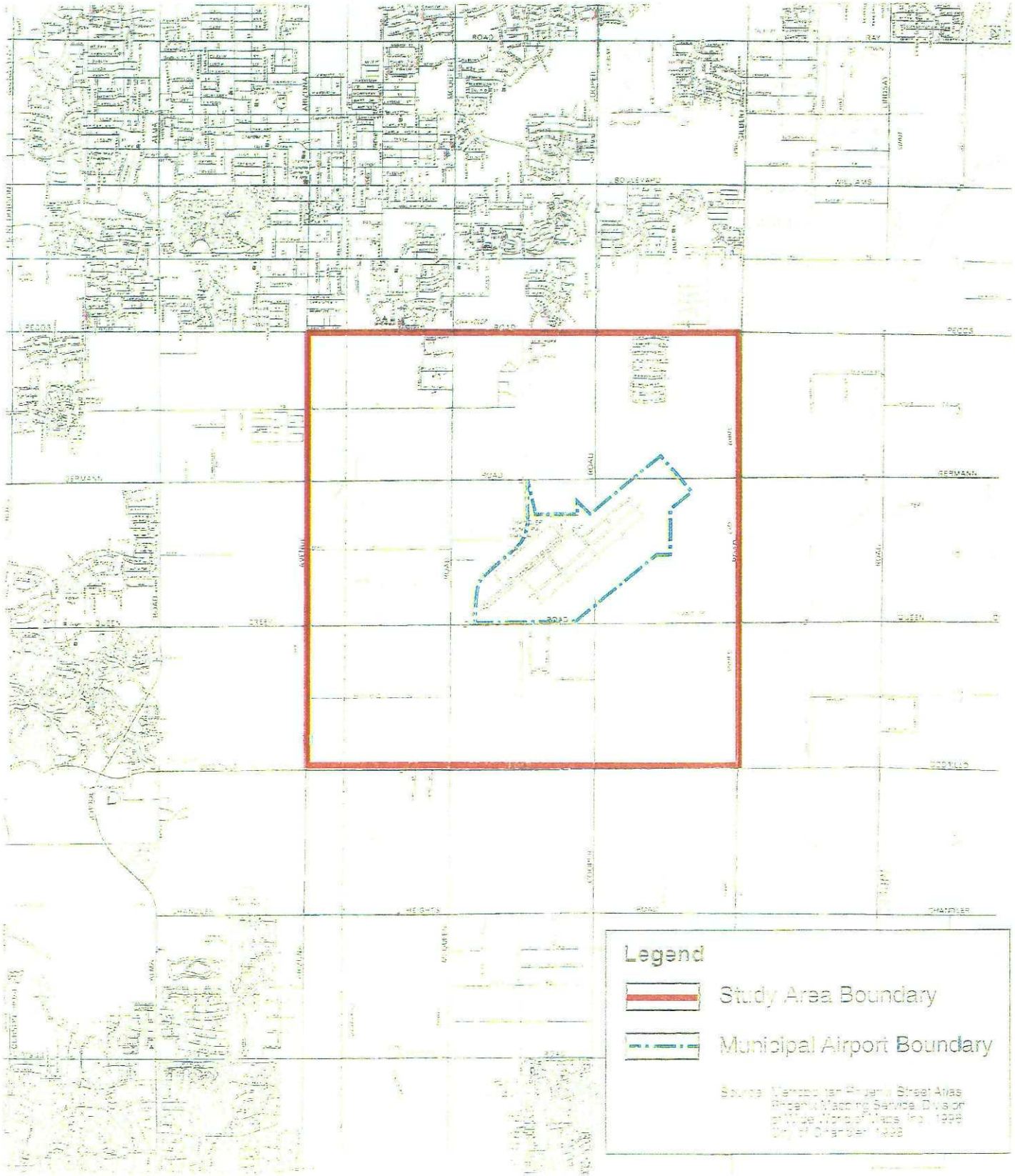

CHANDLER AIRPARK Area Plan

Figure 1-2
Airpark Area Plan Boundaries

DCM BRW

1.2 Planning Context

The Airpark Area Plan is intended to guide intelligent and informed decisions about growth and economic development within the Airpark Area. It is the foundation upon which day-to-day decisions can be made in a comprehensive manner and within the context of other related plans. The other plans include the City of Chandler General Plan (Circulation and Land Use Elements), the City's Capital Improvements Program, and the Airport Master Plan. These documents, when used along with the Airpark Area Plan, provide consistency and continuity in assisting the community in actions regarding the quality of life and economic development in the Airpark Area.

The Chandler General Plan earmarks the nine square mile Airpark Area for preparation and adoption as a detailed Area Plan. Area plans are incorporated into the General Plan upon the approval of the Planning and Zoning Commission and adoption by the City Council. The Chandler Airpark Area Plan follows the overall goals and policies of the General Plan and is compatible with surrounding uses proposed in the General Plan. While the Airpark Area Plan has no formal ties to the Capital Improvement Program or the Airport Master Plan, the Plan is consistent with the overall planning strategies from both of these documents.

The Chandler Airpark Area, located within the Chandler Municipal Planning Area, is administered by the City of Chandler. Maricopa County has authority for actual zoning/rezoning requests prior to annexation, although the City of Chandler is responsible for reviewing these requests if a property owner wishes to be annexed. The City of Chandler retains jurisdiction over land use and zoning decisions in the Airpark Area, if a property owner wishes to be annexed by the City and provided with City services. Property owners must submit any zoning requests to the City of Chandler for review. Chandler has indicated its intention to fully annex the area, as it develops, in accordance with the City's Annexation Policy.

1.3 Organization of the Area Plan

The Chandler Airpark Area Plan consists of four plan elements, which together will guide growth in the community: Land Use, Transportation and Circulation, Infrastructure, and Economic Development.

The *Land Use Element* designates the general location and intensity of land uses for residential, commercial, industrial, parks, open space and public facilities in the Airpark Area. The *Alternatives Report*, dated September 4, 1998, details the process that lead to the selection of the Land Use Plan.

The *Transportation and Circulation Element* identifies the general location and function of existing and future streets and describes the need for transportation facilities (i.e. bike paths, walking paths) that will enhance the use of alternative modes of transportation such as bicycles and walking.

The *Infrastructure Element* establishes general guidance for the provision of public facilities and services including: water supply and distribution; sewage collection and treatment; public utilities; and other related infrastructure systems.

The *Economic Development Element* recommends strategies to enhance the economy of the City, expand existing businesses, and attract new economic activities.

Each element of the Airpark Area Plan contains five sections as follows:

- *Introduction:* a description of the purpose of each plan element.

- *Existing Setting:* a brief summary of the existing conditions and issues in the Airpark Area. Greater detail about existing conditions can be found in the Existing Conditions Report, dated March 18, 1998.

- *Vision, Goals and Policies:* a statement of the broad values, identified by the community residents and a list of the goals and policies that will guide City decisions concerning development of the Airpark Area. An original list of goals and polices was published in the Vision, Goals and Policies Report, dated March 25, 1998. Vision, goals and policies are defined below:
  - *Vision:* a statement of community values. A vision statement expresses broad community values.
  - *Goal:* a concise statement that describes a condition to be achieved. A goal is generally not quantifiable, time-dependent or suggestive of specific actions for achievement. Goals are expressed as ends, conditions, or aspirations.
  - *Policy:* a specific action that guides decision-making. A policy is clear and unambiguous, and is based on stated goals, as well as the analysis of data. Policies may describe standards, which are rules or measures that establish a level of quality or quantity that should be complied with or satisfied. Standards define the more abstract terms of goals and objectives with concrete specifications.

- *Plan:* a description of the plan vision for physical development that ties the vision, goals, and policies to the implementation program.

- *Implementation Program:* a table illustrating the actions necessary to implement each plan element. The Implementation Program includes:
  - *Implementation Measure*: a description of the action, program or strategy.
  - *Purpose:* the intent of accomplishing each implementation measure.
  - *Timeframe:* the target years, in two-year increments, for implementation in the first eight years of the planning horizon.
  - *Key Participants:* the appropriate public or private body, agency, group or individual responsible for the implementation measure.
  - *Project Location/Area of Influence:* the location of the proposed action.
  - *Resources: the appropriate source of* funding for carrying out the proposed action.

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2.0 Land Use Element

The Land Use Element of the Chandler Airpark Area Plan is presented in the following sections:

2.1 Introduction
2.2 Existing Setting
2.3 Vision, Goals and Policies
2.4 Land Use Plan
2.5 Implementation Program

2.1 Introduction

The Land Use Element is the focal point of the Chandler Airpark Area Plan and will guide development through the Year 2020. The element outlines the process by which the Airpark Area is expected to develop based upon existing and projected development, socioeconomic and man-made influence factors.

The Land Use Element is a guide to decision making for the Airpark Area that achieves the following:

- Identifies the general types, locations, and pattern of land uses desired in the Airpark Area.
- Establishes guidelines for various land use categories shown on the Land Use Plan.
- Promotes compatible land use and protects the Chandler Municipal Airport from residential encroachment.
- Identifies courses of action and strategies that provide the means to implement the Land Use Plan.

2.2 Existing Setting

In 1997, the Airpark Area contained a population of approximately 1,000 residents, which represented less than one percent of the city's population. The Airport site represents a large portion of the total developed property in the Airpark Area. This property has attracted fixed base operators and other airport related companies.

The existing land use patterns indicate a limited amount of urban development and encroachment around the Airport. Most of the Airpark Area is used for agricultural and livestock (dairy) purposes. Single family residential subdivisions are located along the northern border of the Airpark Area (north of Pecos Road) and several smaller subdivisions, located in county islands, are located immediately west and south of the Chandler Municipal Airport. These subdivisions generally contain houses on one acre or more and are rural in nature. Several small areas of commercial/industrial development dot the area, especially along Arizona Avenue and the Southern Pacific Railroad.

The Area contains several concentrations of public services: the City of Chandler water treatment plant, located north of the airport between Pecos and Willis Roads; the City landfill located on McQueen Road, south of the airport; and a Public Works water distribution yard located in the northwest corner of the municipal airport, adjacent to the consolidated canal. The Airport wastewater reclamation plant is under construction at the southwest corner of Queen Creek and McQueen Roads with future plans for development of a solid waste transfer station on this site. Parks and open spaces include a neighborhood park on Frye Road north of the airport and public tennis courts located in Tumbleweed Regional Park.

Current Zoning

The City of Chandler and Maricopa County have adopted zoning ordinances to control development within their jurisdictions pursuant to Arizona Revised Statutes (ARS-462 and 11-821). These ordinances specify permitted land uses and size, height, and bulk of structures within each district. The predominant zoning districts in the Airpark Area are Agricultural and Low Density (Rural) Single Family Residential. There are small groupings of commercial uses located at some of the major one-mile grid intersections and some industrial uses are located around the airport and along the Southern Pacific Railroad. Several Planned Area Developments are found along the south side of Pecos Road, north of the airport.

Property Ownership

There is no Federal or state owned land within the nine square mile Airpark Area. Most of the land in the Airpark Area is either privately owned or is owned by the City of Chandler (Municipal Airport, Tumbleweed Park, the Landfill, Public Works Yard, Water Treatment Plant, Water Reclamation Plant and Solid Waste Transfer Station/Mini-Dump).

The Previous Plan

An Area Plan for the Chandler Airpark Area was completed in 1986. While the study area parameters and influence factors were similar to those used in the 1998 Plan, the new Land Use Plan is not as aggressive in its employment or population projections. This is due to several changes in assumptions since the development of the 1986 Plan. This includes the realization that the 1986 Plan was overly optimistic in population projections and employment creation. Population projections have been lowered in the 1998 Plan to reflect the desire for lower density development and the increase in parks and open space over the 1986 Plan. Employment projections are similar or somewhat lower due to the expectation that Williams Gateway Airport (a military base at the time of the 1986 Plan, now being developed as a regional airport capable of handling large jets and cargo operations) will siphon away some of the aerospace growth to service small commercial aircraft, originally projected for Chandler Municipal Airport.

Influence Factors

In creating the Airpark Area Plan six influence factors and their potential impacts on development were considered:

- The San Tan Freeway (AZ Loop 202) and associated interchange locations
- The Southern Pacific Railroad Corridor
- The Consolidated Canal (SRP) and Paseo System
- Arterial Streets
- Public Facilities
- The Municipal Airport

Each of these factors had a unique influence on the land use patterns developed for the Land Use Plan. Most of these influence factors relate to transportation and infrastructure, two keys that guide and direct where development will occur.

San Tan Freeway

The *San Tan Freeway* (AZ Loop 202) alignment runs through the north end of the Airpark Area (between Arizona Avenue and Gilbert Road) just south of the Pecos Road alignment and north of Germann Road. Freeway construction, from Arizona Avenue to Gilbert Road, begins in 2005 with completion

in 2008 and may be accelerated subject to funding availability. A portion of the San Tan Freeway extending from Interstate 10 to Arizona Avenue (the Airpark Area's western boundary) will start construction in 2002 and be completed in 2005.

The San Tan Freeway will provide direct access to the Chandler Municipal Airport with an interchange at Cooper Road. Additional interchanges are planned for Arizona Avenue, McQueen Road and Gilbert Road. All interchanges will be full diamond or urban configuration. The freeway itself is expected to be a rolling, below-grade design similar to other Valley freeways. The exception is the portion of the freeway between Arizona Avenue and McQueen Road where the freeway would pass over the railroad. The freeway will come up to grade and pass slightly over the consolidated canal between McQueen and Cooper Road.

Southern Pacific Railroad

The *Southern Pacific Railroad* Corridor runs north and south through the Airpark Area approximately one-quarter mile to the east of Arizona Avenue. The rail line is a spur line and is not in use except as an occasional freight-way for agricultural products grown and harvested to the south of the Airpark Area.

Consolidated Canal Paseo System

The *Consolidated Canal* provides irrigation to agricultural water users in South Chandler. As agriculture has been displaced by other land uses, the canal is losing its main mission of providing large amounts of water for irrigation.

The City of Chandler recognizes the need to preserve the unique characteristics of the canals make them more appealing. Thus, the Paseo System concept was developed. The Paseo system is a combination of bicycle, equestrian and pedestrian trails that follow the existing canal system throughout the City.

Arterial Streets

The City of Chandler is set up on the one-mile grid system for major arterial street alignments. The major arterial streets in the Airpark Area include:

North/South Arterial Streets	• Arizona Avenue • McQueen Road • Cooper Road • Gilbert Road
East/West Arterial Streets	• Pecos Road • Germann Road • Queen Creek Road • Ocotillo Road

These arterial streets (with the exception of Cooper Road, which will have four lanes and a median) will have an ultimate width of six lanes with a median and separate sidewalk and bicycle lanes in a 130-foot right-of-way.

Public Facilities

The major *Public Facilities* include the Airport, Wastewater Reclamation Plant, Water Treatment Plant, Landfill, Transfer Station/Mini-Dump, Tumbleweed Regional Park and Public Works Yard. Inappropriate land uses were discouraged around these areas with an emphasis placed on buffering and screening.

Municipal Airport

The Chandler Municipal Airport is the most important influence factor in the Airpark Area. It is one of three general aviation airports

located in the Southeast Valley, the other being Williams Gateway Airport and Falcon Field. The three airports do not compete in the same market and attract a different aviation related industries.

The 2020 noise contours are limiting factors to development within the nine square mile Airpark Area. The Federal Aviation Administration (FAA) restricts residential development within the 65 DNL noise contour or greater. The alternatives prohibit new development within the 55 DNL noise contour as an added buffer to encroachment.

2.3 Land Use Vision, Goals and Policies

Vision

The City of Chandler seeks to take advantage of the last large economic development opportunity in the City and guide the orderly and planned growth of the Airpark Area and establish criteria that promotes compatible new developments, maximum economic development and the creation of recreational open space.

General Land Use

Goal 1.0 To guide and control the orderly growth of the Airpark Area to ensure compatible new development.

Policy 1.1 The City shall ensure that development in the areas adjacent to the Airport Area is compatible with development in the Airpark Area.

Policy 1.2 The City shall partner with Maricopa County for all proposed developments and rezonings within County Islands and require property owners to go through the City review process.

Industrial and Commercial/Office/Business Park

Goal 2.0 To promote the development of industrial and commercial/office/ business park.

Policy 2.1 The City shall promote the Airport Area as Chandler's prime location for industrial and commercial development, with the airport as the focal point.

Policy 2.2 The City shall promote a campus-like design for industrial and office developments within the Airpark Area.

Policy 2.3 The City shall promote the San Tan Freeway and Southern Pacific Railroad corridors as opportunities for industrial and commercial development.

Policy 2.4 The City shall encourage rail-oriented industrial uses to locate along the east side of the Southern Pacific Railroad tracks, south of Ryan Road.

Policy 2.5 The City shall require buffering between commercial and industrial land uses and residential developments.

Policy 2.6 The City shall encourage through-the-fence operations to occur adjacent to the Airport.

Retail Commercial

Goal 3.0 To promote the development of retail commercial uses at strategic locations within the Airpark Area.

Policy 3.1 The City shall promote the strategic assets of commercial areas along the San Tan Freeway. In particular, the City shall emphasize opportunities at major commercial interchanges at Gilbert Road, Cooper Road, and Arizona Avenue.

Policy 3.2 The City shall discourage uninterrupted stretches of commercial development along the frontages of major arterial streets in the Airpark Area.

Residential

Goal 4.0 To create quality residential developments for the Airpark Area citizens.

Policy 4.1 The City shall plan for the development of a mix of housing types and densities within the Airpark Area.

Policy 4.2 The City shall protect residential areas from nuisances generated by commercial or industrial uses through buffering and site design regulations.

Policy 4.3 The City shall work with property owners in the Airpark Area's two transitional areas to convert these properties to uses more compatible with Airport operations.

Policy 4.4 The City shall encourage builders and developers to use a variety of housing designs and building materials for a varied architectural look.

Policy 4.5 The City shall promote the development of a mixed-use "Urban Village" along the Paseo System immediately north and south of Germann Road.

Policy 4.6 The City shall require all new development within the transitional overlay zones to provide adequate buffering and adhere to the transitional overlay zone development requirements.

Policy 4.7 The City shall develop a disclosure policy to ensure that all new property owners in the Airpark Area are aware of aviation easements and the Airport Influence Area.

Policy 4.8 The City shall continue to require aviation easements and public disclosure of the Airpark Area Airport Overlay Zones per the Zoning Ordinance.

Airport Compatibility

Goal 5.0 To protect the Airport from incompatible land uses.

Policy 5.1 The City shall consider flight tracks, noise patterns and Airport safety zones when determining the appropriateness of proposed developments.

Policy 5.2 The City shall prohibit the development of noise-sensitive institutions, such as day-care facilities, schools and churches, within arrival and departure flight tracks, touch-and-go patterns and within the 55 DNL noise contour.

Policy 5.3 The City shall prohibit new residential development within the Airport's 55 DNL noise contour.

Policy 5.4 The City shall develop and implement noise attenuation standards to be incorporated into new development for the Airpark Area.

Parks and Open Space

Goal 6.0 To ensure the development of a well-balanced system of public and private parks and passive open spaces.

Policy 6.1 The City shall require that all developments contain a minimum of 10 percent useable open space.

Policy 6.2 The City shall implement the Paseo System along the Consolidated Canal.

Policy 6.3 The City shall use open space as a means of protecting the Airport runway and taxiway safety zones from encroachment by incompatible development.

Policy 6.4 The City shall integrate parks and open space through a series of inter-connected greenbelts.

Policy 6.5 The City shall develop plans to utilize the City Landfill site as a landscaped open space.

Paseo System

Goal 7.0 To develop a linear system of equestrian, pedestrian, and bicycle trails along the Consolidated Canal.

Policy 7.1 The City shall consider the uniqueness of waterfront development prior to approval of any development plans.

Policy 7.2 The City shall integrate the "Urban Village" into the Paseo System.

Policy 7.3 The City shall require a minimum building setback per the adopted Paseo System Ordinance for trail preservation purposes.

Policy 7.4 The City shall require all development along the Paseo system to orient to the Canal.

Public Facilities and Services

Goal 8.0 To provide sufficient land to accommodate public services and facilities to the Airpark Area.

Policy 8.1 The City shall work with local school districts in reviewing development proposals to ensure that land is set-aside to provide school facilities to accommodate enrollment increases associated with new development.

Policy 8.2 The City shall consider using existing public facilities and properties when siting or locating new services.

Policy 8.3 The City shall set aside different facilities for well production and water storage.

Freeway Encroachment

Goal 9.0 To protect the San Tan Freeway Corridor right-of-way from encroachment and incompatible land uses.

Policy 9.1 The City shall require all developers to build sound walls or noise attenuation into projects adjacent to the Freeway.

Policy 9.2 The City shall establish a building setback policy during the development of the San Tan Freeway Corridor Area Plan.

Policy 9.3 The City shall work with ADOT to ensure that Freeway landscaping is installed and maintained.

Railroad Compatibility

Goal 10.0 To protect the Southern Pacific Railroad corridor from incompatible land uses.

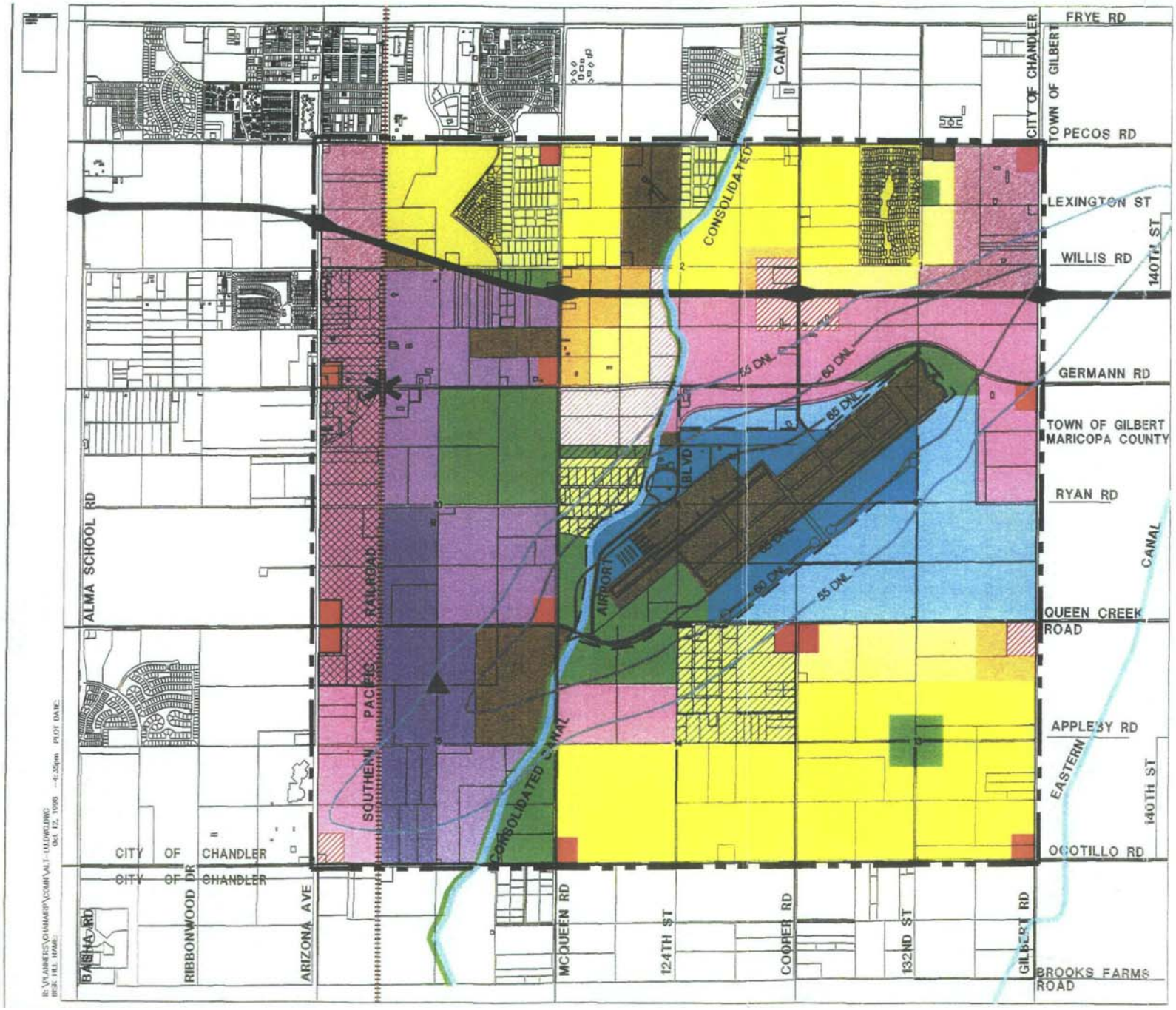
Policy 10.1 The City shall promote development of industrial and commercial/office/business park uses along the Southern Pacific Railroad corridor.

Policy 10.2 The City shall work with RPTA in planning for transit-oriented development in the Southern Pacific Railroad corridor in anticipation of development of a commuter light rail system within the SPRR right-of-way.

2.4 Land Use Plan

The Land Use Plan shown on Figure 2-1, *Land Use Plan*, was derived from a series of alternative land use scenarios that were evaluated for compatibility based on influence factors and rating criteria. The resulting Land Use Plan depicts a development pattern that protects the Airport from residential encroachment while providing for aggressive economic development. As shown in Table 2.1, *Land Use Plan – Land Use Calculations,* The Draft Land Use Plan supports a population of 16,725 residents in a total of 6,997 dwelling units, most of which would be single family. Total employment for this alternative is 68,091.

The overall land use pattern confines residential uses primarily to the areas north of the San Tan Freeway alignment and south of Queen Creek Road and east of McQueen Road. This pattern of residential development keeps new housing from being built within the 55 DNL noise contour. The Land Use Plan also continues the aggressive economic development policies of the City of Chandler and protects the Airport with a buffer of commercial and industrial uses. Another important feature is the proposed "Urban Village" along and west of the Consolidated Canal that would provide a mix of medium- and high-density housing and Special Use Commercial. This "Urban Village" would complement the Paseo System and tie in nicely with the adjacent Tumbleweed Park.



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LAND USE PLAN

- RR (0-1.5 D.U. PER ACRE) 300 ACRES
- LDR (1.6-3.5 D.U. PER ACRE) 1020 ACRES
- LMDR (3.6-8 D.U. PER ACRE) 240 ACRES
- MDR (8.1-12 D.U. PER ACRE) 200 ACRES
- HDR (12.1-18 D.U. PER ACRE) 130 ACRES
- NEIGHBORHOOD COMMERCIAL 110 ACRES
- COMMUNITY COMMERCIAL 76 ACRES
- REGIONAL COMMERCIAL 240 ACRES
- SPECIAL USE COMMERCIAL 100 ACRES
- COMMERCIAL/OFFICE/BUSINESS PARK 848 ACRES
- LIGHT INDUSTRIAL 510 ACRES
- INDUSTRIAL 280 ACRES
- COMMERCIAL/OFFICE/BUSINESS PARK (TAXIWAY ACCESS) 440 ACRES
- AEROSPACE INDUSTRY (FBO) 297 ACRES
- PUBLIC / SEMI-PUBLIC FACILITIES 470 ACRES
- PARKS AND OPEN SPACE 500 ACRES
- TRANSITIONAL OVERLAY ZONE (TO ANY COMMERCIAL USE) 220 ACRES
- LIGHT RAIL CORRIDOR OVERLAY PLANNING AREA (POTENTIAL MIXED USE) 250 ACRES
- FUTURE TRANSIT CENTER
- POTENTIAL FUTURE TRANSIT RAILYARD
- LOOP 202 SANTAN FREEWAY TENTATIVE ALIGNMENT
- 55 DNL NOISE CONTOUR 55
- 60 DNL NOISE CONTOUR 60
- 65 DNL NOISE CONTOUR 65 OR GREATER
- AIRPORT BOUNDARY
- STUDY AREA BOUNDARY AND AIRPORT OVERLAY DISTRICT

NOTE: DNL IS THE AVERAGE DAY/NIGHT NOISE LEVEL MEASURED IN DECIBELS. NOISE EXPOSURE IS FOR 2020 LEVELS.

SOURCE: BRW, INC. 1996

GRAPHIC SCALE

500 0 500 1000 2000

(IN FEET)

1 inch = 2000 ft.

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TABLE 2.1
Land Use Plan
Land Use Calculations

Land Use Category	Gross Acres	Efficiency Factor [1]	Resultant Net Development Acres [2]	Density/ Intensity [3]	Total Dwelling Unit	Population/ Dwelling Unit [6]	Resultant Population [7]	Employment Factor [8]	Resultant Employment [9]
Rural Residential	300	0.95	285	1.0 DU [4]/AC	285	2.8/DU	798	-	-
Low Density Residential	1020	0.90	918	2.5 DU/AC	2,295	2.7/DU	6,197	-	-
Low-Medium Density Residential	240	0.80	192	6.0 DU/AC	1,152	2.5/DU	2,880	-	-
Medium Density Residential	200	0.80	160	10.0 DU/AC	1,600	2.2/DU	3,520	-	-
High Density Residential	130	0.85	111	15.0 DU/AC	1,665	2.0/DU	3,330	-	-
Commercial	525	0.80	420	0.23 FAR [5]	-	-	-	1 Employ/400 SF	10,520
Business/Office Park	848	0.85	721	0.23 FAR	-	-	-	1 Employ/250 SF	28,894
Industrial	790	0.85	672	0.32 FAR	-	-	-	1 Employ/680 SF	13,775
Aerospace Industry and Commercial Office Business Park Taxiway Access	737	0.85	626	0.32 FAR	-	-	-	1 Employ/750 SF	11,635
Public Facility	470	0.85	400	0.15 FAR	-	-	-	1 Employ/800 SF	3,267
Park/Open Space	500	-	-	-	-	-	-	-	-
TOTALS	**5,760**	-	**4,505**	-	**6,997**	-	**16,725**	-	**68,091**

Source: BRW, Inc. 1998

All Calculations are based upon build-out at 2020.

Notes:

1) Efficiency Factor – percentage of developable land after removing right-of-ways and easements.
2) Resultant Net Developable Acres – amount of land available for development after removing right-of-ways and easements.
3) Density – numbers of residential dwelling units per acre. Intensity – the floor area ratio of a non-residential use.
4) DU - dwelling units.
5) Floor Area Ratio – ratio of total building area compared to total site area.
6) Population per Dwelling Units – number of people typically living in that type of dwelling.
7) Resultant Population – number of people per dwelling unit multiplied by number of dwelling units.
8) Employee Factor – number of employees per square foot of used space.
9) Resultant Employees – the net developable acres converted to square footage.

Land Use Definitions and Guidelines

The Land Use Plan serves as a tool to establish contiguous and compatible land development within the Airpark Area that is consistent with the City of Chandler's community vision. The land use categories shown on the Land Use Plan are defined in additional detail in this section and in Table 2.2, *City of Chandler Land Use Categories and Standards.* These definitions establish general guidelines for land development in each land use category.

Dwelling units per acre (DU/AC) is the standard for measuring residential land density. Within the Airpark Area, residential densities range from zero to 18 dwelling units per acre. The Floor Area Ratio (FAR) is the standard for measuring non-residential land use intensities, such as commercial or industrial. The FAR is the gross floor area of a building divided by the net area of the parcel of land. Net area is the total developable area of the property (i.e., *without rights-of-way*).

Residential Uses

The Land Use Plan designates approximately 1,890 acres of land for residential uses throughout the Airpark Area. Five residential land use types are classified by density, ranging from Rural Residential to high density residential, defined primarily by structure type and the density of development.

Rural Residential
(0.0 – 1.5 DU/AC)

Rural Residential denotes areas where low-density single family residential development is preferred based upon a desire to retain the rural character of a given location, and/or due to environmental constraints or limited infrastructure. The density ranges from 0 to 1.5 dwelling units per acre.

Low Density Residential
(1.6 - 3.5 DU/AC)

Low Density Residential denotes areas where increased residential density can be accommodated, within a range of 1.6 to 3.5 dwelling units per acre. Public infrastructure is required to serve this density of residential development. The use of single-family subdivision design concepts may be applied. In general this district is intended to serve as a transition between rural areas and more intense residential land uses.

Low-Medium Density Residential
(3.6 – 8.0 DU/AC)

Low-Medium Density Residential denotes areas where moderate intensities of primarily single family residential uses are considered appropriate, based upon existing patterns of development, available transportation and other infrastructure, and proximity to service, employment, and retail facilities. Public infrastructure is required to serve this density of residential development. A variety of housing forms may be developed, including townhouses and garden apartments. Institutional uses such as schools, convalescent facilities, or religious facilities are often considered appropriate, if sited in locations that are sensitive to impacts on adjacent residential uses. Residential density ranges from 3.6 to 8.0 dwellings units per acre.

Medium Density Residential
(8.1 – 12.0 DU/AC)

Medium Density Residential denotes areas generally located within established development corridors, in close proximity to retail, transit facilities, services, and employment uses, where multi-family residential uses are appropriate. Infill housing development may also be appropriate, as a means of maximizing the infrastructure investments. A variety of housing types and styles are permitted in order

to serve the needs of a wide range of demographic and income groups. Specialized forms of group housing (elderly, affordable, group homes, etc.) may also be appropriate. The residential density ranges between 8.1 and 12.0 dwelling units per acre.

High Density Residential
(12.1 – 18.0 DU/AC)

High Density Residential denotes where significant amounts of high-density residential dwellings are appropriate. These areas are located in existing urban settings, or locations where substantial development intensity is desired. Housing may be developed in multiple story structures. Overall densities achieved will be predicated on available infrastructure capacity and development impacts. Rental and owner/occupied housing are equally appropriate. The high residential densities possible in these locations will provide substantial support to service and retail uses in the area. The residential density ranges from 12.1 to 18.0 dwelling units per acre or greater.

Commercial Uses

The Land Use Plan identifies the proposed locations of commercial development within the Airpark Area. The Plan identifies a large campus-oriented commercial/ office/business park to be located between the Airport and the Freeway. Regional Commercial sites are located in both the northwest corner and the northeast corner of the Airpark Area. These sites will not only utilize the regional traffic from the freeway, but will attract local patrons due to the proximity to the City's Central Business District.

Neighborhood Commercial
(FAR 0.23)

Neighborhood Commercial denotes where neighborhood-based commercial uses of 10 to 20 acres are appropriate. Development takes the form of grocery stores, clustered retail, personal services and restaurant uses. It is anticipated that these areas will attract patrons from a smaller (1 to 2 miles) radius than the larger, community commercial facilities. Total building area is typically 30,000 to 140,000 sq./ft. and the FAR is less than .23.

Community Commercial
(FAR 0.23)

Community Commercial denotes where community commercial uses of 30 to 40 acres are appropriate. Development takes the form of high-volume grocery or retail "superstore" outlets, personal services and restaurant uses. It is anticipated that these areas will attract patrons from a smaller radius (2 to 4 miles) than the larger, regional commercial facilities. Total building area is typically 140,000 to 300,000 sq./ft. and the FAR is less than .23.

Regional Commercial
(FAR 0.23)

Regional Commercial denotes where regional commercial land uses of 40 to 200 acres are appropriate. Large retail can be developed in combination or singular designs. This land use is intended to establish regional retail and employment uses in locations with adequate access, and where impacts on residential uses are minimized. Immediate access to major transportation corridors is available. A wide variety of retail, service, hotel and office employment uses are allowed. Total building area is typically 400,000 to 1.5 million sq./ft. and the FAR is less than .23.

Note: Regional Commercial may be considered for any commercial zone adjacent to the San Tan Freeway.

Special Use Commercial
(FAR 0.23)

Special Use Commercial denotes where the most intense types of commercial and high-density residential development may take place. Special commercial areas may include any combination of retail, service, entertainment and office development. These areas are intended to develop as major retail and entertainment service centers along the Paseo System and create the feel of an "Urban Village." Developments encompassing a variety of uses are preferred over singular land uses, as a means of maximizing the economic use of limited land resources, and promoting a vibrant, pedestrian oriented urban environment. Total building area is typically 30,000 to 500,000 sq./ft. and the FAR is less than .23.

Commercial/Office/Business Park
(FAR 0.23)

Commercial! Office/ Business Park denotes major, campus-like employment centers. Permitted uses includes retail services, research and development or office/showroom development. Design standards may be applied to assure a consistent and high quality physical product. This land use is typically located adjacent to arterial roads and freeways. Typical techniques such as screening landscape buffers, separation of incompatible uses, lighting design, and architectural standards may be used. Total building area is typically 100,000 to 750,000 sq./ft. and the FAR is .23.

For the particular area bounded by Arizona Avenue, Southern Pacific Railroad tracks, Willis Road, and Appleby Road, public assembly uses may also be permitted, in addition to the Commercial/Office/Business Park uses outlined above.

Public Assembly Uses are those having the potential for public assembly such as religious, institutional, community, and conference facilities as well as other uses in a campus-like setting. Coordination between developments, i.e. between public assembly and Commercial/Office/Business Park uses, will be encouraged to provide shared/overflow parking and establish interior collector streets between dissimilar land uses. Typical techniques such as screening, landscape buffers, separation of incompatible uses, lighting design, and architectural standards may be used. Total building area is typically 30,000 to 500,000 sq./ft. and the FAR is less than .23.

Industrial Uses

The Land Use Plan identifies the Arizona Avenue corridor as an area of high—intensity industrial land use. Properties directly adjacent to the Airport will attract aerospace- related industrial development that will be able to directly access the airport.

Light Industrial
(FAR 0.32)

Light Industrial denotes uses for small manufacturing, warehousing and distribution, back office space and high tech uses. Site and facility design should balance function with aesthetics and amenities. The FAR is less than .32.

Industrial
(FAR 0.32)

Industrial areas have been designated for general industry, such as manufacturing, distribution, warehousing, wholesaling, and

utility uses. This designation is appropriately sited to eliminate potential negative impacts upon other non-business uses, and therefore promote a fairly permissive and supportive industrially oriented environment. Site and facility design will be primarily concerned with function. The FAR is less than .32.

Commercial/Office/Business Park (Taxiway Access)(FAR 0.32)

Commercial/Office/Business Park (Taxiway Access) denotes designated areas for aviation oriented office or light industrial uses that have access to the airport taxiways. Campus-like business parks with corporate offices, commercial services, office park and high tech users needing direct taxiway access are appropriate uses. The FAR is greater than .23 and less than .32.

Note: Light Industrial and Commercial/ Office/Business Park with and without taxiway access may be considered as interchangeable on a case by case basis.

Aerospace Industry (FBO) (FAR 0.32)

Aerospace Industry (FBO) denotes designated areas for Fixed Based Operations (FBO) aviation, and/or limited to uses that directly support aviation, (e.g. require direct proximity to the airfield). Aviation training, maintenance, distribution, warehousing, refueling and similar uses are appropriate. Use of these areas is strictly controlled through direct public ownership, or otherwise limited to the types of uses listed. The FAR is less than .32.

Other Uses

The Chandler Airpark is host to various types of public facilities and open space areas. These areas have been established to anticipate future development needs.

Public/Semi-Public Facilities (FAR 0.15)

Public/Semi-Public Facilities denotes existing or planned public use(s) such as schools, community centers, government facilities, libraries, hospitals, educational campuses, airports and similar uses. Use of these areas is strictly controlled through direct public ownership, or otherwise limited to the types of uses listed. The FAR is less than .15.

Light Rail Corridor Overlay Planning Area (12.1 to 18.0 DU/AC)

If, after a formal study, a light rail transit corridor is found to be a feasible alternative for the use of the Southern Pacific Railroad Tracks, then a Light Rail Corridor Overlay Planning Area would be implemented, allowing mixed- use residential and commercial developments. The commercial FAR would be .23 to .32 with residential densities of 12.1 to 18.0 dwelling units per acre.

Parks and Open Space

Parks and Open Space depicts areas set aside for non—development, either through City, State or Federal ownership or by designations in municipal General Plans. Areas may be used for active and passive recreation, formal parks, or may be natural conservation areas.

Transitional Overlay Zone

Transitional areas have the potential for a variety of commercial land uses based upon compatibility with surrounding land uses.

This land use allows the transition from residential to commercial land uses as the economics become favorable for the transition to occur.

Transitional areas must be transitioned from rural residential to a compatible commercial use according to the following guidelines:

- Industrial uses will only be permitted if all the property owners in the contiguous transitional area_ request rezoning to that zoning district.
- Property owners in any transitional area request a rezoning of a minimum of 40 contiguous acres made up of whole subdivision lots.
- All requests for rezoning are for a specific proposed commercial project with committed funding.
- The development site where the new zoning occurs is adequately buffered so as not to create a hazard or a nuisance to the adjacent rural residential land use.
- Adequate infrastructure either exists or is planned as part of the development design to support the proposed use and traffic impacts on residential uses are minimal.
- All properties proposed for rezoning are adjacent to and border an arterial roadway, or border a commercial property that is adjacent to or borders an arterial roadway. This guideline is intended to prevent fragmented commercial development.
- Include the use of noise attenuation as provided for in Appendix A of this report.

Buffering Requirements

All developments in the Airpark Area, both existing and planned, should adhere to the buffering requirements set forth in the City of Chandler General Plan.

In residential areas, a transition from higher to lower densities should occur gradually. Proper transitional techniques include landscaped and open space buffers (such as parks and retention basins) and separations such as roads and canals.

Commercial and industrial areas should be adequately buffered from residential areas through open space and landscaping as well as other design guidelines. Roads, freeways, railroad tracks and canals also provide good separation from non-residential land uses when combined with appropriate setbacks. Building heights should be graduated from highest to lowest to conform with those found on adjacent parcels. Colors and materials should blend with the character of the surrounding developments and neighborhoods. Non-residential buildings should be designed to respect the scale, mass and privacy of surrounding developments. Architectural designs should apply to all four sides of buildings and avoid unbroken building facades and repetition.

Streetscapes should be pedestrian-friendly and provide for attractive landscaping and building setbacks. Wall and fence treatments should include staggering and variety of color to avoid a monotonous look. Streets should be well lighted and provide easy-to—read monumentation and street signs.

Phasing

Development within the Airpark Area should be phased in response to market demands and absorption rates according to a logical and orderly extension of roadways, public utilities, and other infrastructure. Water, sewer, electricity, and other utility improvements, when phased properly will ensure the Airpark Area reaches full buildout without creating leap-frog development or increased infrastructure costs. Phasing should ideally occur in a general northwest

to southeast direction with development occurring first along the freeway corridor and adjacent to the Airport.

Demand for development in the City of Chandler is centered on residential and neighborhood commercial. These land use designation types will most likely be the first land uses to reach buildout capacity. As residential single family and multi-family housing is completed, the community will be able to support neighborhood and community commercial services. As the Airport expands to accommodate increased volumes of air traffic, service improvements will accelerate the pace of aerospace related industry within the vicinity of the Airport. In addition this development is likely to spur commercial and industrial growth in the Airpark area. The completion of the San Tan Freeway will also enhance the rate of development adjacent to the freeway corridor.

2.5 Land Use Implementation Program

Table 2.3, *Land Use Implementation Program*, identities the land use implementation measures that the City should take to implement the goals and policies of the Chandler Airpark Area Plan. The implementation program lists the specific implementation measure, the purpose, timeframe, key participants, project location and the resources necessary to accomplish each implementation measure.

Definitions:

- *Implementation Measure* — Lists the action necessary to carry out the Land Use Plan Element of the Chandler Airpark Area Plan.
- *Purpose* - Identifies the intent of accomplishing that particular action.
- *Timeframe* — Establishes the target 5- year priority within the 20-year planning horizon for implementation of the A action.
- *Key Participants* — Assigns the elected or appointed public body, agency, group, individuals or volunteers principally responsible to initiate the implementation action.
- *Resources* - Lists the potential funding, City staff, volunteer or other community resources necessary to carry out the implementation action.

Table 2.2
City of Chandler
Land Use Categories and Standards

Land Use Category	Typical Development Standards	General Development Characteristics
Rural Residential (RR)	0 - 1.5 DU per Acre	One- to two-story single-family detached homes on large lots
Low Density Residential (LDR)	1.6 - 3.5 DU per Acre	One- to two-story single-family detached homes on lots in excess of 7,000 square feet.
Low-Medium Density Residential (LMDR)	3.6 - 8.0 DU per Acre	Housing types found in low density areas on smaller lots and areas of transitional land use
Medium Density Residential	8.1 – 12.0 DU per Acre	Includes townhomes and condominiums, typically located adjacent to high intensity land uses
High Density Residential	12.1 – 18 DU per Acre	Multi-family developments which include apartments and condominiums
Neighborhood Commercial	Maximum FAR = 0.23 Site Size = 10 to 20 acres	Provides for the development of smaller scale commercial areas to serve adjacent neighborhoods within 1 or 2 miles
Community Commercial	Maximum FAR = 0.23 Site Size = 30 to 40 acres	Large retail centers located along arterial corridors and activity nodes, serving a market radius of 2 to 4 miles
Regional Commercial	Maximum FAR = 0.23 Site Size = 40 to 200 acres	Encompasses the entire range of large-scale retail and service activities and will serve the region, immediate community and tourist/traveler trade
Special Commercial	Maximum FAR = 0.23 Site Size = N/A	Will service the retail commercial established in conjunction with the Paseo System and may be integrated with moderate to high density residential
Commercial/Office/Business Park	Maximum FAR = 0.23 Site Size = 10 to 200 acres	Includes office and business complexes and promotes a campus oriented environment
Light Industrial	Maximum FAR = 0.32 Site Size = 10 to 200 acres	Encompasses low intensity uses such as warehousing and light or high-tech manufacturing industries
Industrial	Maximum FAR = 0.32 Site Size = 40 to 250 acres	Includes production, assembly and manufacturing based businesses, associated with high intensity land use
Commercial/Office/Business Park (Taxiway Access)	Maximum FAR = 0.32 Site Size = 10 to 200 acres	Similar to standard commercial/ office/ business park characteristics and includes regulated accessibility to the Airport taxiway
Aerospace Industry (FBO)	Maximum FAR = 0.32 Site Size = 5 to 40 acres	Encompasses all airport related businesses (fixed base operators)
Public/Semi-Public Facilities	Maximum FAR = 0.15 Site Size = 1 to 640 acres	Properties designated for a variety of municipal and quasi-public uses to include: utilities, public services and educational institutions

Source: City of Chandler Circulation and Land Use Element, 1998.
Note: Typical Development Standards, Site Size is meant only as a guide and not a fixed standard for the Land Use being defined.

Table 2.3
Land Use Implementation Program

Implementation Measure Action	Purpose	Timeframe (Years)				Key Participants	Resources
		1-2	3-5	5-10	10-20		
Adopt Chandler Airpark Area Plan in accordance with ARS §9-461.09	To guide growth and encourage compatible land uses.	•				City Council	N/A
Establish open space acquisition plan for end of runways	To establish funding initiatives for public land appropriation.	•	•			City Planning Staff, Public Works, Airport Commission, City Council	Municipal Bonds and FAA/ADOT Funding
Establish buffering guidelines for compatible development within the airport influence area	To prevent the development of incompatible uses within the 55 DNL noise contour area.	•				City Planning Staff, Airport Commission, City Council	FAR part 150 Noise Study and Consultants
Annex remaining County Islands in accordance with the Annexation Policy	To encourage orderly growth of jobs, housing and services.	•	•	•	•	City Planning Staff, Planning and Zoning Commission and City Council	City Staff
Implement re-zoning strategies	To reconcile the current Land Use Map with existing zoning districts.	•	•	•	•	City planning Staff, Planning and Zoning Commission, City Council	N/A
Review buffering requirements for new development.	To establish buffers (e.g. open space, landscaping, enhanced building setbacks, intervening land uses, etc.) as a means to transition between incompatible land uses.	•				Planning and Zoning Commission	Community Planning and Development Staff
Complete the San Tan Freeway Corridor Study	To determine and affirm the appropriate land uses adjacent to the freeway corridor.	•	•			City Planning Staff, ADOT	Consultants
Create a policy to prevent disjointed redevelopment of transitional land uses.	To protect areas designated as Transitional Land Uses from infringement by incompatible land uses.	•	•			City Planning Staff, Economic Development, City Council	Annexation, Improvement Districts, Municipal Bonds
Create a policy for acquiring Water Storage Tank sites.	To protect future sites for adequate water distribution.	•				*Public Works, City Council*	*Easements,* Municipal Bonds
Update Airpark Area Plan on a five-year basis	To ensure compatible land uses near the Airport.		•			City Planning Staff, Planning and Zoning Commission, Public Works, Airport Commission	Consultants
Develop and adopt Noise Attenuation Standards.	To ensure compatible uses near the Airport that minimize noise disruptions	•				Airport Commission, City Council, Planning and Zoning Commission	FAR Part 150 Study and Consultants

Source: BRW, Inc., 1998

CHANDLER AIRPARK Area Plan

Airpark Area Plan

November 5, 1998

D&M GROUP BRW
A DAMES & MOORE GROUP COMPANY

3.0 Transportation and Circulation Element

The Transportation and Circulation Element of the Chandler Airpark Area Plan is presented in the following sections:

3.1 Introduction
3.2 Existing Setting
3.3 Transportation and CirculationVision, Goals and Policies
3.4 Transportation and Circulation Plan
3.5 Transportation and Circulation Implementation Program

3.1 Introduction

The Transportation and Circulation system is the key to unleashing the economic development potential of the Chandler Airpark Area. Establishing an integrated transportation system, that offers flexibility and alternatives to residents and commuters, is important if all of the transportation opportunities in the Airpark Area are to be fully realized. This system includes the San Tan Freeway, Arizona Avenue, and Gilbert Road (roads of regional significance); other Arterial Streets; the Southern Pacific Railroad; the Municipal Airport; The Paseo System; and Transit. Full development of these transportation and circulation links will ensure access and mobility for residents and workers alike.

The Transportation and Circulation Element is a guide to decision making for the Airpark Area that:

- Identifies the needs of the Airpark Area for development of transportation-related facilities,
- Recommends transportation-related development priorities, and
- Ensures managed growth within the Airpark Area that is compatible with the existing Transportation Plan Element.

3.2 Existing Setting

The roadway network within the Airpark Area consists of primarily two-lane improved roadways, established on a one-mile grid system. These roadways define the arterial roadway system and promote efficient traffic movement through the Airpark Area. Arizona Avenue and Germann Road include design amenities such as improved shoulders, curb and gutter, sidewalks, bike lanes, transit facilities, or acceleration/deceleration lanes at turnouts or intersections.

Within the Airpark Area, two roads have been identified as roadways of regional significance. Arizona Avenue (State Highway 87) defines the western boundary of the study area and establishes a major link for regional commercial and resident traffic movement into the Downtown area from the south. Gilbert Road on the east side of the Airpark Area provides north-south mobility from the Beeline Highway to the Gila River Indian Community. Queen Creek Road is a high-volume commuter corridor for residents of south Chandler with convenient access to Interstate 10 to the west.

Several roads in the Airpark Area have been improved over the past few years and include: Arizona Avenue, a six-lane divided arterial; Germann Road, a four-lane divided roadway; and Airport Boulevard, a four-lane divided roadway. Queen Creek Road (from Arizona Avenue to McQueen) and McQueen Road (from Pecos to Queen Creek Road) are in the design phase by Maricopa County for widening to four lanes.

There is one transit line near the Airpark, Chandler Boulevard Number 56, serving the Community College Area. The line runs along Chandler Boulevard from Intestate 10 to Chandler/Gilbert Community College.

Bicycle lanes exist along the improved portions of Germann Road and Arizona Avenue.

Several other transportation facilities, such as the Paseo System and Southern Pacific Railroad Track, are being reviewed and studied as potential links to the circulation system. The Chandler Municipal Airport is covered in the introduction of this report.

3.3 Transportation and Circulation Vision, Goals and Policies

Vision

Develop and maintain a circulation system that provides access to all development, protects the integrity of the Municipal Airport, encourages economic development, and promotes orderly growth.

General

Goal 1.0 To create a safe, efficient, and convenient circulation system for the transport of people and products within and through the Airport Area.

Policy 1.1 The City shall work with the Arizona Department of Transportation to ensure timely construction of the San Tan Freeway.

Policy 1.2 The City shall work with the Arizona and Maricopa County Departments of Transportation, the Maricopa Association of Governments, and adjacent cities to integrate the Airpark Area into the regional transportation system.

Street System

Goal 2.0 To create a safe and efficient street system throughout the Airpark Area.

Policy 2.1 The City shall require a minimum of 130 feet of right-of-way along all major arterial street alignments and 150 feet at arterial intersections.

Policy 2.2 The City shall require a minimum of 110 feet of right-of-way along all minor arterial street alignments.

Policy 2.3 The City shall require a minimum of 80 feet of right-of-way along all collector streets.

Policy 2.4 The City shall require all developments located along major arterial streets to control access to 1/8, ¼ and ½ mile points to ensure safe and efficient traffic movement.

Policy 2.5 The City shall require the construction of all streets in an orderly and logical progression. This includes ensuring that collector streets in all new developments are planned to connect with collector streets in existing and planned adjacent development.

Policy 2.6 The City shall require developers to construct full-width streets with curb, gutter, sidewalk, bike lane, and landscaping from the centerline to the edge of the proposed development.

Policy 2.7 The City shall require all residential developments adjacent to major and minor arterials to be properly setback and buffered.

Policy 2.8 The City shall encourage detached sidewalks from the curb – to include a landscaping area.

Alternative Transportation Modes

Goal 3.0 To promote the use of alternative (non-automobile) modes of travel.

Policy 3.1 The City shall require that all arterials contain six (6) foot bike lanes for each direction of traffic flow.

Policy 3.2 The City shall encourage the development of integrated pedestrian, bicycle, and equestrian trails along the Paseo System.

Policy 3.3 The City shall study the feasibility of establishing a transit program.

Policy 3.4 The City shall require developers to incorporate transit facilities into project designs.

Policy 3.5 The City shall work with the Regional Public Transit Authority to secure TEA-21 Federal funding for a light rail transit system.

Policy 3.6 The City shall work to preserve the land located at Germann Road and the Southern Pacific Railroad for a future intermodal transit station.

3.4 Transportation and Circulation Plan

Functional Roadway Classification System

The land uses proposed for the Airpark Area indicate the need for a well-developed roadway network that will adequately service residential- and employment-related commute traffic. Roadways within the Airpark Area are defined using the Functional Roadway Classification System. The City of Chandler currently utilizes this system to classify its roadway network in order to apply a standardized method for design and construction. Table 3.1, *Projected Buildout of Airpark Area Arterial Roadways*, demonstrates the Functional Roadway Classification System that assess distinguishing features such as capacity/volume, continuity, access control, and facility spacing. The following five roadway classification categories are found within the Airpark Area:

- Principal Arterials
- Major Arterials
- Minor Arterials
- Collector Streets
- Local Streets

The intent of the classification system is to identify and develop roadways that facilitate the efficient, safe, and continuous movement of traffic through the Airpark Area and to reduce traffic volume on residential roadways.

Table 3.1
Projected Buildout of Airpark Area Arterial Roadways

Roadway	Roadway Classification	R.O.W. Width (1) (in feet)	# of Lanes 1998	# of Lanes 2020 (at Buildout)	Bike Lane (Yes/No)
Arizona Ave	Major Arterial	130'	6	6	Yes
McQueen Rd.	Major Arterial	130'	2	6	Yes
Cooper Rd.	Major Arterial	130'	2	4-6	Yes
Gilbert Rd.	Major Arterial	130'	2	6	Yes
Pecos Rd.	Major Arterial	130'	2	4-6	Yes
Germann Rd.	Major Arterial	130'	2/4	6	Yes
Queen Creek Rd.	Major Arterial	130'	2	6	Yes
Ocotillo Rd.	Major Arterial	130'	2	6	Yes
Willis Rd.	Minor Arterial	110'	2	4-5	Yes
Ryan Rd.	Minor Arterial	110'	2	4-5	Yes
Appleby Rd.	Minor Arterial	110'	0	4-5	Yes
116th St.	Minor Arterial	110'	2	3-4	Yes
124th St.	Minor Arterial	110'	0	3-4	Yes
132nd St.	Minor Arterial	110'	0	3-4	Yes
Airport Blvd.	Minor Arterial	90'	4	4	No

(1) Additional Right-of-Way (R.O.W.) required at intersection
Source: City of Chandler, 1998

Principal Arterials/Freeways

Freeways, as principal arterials, should carry the maximum amount of metropolitan traffic on a minimum of total mileage. Principal arterials are designed to service long trips throughout the region and have some sort of access control to increase traffic flow and volume.

The San Tan Freeway (Loop 202) is the only principal arterial running through the Chandler Airpark. It is a six-lane divided, limited access freeway designed to promote regional access to and from the area and connect to other segments of the regional freeway network such as Interstate 10, Price Freeway (Loop 101), and Superstition Freeway (US 60).

Major Arterials

Major arterials are high volume, high speed roadways that carry a large volume of traffic. Along with freeways, major arterials should carry the majority of trips entering and leaving the region, as well as the majority of through movements desiring to bypass portions of a region. Within the Airpark, principal and major arterials will function to facilitate internal traffic movement from residential areas to business and activity centers. These roadways will also facilitate commercial transport of goods into and out of the Airport vicinity. Major arterials are generally aligned with the one-mile grid system.

These roadways would have flared, 150-foot cross-sections at intersections with dual left-turn lanes and single right-turn lanes. The

right turn lane would also function as a bus pullout with a minimum 200 feet of length.

The existing and proposed roadways designated for major arterial classification in the Airpark Area include:

- Arizona Avenue
- McQueen Road
- Cooper Road
- Gilbert Road
- Pecos Road
- Germann Road
- Queen Creek Road
- Ocotillo Road

Minor Arterials

These roadway types are similar to major arterials with respect to restricted access points and travel speeds, but support lower traffic volumes. Minor arterial roadways should link and augment the major and principal arterial system and provide service trips of moderate length and a limited level of mobility compared with major and principal arterial roadways. Minor arterial roadways provide inter-community continuity, but ideally should not penetrate identifiable neighborhoods. Minor arterials are generally aligned with the one-half mile grid system. Existing and proposed minor arterial roadways include:

- Willis Road
- Ryan Road
- Appleby Road
- Airport Boulevard
- Hartford Street
- Hamilton Street
- 132nd Street Alignment

Collector Street Network

Collector streets act as intermediate roadways to facilitate traffic from neighborhoods or business centers onto the arterial roadway network. By penetrating neighborhood areas, collectors have the ability to distribute traffic without adversely affecting arterial circulation. As the Airpark Area develops, the collector street network will generally be established along the quarter mile-grid system. The City permits flexibility in the development of the collector street system for large developments where a mix of residential, employment and supportive services are part of a planned unit development project. The following roadways were identified as existing and proposed collector streets:

- Lexington Street
- Cottonwood Street

The collector street system within the Airpark Area is continually evolving as development occurs. It is important that as this evolution occurs, the major and minor arterials are relieved of the private land access function that they continue to provide in most of the Airpark Area. Such relief will result in greater efficiency in the arterial systems and reduce the lane and right-of-way requirements that would otherwise be needed.

Local Street System

The local street system in the Airpark Area consists of all residential, commercial, and industrial streets not included in the other functional classifications. The local street system provides direct access to adjacent land uses and linkage with higher roadway classifications in the Airpark Area.

Roadway Design Guidelines

Roadway Design Guidelines for the Airpark Area should comply with those standards specified by the Chandler Transportation Plan Element of the Chandler General Plan. Figures 3-1 and 3-2, *Arterial Street Cross Sections and Collector and Local Street Cross Sections*, illustrate typical cross sections from the City Transportation Plan for major arterial, minor arterial, major collector, minor collector, and local roadways.

While major and minor arterial alignments are expected to occur along the one- and one-half mile grid, the City will allow the collector and local street network within the Airpark Area to be defined by future development. Existing alignments will largely be preserved and proposed alignments must show continuity and connectivity with the existing system. Improvements to collector and local roadways will be developer- sponsored and must conform to the design guidelines established by the General Plan Transportation Element. Roadway improvements will be approved by the City on a per development basis and will consider projected traffic volumes, impact on existing and adjoining roadways, and efficiency of traffic movement.

Pedestrian, Bicycle, and Equestrian Facilities

Facilities for pedestrians and bicyclists in the Airpark Area are an important component of the Circulation Framework. Advance planning for such facilities can contribute to a reduction in levels of vehicular traffic and increased safety for pedestrians, cyclists, and motorists. The Airpark Area's pedestrian circulation framework dictates the development of sidewalks and other pedestrian facilities within residential areas and along roadways of high traffic volume near activity centers, such as commercial areas, schools, and parks.

Bicycle circulation is an integral component in the development of the Airpark Area. By designing a continuous network of bicycle paths, lanes, and routes the system will support the objectives outlined by the Land Use Plan and City Transportation Plan. Types of bicycle facilities to be utilized within the Airpark Area include:

Class I: Bike Path

A Class I exclusive bike path is a separated right-of-way designated for the exclusive use of bicycles. Cross-flows by pedestrians and motorists are minimized. A paved pathway is provided accompanied by signage designating the location of the bike path. Bike paths are specifically located to establish links between major destination points, such as parks and schools. Bike paths shall be adequately buffered from roadways by the use of a landscaping strip or other barrier to avoid conflicts.

Class II: Bike Lane

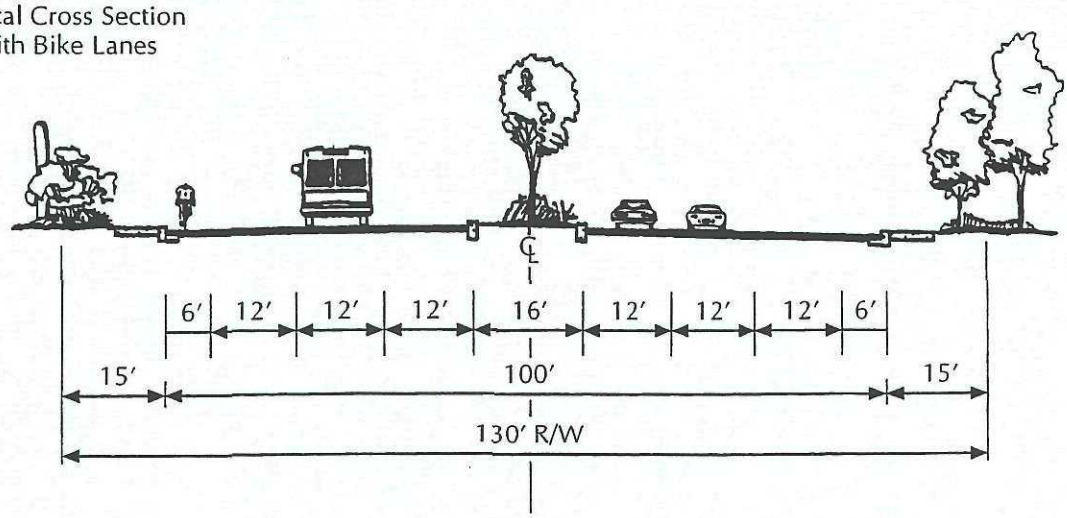
A Class II delineated bike lane is a shared, but restricted right-of-way, designated by signs and pavement for the exclusive or semi-exclusive use of bicycles. Through-travel by motor vehicles or pedestrians is not allowed. Vehicle parking within designated bike lanes may be allowed where warranted.

Class III: Bike Route

A Class III bike route is a shared right-of-way (roadway) designated by posted signs. This class of facility is the least expensive to develop

Major Arterial Street

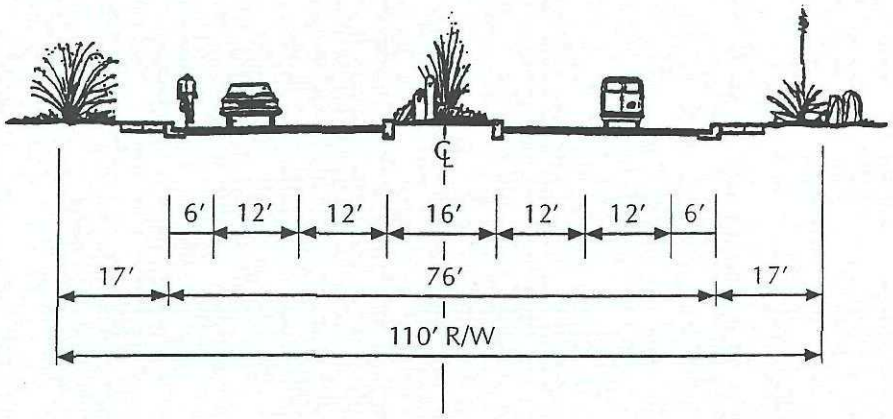
Typical Cross Section
With Bike Lanes



Not to scale

Minor Arterial Street

Typical Cross Section
With Bike Lanes



Not to scale

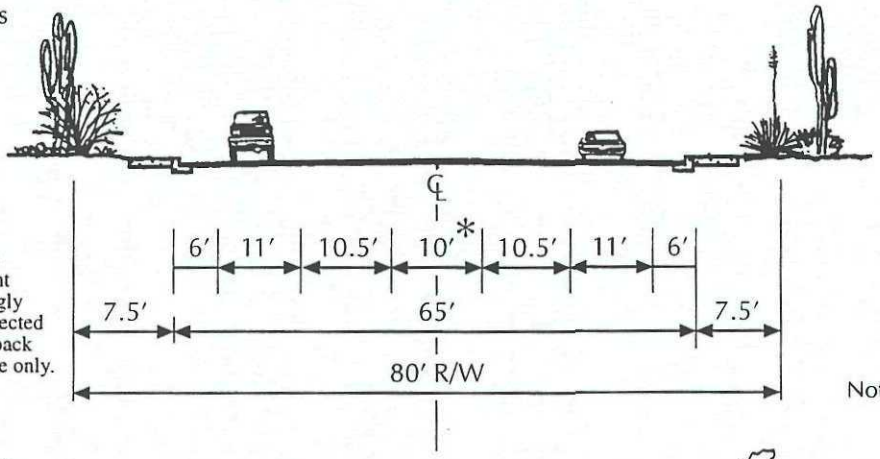
CHANDLER AIRPARK Area Plan

Figure 3-1
Arterial Street Cross Sections

BRW

Major Collector Street

Typical Cross Section
With Bike Lanes

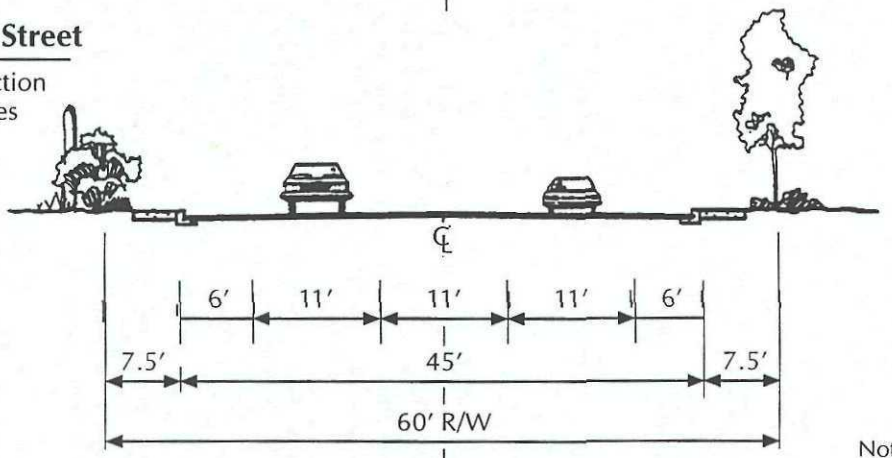


* Center turn lane may be eliminated and pavement width reduced accordingly when warranted by projected traffic and shall be 55' back of curb with bicycle lane only.

Not to scale

Minor Collector Street

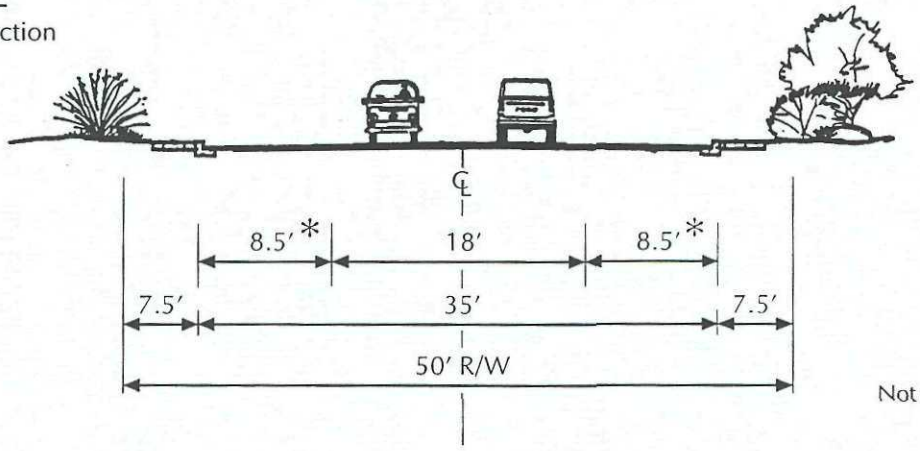
Typical Cross Section
With Bike Lanes



Not to scale

Local Street

Typical Cross Section



* Parking lane not marked by striping.

Not to scale

CHANDLER AIRPARK Area Plan

Figure 3-2
Collector Street Cross Sections

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and maintain and appropriate signage should be posted as development occurs.

The City is actively assessing the status of continuous pedestrian- and bicycle-oriented facilities within the Airpark Area, particularly land use adjacent to the Consolidated Canal for the proposed Paseo System. This Element would define a continuous pedestrian/ bicycle/equestrian corridor, linking portions of south Chandler to the Downtown and adjacent commercial, residential, and open space areas. City design guidelines for future arterial roadways incorporate the inclusion of bike lanes and sidewalks, providing users with an adequate separation from vehicular traffic.

Public Transit

As densities increase and regional activity centers are established, public transit facilities will become an important component of the Transportation and Circulation Element. The Chandler Airport will serve as the primary economic engine for the Airpark Area and will facilitate regional employment growth, thus defining initial transit needs for the area. Additional increases in employment densities adjacent to the Arizona Avenue corridor will eventually establish transit demand, particularly in response to a proposed future transit center located at the intersection of Germann Road and the Southern Pacific Railroad corridor. The need for this center is strictly predicated by employment-based development densities and the development of a regional light rail transit service that would utilize the existing railroad right-of-way.

Necessary components of a public transit system should adhere to the principles of affordability and convenience for system users within the Airpark Area. A study of public transit in the Airpark Area should address these issues prior to implementation of future City Transit Plan Updates. The Transit Plan should adhere to the Land Use and Transportation and Circulation Elements of the Airpark Area Plan, prior to its adoption. This will ensure that a public transit system evolves in accordance with development and activity centers and will require City staff to work closely with developers. This type of cooperative effort will ensure that the proper and adequate transit facilities are provided for future residents and employees.

San Tan Freeway Corridor

The San Tan Freeway, when completed, will act as a catalyst to enhance regional commercial and industrial access to the Airpark Area. Freeway design specifics include six traffic lanes divided by a median with diamond or urban interchanges at Arizona Avenue, McQueen Road, Cooper Road and Gilbert Road. The City should work with the Arizona Department of Transportation (ADOT) to ensure the preservation of the San Tan Freeway right-of-way and prompt design and construction of the Freeway.

The freeway corridor should utilize noise attenuation measures when possible and apply landscaping design standards to promote a positive visual environment while reducing negative urban impacts. The City will also work with ADOT to promote the design/build process to hasten freeway completion. Disruption of normal traffic patterns should be kept to a minimum during freeway construction with adequate detours and traffic management practices provided. By the time San Tan Freeway construction in the Airpark begins in 2005, development and traffic volumes will

dictate the need to minimize disruption to businesses and residents.

Traffic Impacts

The Airpark Area Land Use Plan calls for intense economic development and the creation of approximately 68,000 jobs. In addition to this, nearly 17,000 residents will be added to the mix. As the Airpark Area develops, the amount of traffic being generated will increase in response. The traffic impacts in the Airpark are expected to be significant. However, the roadway network is expected to adequately handle the majority of the traffic generated by the Airpark Area.

The 1997 Maricopa Association of Governments Transportation Improvement Program models the region through the year 2015. This model assumes that the major and minor arterials are built to full capacity (4 to 6 lanes) and the San Tan Freeway is completed. This data is combined with an employment estimate of approximately 65,000 (MAG Forecast), a population forecast of approximately 70,000 (MAG Forecast) and transient traffic passing through the area. When this data is modeled, the transportation network performs very well with one exception. The intersection of McQueen and Germann Roads is unable to handle the volume of traffic passing through the intersection.

This can be reconciled by looking at the data input and considering some mitigation actions. The data input for employment is identical to what the Airpark Area is projected to create. However, and most importantly, the population projection is approximately 53,000 too high. Although some of this population will be distributed to other areas near the Airpark, the expected development of rural and low density residential will ensure that the number of residents will be lower than forecast. This in itself should be enough to reduce the traffic congestion at this intersection to acceptable levels.

Assuming however, that some mitigation measures will still be required to reduce traffic congestion at the intersection of McQueen and Germann Roads, the following measures can be adopted as growth and development dictate the need:

- Create an eight-lane segment of roadway at the intersection of McQueen and Germann Roads with dual left turn lanes and a right-turn lane. This "flared" intersection is more efficient and will increase traffic through-put.
- Work with ADOT to build an urban interchange rather than a traditional diamond interchange where McQueen Road and the San Tan Freeway intersect. Urban interchanges move much larger volumes of traffic and can help "evacuate" traffic more rapidly from the major arterials, thus increasing efficiency.
- Develop an internal and external shuttle/transit circulation plan that provides alternative ways for people to move around the Airpark Area.

These measures will be more than enough to ensure a smooth flow of traffic around and through the Airpark Area. It should also be noted that this plan is less aggressive than a similar plan completed in 1986 for both population and employment, and that the intersection of McQueen and Germann Roads is the only congested intersection projected for the year 2015 in the City of Chandler. This suggests that there is no larger pattern of congestion established for the City of Chandler or the Airpark Area Plan.

3.5 Transportation and Circulation Implementation Program

Table 3.2, *Transportation and Circulation Framework Implementation Program,* identifies the transportation implementation measures that the City should take to implement the goals and objectives of the Chandler Airpark Area Plan.

The implementation program lists a specific implementation measure, the purpose, timeframe, key participants, project location and the resources necessary to accomplish each implementation measure.

Definitions:

- *Implementation Measure* - Lists the action necessary to carry out the Transportation and Circulation Plan Element of the Chandler Airpark Area Plan.
- *Purpose* - Identifies the intent of accomplishing that particular action.
- *Timeframe*- Establishes the target 5-year priority within the 20-year planning horizon for implementation of the action.
- *Key Participants* - Assigns the elected or appointed public body, agency, group, individuals or volunteers principally responsible to initiate the implementation action.
- *Resources* - Lists the potential funding, City staff, volunteer or other community resources necessary to carry out the implementation action.

Table 3.2
Transportation and Circulation
Framework Implementation Program

Implementation Measure Action	Purpose	Timeframe (Years)				Key Participants	Resources
		1-2	3-5	5-10	10-20		
Upgrade of Traffic Control system along existing arterial roadways with volumes exceeding 15,000 vehicles/day	Mandates require synchronization of signal timing to increase traffic capacities	•	•	•	•	Public Works, MCDOT	Federal Funds (TEA-21), General Obligation Bonds, City Staff
Update the Transportation Plan on a five-year basis	To identify existing and potential transportation issues and provide recommendations for future improvements		•	•	•	Citizens, Public Works, MAG, ADOT, MCDOT, City Council	Consultants
Complete Construction of Airport Access Road (Northern Portion)	To facilitate traffic movement within the Airpark Area	•				Public Works, City Council	Municipal Bonds
Incorporate a Light Rail Transit Study for the Chandler Airpark Area into the Regional Transportation Plan	To identify existing and potential land use and demographic issues concerning ridership and development of a regional system		•			ADOT, MAG, RPTA, City Planning Staff and Public Works	Consultants and City Staff
Prepare a detailed Bikeway and Pedestrian Route System Plan	To provide an overall bikeway route system linking existing and proposed paths, lanes and routes to specific land uses	•	•	•	•	City Planning Staff and Public Works	Consultants
Identify Locations for Transit Amenities to include Signage, Bus Stops, Benches, etc.	To provide the City with recommended locations for transit improvements in accordance with the City's Transportation Plan	•	•	•	•	Public Works, City Planning Staff, RPTA	Consultants, RPTA
Germann Road and Queen Creek Road realignments	To allow runway extension to occur and provide a safe buffer between runway and roadway		•			Public Works, MAG, City Council, Airport Commission	Municipal Bonds, FAA Funding

Source: BRW, Inc., 1998

CHANDLER AIRPARK Area Plan

Airpark Area Plan

November 5, 1998

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4.0 Infrastructure Element

The Infrastructure Element of the Chandler Airpark Area Plan is presented in the following sections:

4.1 Introduction
4.2 Existing Setting
4.3 Infrastructure Vision, Goals and Policies
4.4 Infrastructure Plan
4.5 Infrastructure Implementation Program

The Infrastructure Element is a guide to decision making for the Airpark Area that achieves the following:

- Identify the utility improvements necessary to accomplish buildout of the Airpark Area Plan.
- Identify implementation measures that will facilitate utility development and improvement.
- Identify a prioritized timeframe for infrastructure project implementation.

4.1 Introduction

The importance of providing basic public infrastructure to manage community growth and implementation of the Land Use Element cannot be overstressed. Without water for industrial and domestic use, provisions for the removal of waste, electricity and natural gas, the development of otherwise usable land becomes a complex problem. Through development of an efficient infrastructure network, growth and development can be stimulated in targeted regions of the Airpark Area. Conversely, if the infrastructure network is built for over-capacity or is inappropriately located, infrastructure development can lead to wasteful expenditure of public funds.

The Infrastructure Element identifies a recommended public utilities improvement plan to provide adequate levels of service to the Airpark Area through the year 2020. It is designed to compliment and promote orderly development in accordance with the Land Use Plan. The need for balanced and managed growth of the area requires the infrastructure to develop in response to projected community need and in accordance with established timeframes.

4.2 Existing Setting

The City is in the process of upgrading infrastructure facilities in anticipation of development. A majority of existing trunk utilities extend along Arizona Avenue, with branch lines and support facilities distributed throughout the Airpark Area. Due to a largely rural land use pattern in the Airpark Area, the demand for an extensive utility network has been historically absent. As low intensity developments are replaced with urban development, the City has enacted a series of utility improvement programs that will bring conventional City services to the region. Private and quasi-public utility providers are also extending existing services to the area in response to growth.

Public Facilities

A series of parks and open spaces is planned for the Airpark Area, including Tumbleweed Regional Park, with 160 acres available for recreation. Over $3.28 million is committed to regional parks in the next two years in the City of Chandler 1998 CIP Budget. The Paseo System of pedestrian and bicycle trails, along the Consolidated Canal corridor, has over $1.5 million committed for implementation through 2003.

A Water Treatment Facility is located south of Pecos Road between McQueen and Cooper Roads. The facility is the source of potable municipal water for residences and businesses in the Airpark Area. The facility was commissioned in 1989 and currently purchases water from the Salt River Project (SRP). The site processes a maximum of 45 million gallons per day (mgd).

Sewer infrastructure exists along the western side of the Airpark Area along Arizona Avenue. Easements for sewer lines are preserved within the Rights-of-way of all major and minor arterials. The City of Chandler is currently expanding its sanitary sewer processing infrastructure to include a new sewage treatment plant. This facility is under construction at the southwest corner of Queen Creek and McQueen Roads and will service the region by 1999. Funding comes from general obligation bonds and $14.6 million has been set aside through 2003 for this project.

The Municipal Landfill is located on the northwest corner of McQueen Road and Ocotillo Road. The landfill began operation in 1981 and is projected to reach capacity by 2005, when the landfill is expected to close. The site accepts approximately 277 tons of non-reusable refuse per day and does not accept hazardous and industrial wastes. The City has budgeted nearly $1.2 million over the next two years to prepare the landfill for closure. After closure, the site is expected to be developed as an open space area after meeting all environmental mediation criteria for landfill closure. A solid waste transfer station is currently being developed to the north of the landfill site on the southwest corner of Queen Creek and McQueen Roads. The transfer station will accept City waste and transfer that waste to other landfills outside of the City boundaries once the current landfill site is closed.

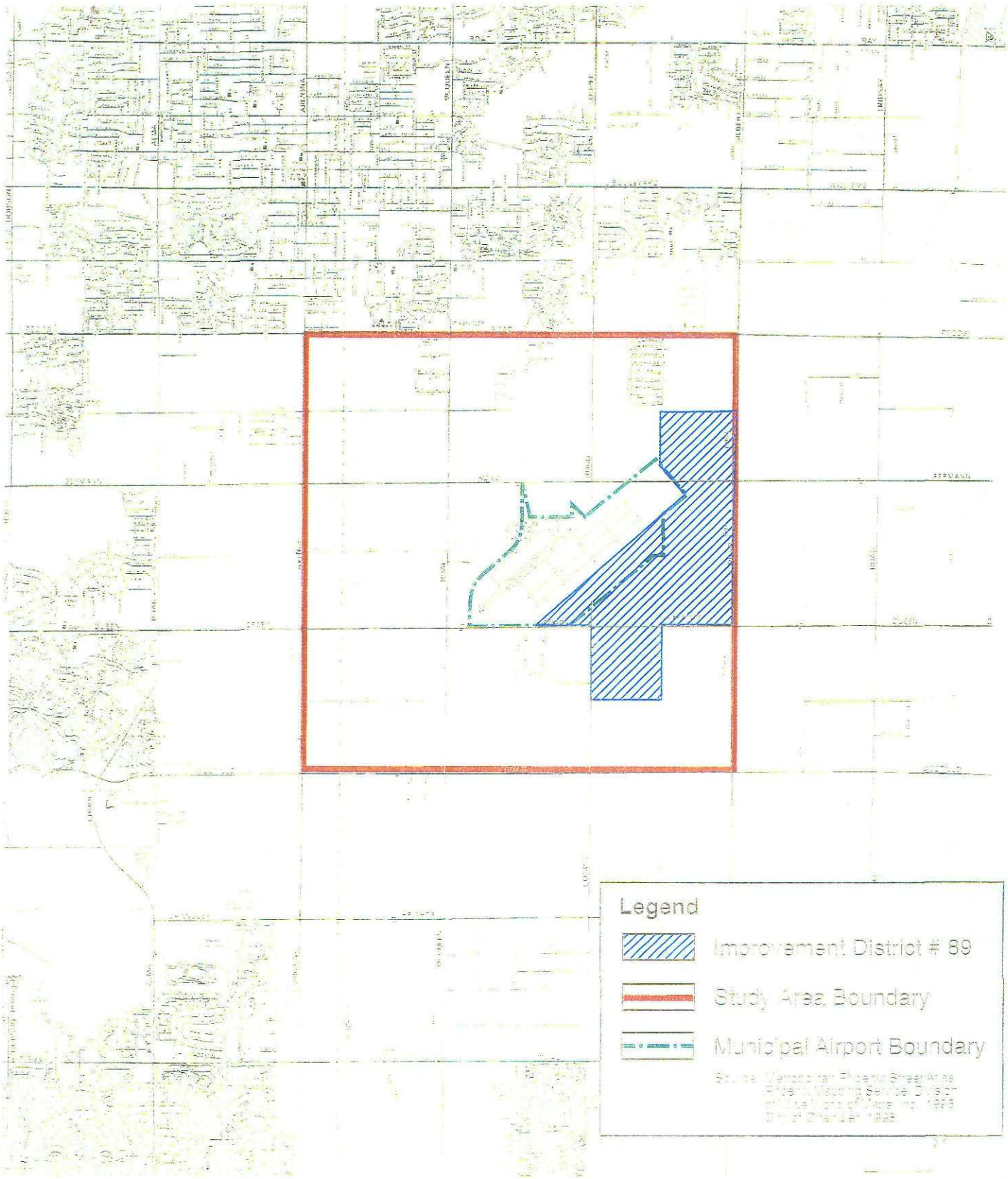
Electrical service is provided to the Airpark Area by the Salt River Project (SRP). A majority of the area's electrical service enters the Airpark Area through an existing above-ground high-voltage power line. This line runs north to south along the Southern Pacific Railroad corridor. SRP recently constructed a new 230 KV line along Ocotillo Road between McQueen and Cooper Roads, which extends from a substation located south of the Airpark Area at Ocotillo Road and Arizona Avenue.

Southwestern Gas Corporation provides natural gas service within the Airpark Area. Below-grade infrastructure is currently in place for a majority of the Airpark Area, with rights-of-way running parallel along major arterial roads. A 6-inch steel gas line runs along Germann Road and serving a majority of the natural gas needs throughout the area.

Cox Communications provides cable services to the Airpark Area and US West provides local telephone service. Infrastructure for these two utilities is typically put in place as growth and development occurs.

Improvement District #89

In addition to existing infrastructure, the City of Chandler has formed an improvement district with area property owners. Figure 4-1, *Improvement District #89*, shows the boundaries of the Improvement District where infrastructure improvements are currently underway. These improvements include construction of new collector and minor arterial streets (134th Street and Ryan Road); water line improvement, varying between 8-inch and 16-inch pipes (along Cooper Road, Gilbert Road, Queen Creek Road, 134th Street and Ryan Road); and wastewater improvements, varying between 8-inch and 39-inch pipes (along Cooper Road, Gilbert Road, Queen Creek Road, 134th Street and Ryan Road).



CHANDLER AIRPARK
Area Plan

Figure 4-1
Improvement District #89

DMG
BRW

Refer to *Improvement District #89 – Preliminary Plans*, dated January 1997 for further detail.

4.3 Infrastructure Vision, Goals and Policies

Vision

Development of a comprehensive infrastructure system that is efficient and designed to accommodate future growth and broaden economic development potential in the Airpark Area.

General Infrastructure Development

Goal 1.0 To maintain, improve, and construct public infrastructure facilities to adequately serve the Airpark Area.

Policy 1.1 The City shall require developers to grant easements for utility placement during construction.

Policy 1.2 The City shall require developers to install water and sewer infrastructure necessary to serve their projects.

Policy 1.3 The City shall require a logical phasing of infrastructure improvements with road construction projects.

Policy 1.4 The City shall ensure that new infrastructure improvements emphasize the conservation and efficient use of water resources.

Policy 1.5 The City shall designate appropriate sites for wells and water storage tanks within the Airpark Area.

Infrastructure Finance

Goal 2.0 To ensure development absorbs the costs of infrastructure improvements and construction.

Policy 2.1 The City shall continue to create improvement districts, as required by developers, to finance needed infrastructure improvements for water, sewer and roadways.

Policy 2.2 The City shall charge appropriate impact fees to cover the cost of new infrastructure and public facilities.

Utilities

Goal 3.0 To ensure the residents and businesses of the Airpark Area have access to utilities.

Policy 3.1 The City shall work with Southwest Gas and Salt River Project to ensure timely installation of utilities and upgrades prior to development.

Policy 3.2 The City shall work with U.S. West and Cox Communications to ensure timely installation of utilities, fiber-optic conduit and upgrades during development.

4.4 Infrastructure Plan

This section details the improvements currently planned by the City of Chandler for the Airpark Area and any improvements to the surrounding area that would impact the infrastructure of the Airpark Area. These projects are funded from fiscal year 1998 to 2003 and are outlined in detail in the City's Capital Improvements Program.

Telecommunications

A Fiber Optic Duct Bank is planned for an alignment along McQueen Road with extensions to the Airport and Water Reclamation Plant. This will connect the Downtown Campus of city facilities with city facilities existing and expanding to the south in the Airpark Area. Total cost of the project will be $575,000.

Parks and Trails

As part of an ongoing need to develop one ten-acre neighborhood park per 640 acres (1 section), the City of Chandler will spend $3.6 million to acquire park sites. A portion of this money will be spent to identify sites in the southern part of the Airpark Area. In addition, the City has earmarked $4.74 million for the continued development of Tumbleweed Regional Park to include an amphitheater, festival showgrounds and half-street improvements. The City will spend $1.2 million for the preliminary construction of six miles of the Paseo System, including the 3.25 miles that run through the Airpark Area. Improvements include updating the Master Plan and constructing six miles of pedestrian trails.

Public Safety

The City of Chandler will spend $240,000 to purchase land for the future site of Fire Station #6. The location of the fire station will be south of Pecos Road and east of Arizona Avenue. The City will construct the fire station when call response times begin to exceed 4 minutes. This construction is expected within the next five years and $2 million has been set aside in the form of general obligation bonds for this project.

Transportation Projects

The City of Chandler plans to update the Transportation Element of the Chandler General Plan to include the newly updated Transportation and Circulation Element and Airpark Area Plan. Information from this update will be used to evaluate construction priorities and reassess the City's Street Impact Fees.

Solid Waste

The City of Chandler has decided to close its municipal landfill as it is nearing capacity. It will be closed in accordance with EPA guidelines and landscaped into a park or open space. The City will spend a total of $3.4 million over the next five years to close the landfill and construct erosion control and landscaping. In response to the closing of the Municipal Landfill, Chandler will construct a new Solid Waste Transfer Station/Recycling Facility at a total cost of $4.48 million. The new Transfer Station will be constructed at the site of the Wastewater Treatment Plant, just north of the closing landfill.

Water

Chandler will spend $5.05 million to remediate and re-drill several wells within the City Limits over the next five years. One of these wells is the Re-De well site located northwest of Ocotillo and Cooper Roads. This well is being re-drilled to a larger diameter to improve its capacity to deliver water by 90 percent. The City will be replacing fire hydrants at Pecos and McQueen Roads during fiscal year 1998-1999 as part of a total program of $1.25 million to upgrade and replace old fireplugs. A 24-inch

water transmission line will be constructed along McQueen Road, between Queen Creek and Ocotillo Roads, during the next five years, at a cost of $5.6 million. This transmission line will service the future needs of residential and commercial growth in the Airpark Area. The City will also expand the Water Treatment Plant Facility to a minimum of 3,500 square feet at a cost of $702,000. A sedimentation basin located at the Water Treatment Plant will be improved at a cost of $610,000. In addition to upgrading the Water Treatment Plant, a $1.57 million program will be implemented to inspect water reservoir and storage tanks to ensure compliance with Maricopa County Health Standards. The City will also spend $1.83 million to acquire land for additional storage tank and reservoir sites.

Wastewater

The City of Chandler has programmed $20.2 million for a major Water Reclamation Facility at the Municipal Airport or Ocotillo Facilities. Both of these facilities will service the Airpark Area and are expected to provide adequate service as growth continues. If it is determined that a new plant is needed, versus an expansion of an existing facility, the City may need to pursue additional monies for construction. Effluent reuse and recycling is a major component of the wastewater plan for this area.

Maintenance Yard

An expansion of the maintenance yard located in the Airpark Area will be completed in 2003. Storage space, office space and maintenance facilities will be expanded to handle the increased growth occurring in the area. The total cost of this program will be $1.73 million.

Dry Utilities

With the recent installation of the 230 KV corridor in the Airpark Area, SRP has completed their improvement plans for the area. The transmission facility at the Arizona Avenue and Ocotillo Road intersection will step down the voltage to 69 KV and is considered to be of adequate capacity to service the Airpark Area at buildout.

Improvement District #89

As previously mentioned, the City of Chandler has formed an improvement district with area property owners. Improvements include construction of new collector and minor arterial streets, water line improvement, and sewer improvements.

Airport

The City of Chandler is in the midst of an aggressive development program for the Chandler Municipal Airport. Between 1998 and 2003, the City will spend $13.3 million to upgrade and improve Airport Facilities. Activities will include: runway/taxiway pavement preservation, installation of a new storm drain, construction of the new access road along the north end of the Airport, land acquisition to lengthen the runways and preserve runway safety zones, and a few miscellaneous improvements to runway lighting and security measures.

4.5 Infrastructure Implementation Program

A series of implementation measures have been established for the infrastructure of the Airpark Area, as shown on Table 4.1, *Public Infrastructure Implementation Program*. These

measures will serve as a tool in the recommendation of improvements to existing public services. These recommendations will provide the City Council with public utility improvement priorities as defined here and within the Capital Improvements Program, FY 1998-2003.

The implementation program lists the specific implementation measure, the purpose, timeframe, key participants, project location and the resources necessary to accomplish each implementation measure.

Definitions:

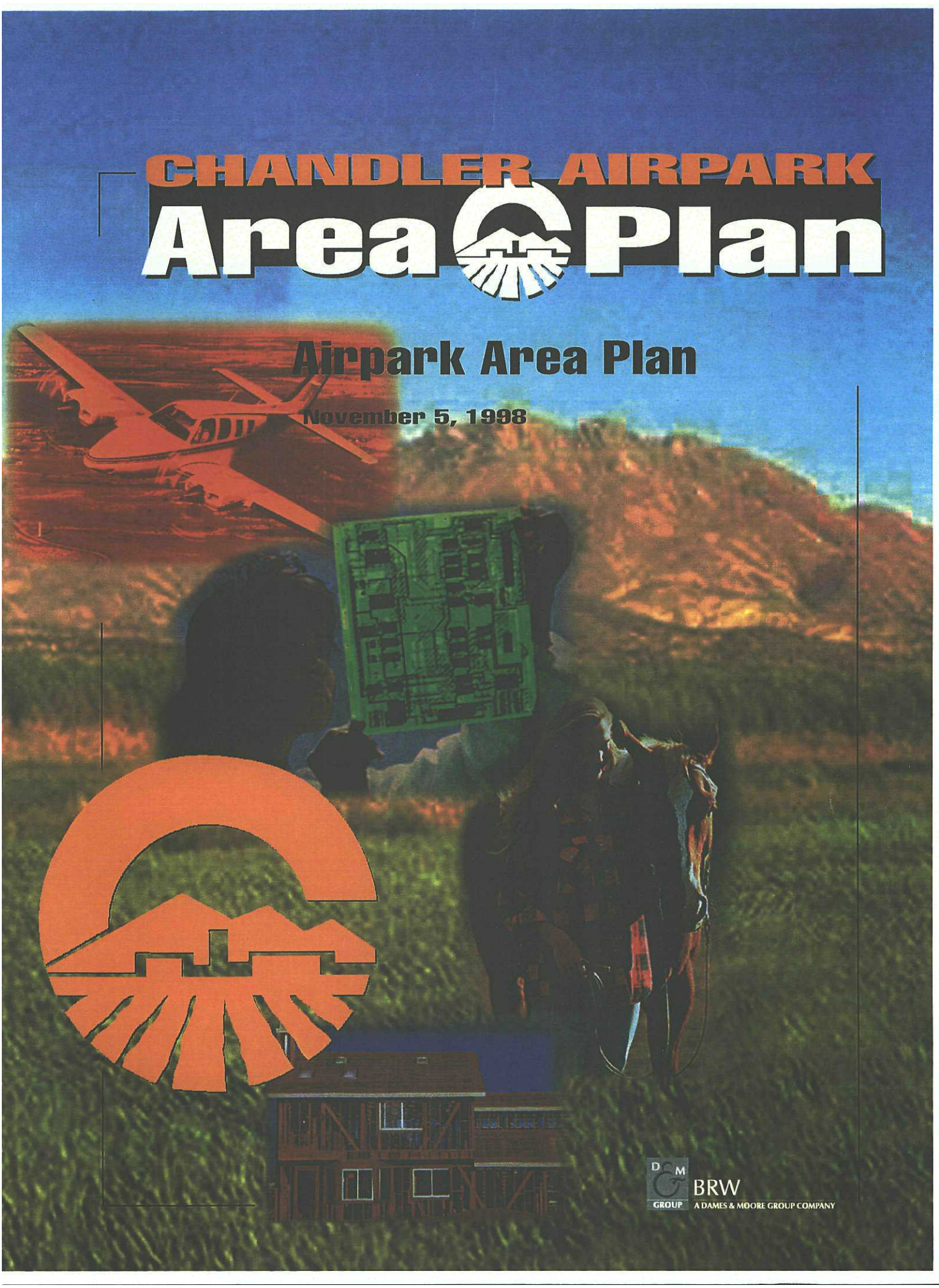
- *Implementation Measure* - Lists the action necessary to carry out the Infrastructure Element of the Chandler Airpark Area Plan.
- *Purpose* - Identifies the intent of accomplishing that particular action
- *Timeframe* - Establishes the target 5-year priority within the 20-year planning horizon for implementation of the action.
- *Key Participants* - Assigns the elected or appointed public body, agency, group, individuals or volunteers principally responsible to initiate the implementation action.
- *Resources* - Lists the potential funding, City staff, volunteer or other community resources necessary to carry out the implementation action.

Table 4.1
Public Infrastructure Implementation Program

Implementation Measure Action	Purpose	Timeframe (Years)				Key Participants	Resources
		1-2	3-5	5-10	10-20		
Update the Capital Improvements Program to reflect the Airpark Area Plan	To encourage proper phasing and adequate facilities for Economic Development.	•	•	•	•	Public Works, City Council	Public Works
Work with Utility Companies to coordinate expansion of Utility Systems during construction projects	To encourage proper phasing and adequate facilities for Businesses.	•	•	•	•	Utility Companies, City Planning Staff and Public Works	Right-of-way and easement controls
Create Improvement Districts	To pay for the costs of expanding infrastructure during development.	•	•	•	•	Property Owners, Public Works, City Council	Developer Bonds
Work with ADOT to move up completion of the San Tan Freeway	To adequately serve the transportation needs of the Airpark Area.	•	•			ADOT, City Public Works, City Council	Municipal Bonds as loans to ADOT.

Source: BRW, Inc., 1998

CHANDLER AIRPARK Area Plan



Airpark Area Plan

November 5, 1998

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5.0 Economic Development Element

The Economic Development Element of the Chandler Airpark Area Plan is presented in the following sections:

5.1 Introduction
5.2 Existing Setting
5.3 Economic Development Vision, Goals and Policies
5.4 Economic Development Plan
5.5 Economic Development Implementation Program

5.1 Introduction

Chandler's population has increased from a modest 9,531 in 1960 to an estimated 165,000 residents in 1998. Chandler's growth rate has been seven to eight percent annually for the past 30 years and its share of Maricopa County has grown to five percent of the total population. By 2005, the State of Arizona Department of Economic Security projects that over 200,000 people will live in Chandler. The population of the Airpark Area is estimated to be somewhere between 700 and 1,000 residents in 1998. This represents less than one percent of the total Chandler population. However, it is projected to become one of the fastest growing areas of Chandler over the next few years.

Chandler has a highly educated workforce with 85.8 percent of the residents 25 years or older having high school degrees and 26.2 percent with 4 or more years of college. Median household income in Chandler continues to outstrip its neighboring cities and the County with a healthy $46,096 median income. This compares with approximately $31,000 in Maricopa County, Mesa and Tempe.

The labor force in Chandler had grown to 54,438 when last measured in 1994. Currently, Chandler has an unemployment rate slightly below three percent which is lower than Maricopa County and Arizona State averages. The labor force in Chandler is expected to continue its rapid growth, as high technology firms continue to cluster in the area around and in Chandler.

In 1990, Chandler's housing stock consisted of 34,967 units, a 13 percent compounded annual growth rate since 1980. Currently there are nearly 60,000 units in the City. From 1990 to 1994, Chandler issued 10,200 building permits and from 1994 to the present nearly 10,000 more permits have been issued. The average price of a new single family home was $113,671 in 1994. By 1998, the average price had increased to over $120,000.

Economic Overview

Chandler has emerged as the second fastest growing community in the country among cities with over 100,000 population. Approximately 40 percent of Chandler's 71.5 square-mile planning area is developed, with an anticipated population nearing 400,000 residents at build out. Current growth expectations (more than 200,000 people by 2005) are being influenced both by concerted local promotion and development attraction as well as regional market forces.

Large firms such as Intel and Motorola dominate the City's employment base and constitute large, important revenue generators for the local economy. Also, various aerospace and aviation industries involved in manufacturing have located and expanded in Chandler. As of 1998, Chandler had 12 fully-improved industrial/business parks in designated employment centers throughout the City, including the Airpark Area.

Office, Retail and Industrial Development

Approximately 1,715 acres of Chandler's 15,000 acres of developed area are devoted to industrial development, the majority situated in the City's 12 industrial parks. Many of the areas have an abundance of available parcels ready for development, with infrastructure and zoning in place. There are approximately 12.3 million square feet of built industrial space in the city, with a vacancy rate of less than five percent. Additionally, 1.5 million square feet, representing the new Intel "FAB-12" Microchip Plant in South Chandler, is complete, along with an additional 200,000 square feet under construction in other locations. In 1994, approximately 310,889 square feet of industrial space was absorbed, representing about 900 new manufacturing jobs. Office space consists of nearly 350,000 square feet.

Chandler is currently lagging behind its neighbors in the attraction of large retail establishments. While the city has its fair share of neighborhood and community shopping centers, attracting a regional mall would enhance the tax base. Westcor has a potential site for the development of a regional mall at the corner of Chandler Boulevard and the proposed San Tan Freeway.

Office development in Chandler is beginning to show signs of growth as back office space and new municipal buildings come on line in the next few years. Within the CAAP Airpark Area there is no office development, other than the few flightline related companies located at the airport. There are however, plans for several new compatible office developments adjacent to the airport with taxiway access.

5.2 Existing Setting

There are a variety of economic enterprises currently operating within the Chandler Airpark Area. These include:

- Agriculture and Dairy Farms
- Small Industries (Farm equipment/ maintenance, fertilizer, etc.)
- Chandler Municipal Airport (Fixed Based Operators)

Agriculture and dairy farms are the largest category by acreage with nearly 65 percent of the nine square-mile Chandler Airpark Area dedicated to agricultural enterprises. Most of these farms are run by local farmers who operate as sole proprietors and provide full time employment to only a few residents. Part-time or migrant farm workers may be employed in fairly large numbers during seasonal harvests or plantings. While these farming operations provide a stable income to the owners of the land, the real value lies in the property and its potential for development within the Phoenix Metropolitan Market Area. Total full-time employment in agriculture is currently estimated to be less than 50 persons.

There are several small industrial enterprises located within the Chandler Airpark Area that are primarily located in the northwest corner along Arizona Avenue and the Southern Pacific Railroad Tracks. Evidence collected during the field analysis suggests that these industrial enterprises are geared towards serving the agricultural businesses located in the East Valley Region. Farm equipment maintenance, fertilizer makers, general equipment supply and the bulk processing of crops appear to cover the spectrum of uses. Most of these businesses employ several full time employees and some variable part-time workers during the harvesting and planting seasons. Total full-time employment in industrial enterprises is currently

estimated to be less than 100 persons with Treadway Inc. accounting for 40 to 50 employees.

The Chandler Municipal Airport is the other large economic enterprise located in the Airpark Area. It is also the largest full-time employer with between 50 and 60 persons working at the FAA Air Traffic Control Tower, the Fixed Base Operators and the management of the Airport. The FAA Control Tower contains federal employees while the Airport Management employees work for the City of Chandler. The Fixed Base Operators offer a range of private sector jobs including aircraft maintenance, painting and refueling; cargo operations, flight schools and other general aviation support facilities.

5.3 Economic Development Vision, Goals and Policies

Vision

The creation of a diversified economic activity center, using the Chandler Municipal Airport's strategic location as a catalyst, and the Southern Pacific Railroad and San Tan Freeway marketing strengths to access and attract new development.

Employment Base

Goal 1.0 To generate a diversified employment base through a full range of economic development activities.

Policy 1.1 The City shall market the Airpark Area to large industrial/commercial users to create high quality job opportunities.

Policy 1.2 The City shall encourage the creation of a wide variety of employment types.

Policy 1.3 The City shall utilize the economic incentives associated with the Chandler Economic Enterprise Zone.

Policy 1.4 The City shall encourage the development of mixed-use projects that include office, retail, hotel and commercial services.

Policy 1.5 The City shall actively market the Airpark Area location within the Chandler Economic Enterprise Zone.

Business Retention and Growth

Goal 2.0 To preserve and grow the existing businesses in the Airpark Area.

Policy 2.1 The City shall encourage service-oriented retail businesses (e.g., gift shops, restaurants, and rental car agencies) within, or adjacent to, the Airport Terminal.

Policy 2.2 The City shall work with agricultural-industrial users to relocate to the industrial area near the Wastewater Treatment Plant.

Business Recruitment

Goal 3.0 To fully develop the Airport Area's industrial and commercial/office/ business park areas into high quality employment centers.

Policy 3.1 The City shall promote development of the industrial/commercial corridor along the Southern Pacific Railroad.

Policy 3.2 The City shall emphasize the transportation accessibility (i.e., airport, freeway, railroad) of the Airport Area's industrial and commercial areas in marketing the area to businesses considering locating in Chandler.

Policy 3.3 The City shall consider a partnership with the Town of Gilbert to attract regional commercial to the Gilbert Road Corridor, as well as to jointly market the common border areas near the Airpark.

Policy 3.4 The City shall explore options for developing a trade zone for, all or a portion of, the Airpark.

5.4 Economic Development Plan

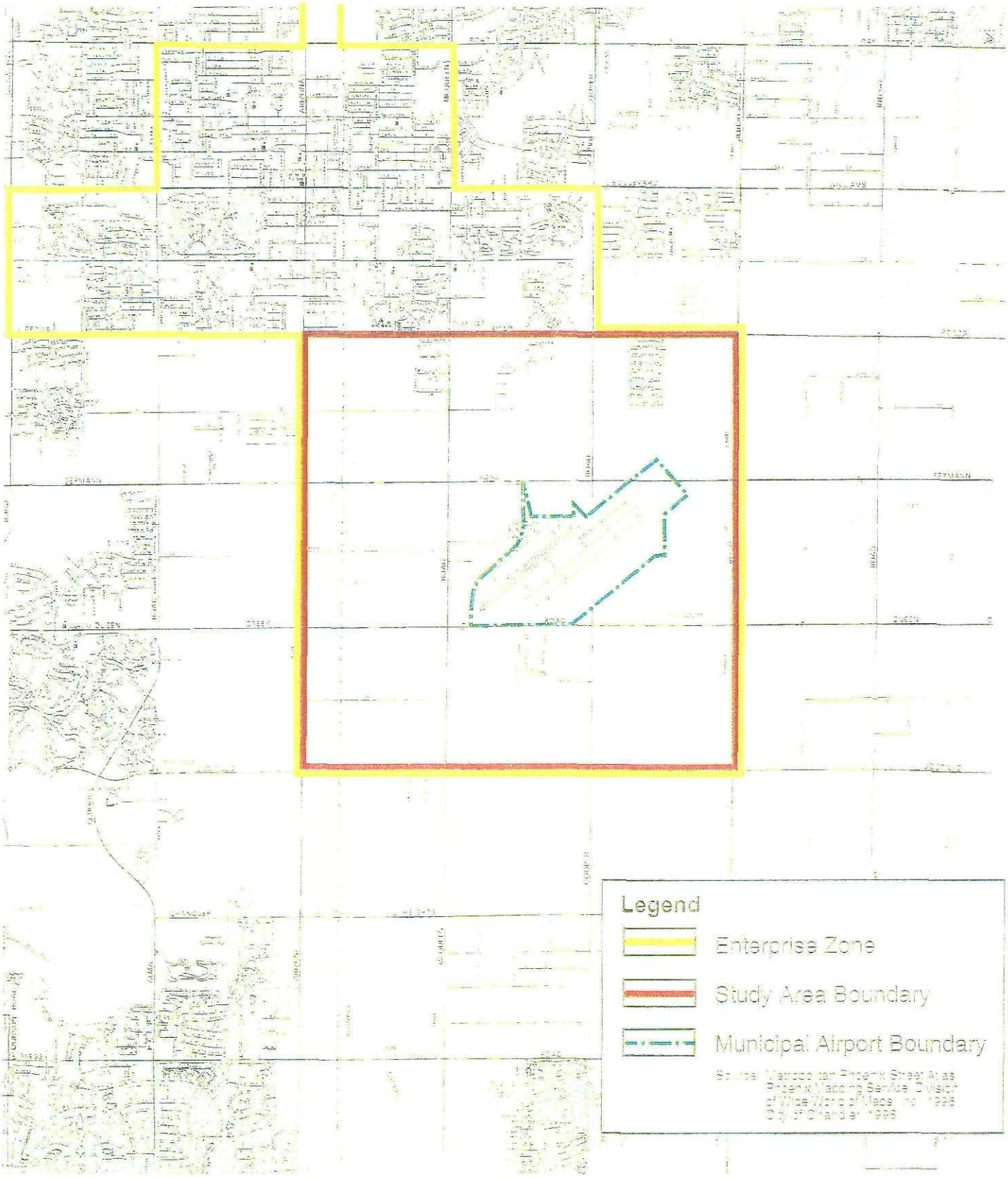
Improvement District #89 exists along the southern and eastern parts of the Airport. The Improvement District is approximately 1,280 acres in size and will be the financing source for road, water and wastewater improvements to the area. A property assessment of $6.3 million will be paid by local property owners within District #89. The combination of new roadways, sewers and water lines has a significant impact on the economic development of the Airpark Area. These improvements, together with infrastructure installed by the city in the same area, are expected to create a greater opportunity for development and expansion opportunities for industrial businesses.

The City of Chandler has also created an enterprise zone that encompasses the entire nine square miles of the Airpark Area, as shown in Figure 5-1, *Economic Enterprise Zone.* The Chandler Economic Enterprise Zone allows qualified businesses the ability to take advantage of state corporate income tax and property tax benefits. Businesses that create net new quality jobs within the enterprise zone can receive up to $3,000 in state income tax credits for each quality job created. A quality job is defined as one that pays the county minimum wage, is full time and permanent and at least 50 percent of the health insurance is provided by the employer. At least 35 percent of the positions for which credits are taken must be filled by an enterprise zone resident. Small (100 employees or less), minority-owned or woman-owned manufacturing businesses, that make at least a $2 million investment in fixed assets within the Enterprise Zone, may receive a 40 to 60 percent property tax reduction on both real and personal property. This reduction is good for a five-year period.

Potential Industrial Cluster Development

The Chandler Airport has tremendous potential for development of Industrial Clusters that would compliment the already developing high technology sector located in the area. Industrial clustering is a concept of business development where companies with similar or complimentary products locate in close proximity to one another to take advantage of reduced transportation costs and shared infrastructure improvements.

While Chandler in particular, and the Southeast Valley in general, pursue high-technology clusters, a significant potential for additional cluster development exists. A cluster of warehouse/distribution and transportation industries, could take advantage of the intermodal air, road and rail connections available in the Airpark Area. Also, with the Chandler Airport located in the middle of the nine square mile Airpark Area, there exists the potential for Aerospace Industry cluster development. The Aerospace cluster could interface with the high tech and transportation clusters.



CHANDLER AIRPARK Area Plan

Figure 6-1
Economic Enterprise Zone

DCM GROUP BRW

5.5 Economic Development Implementation Program

A series of implementation measures have been established for economic development in the Airpark Area, as shown on Table 5.1, *Economic Development Implementation Program.* These measures will serve as a tool in the development of economic strategies and initiatives and provide the City with guidance in prioritizing marketing opportunities.

The implementation program lists the specific implementation measure, the purpose, timeframe, key participants, project location and the resources necessary to accomplish each implementation measure.

Definitions:

- *Implementation Measures* - Lists the action necessary to carry out the Economic Development Element of the Chandler Airpark Area Plan.
- *Purpose* - Identifies the intent of accomplishing that particular action.
- *Timeframe* - Establishes the target 5-year priority within the 20-year planning horizon for implementation of the action.
- *Key Participants* - Assigns the elected or appointed public body, agency, group, individuals or volunteers principally responsible to initiate the implementation action.
- *Resources* - Lists the potential funding, City staff, volunteer or other community resources necessary to carry out the implementation action.

Table 5.1
Economic Development Implementation Program

Implementation Measure Action	Purpose	Timeframe (Years)				Key Participants	Resources
		1-2	3-5	5-10	10-20		
Work with ADOT to move up construction of the San Tan Freeway.	To provide access to the Airport and enhance economic development.	•	•			ADOT, City Public Works, City Council	Federal Funding (TEA-21), MAG ½ cent sales tax revenue, local bonding as a loan to ADOT.
Formulate an overall Airpark Area Marketing Program.	To attract targeted economic development to the Airpark Area.	•	•	•	•	Public Works, City Economic Development Staff	Chamber of Commerce, City Economic Development Office, Consultants
Encourage the development of Industrial and Commercial Enterprises.	To provide fully serviced sites to attract new businesses and accommodate business retention and expansion.	•	•	•	•	City Economic Development Staff, Planning Staff, Public Works Staff	Improvement Districts, Municipal Bonds, Enterprise Zone Tax Breaks
Encourage the development of Speculative Office and Industrial Space.	To attract new and relocating businesses to the Airpark Area.	•	•	•	•	City Economic Development Staff	Create incentives for development, i.e. loans and grants.
Market the Airpark Area's proximity to major Transportation Facilities.	To attract businesses requiring direct access to Freeway, Rail and Airport Transportation.	•				City Economic Development Staff, Airport Commission	Chamber of Commerce, City Economic Development Staff, Consultants
Establish Airpark Design Standards.	To harmoniously integrate the Airport into the Airpark Area.	•				City Planning Staff and Planning and Zoning Commission	Consultants
Formulate a Business Retention and Expansion Program.	To encourage long-term growth of existing and potential new Economic Enterprises located in the Airpark Area.	•	•	•	•	City Economic Development Staff	Chamber of Commerce, City Economic Development Staff, Consultants
Consideration of a Memorandum of Agreement with the Town of Gilbert to jointly encourage Gilbert Road Corridor Development.	To ensure adequate commercial services for the Airpark Area and a team approach to mutually beneficial economic development.	•				City Economic Development Staff, Planning Staff, City Council, Gilbert Town Council	Chamber of Commerce, Legal Staff

Source: BRW, Inc., 1998

APPENDIX "A"

SOUND ATTENUATION STANDARDS

APPLICABILITY

These standards shall govern all new residential construction within Area 2 from the date of formal adoption of the Overflight Area.

COMPLIANCE

In order to comply with Area 2 maximum noise level standard (45 decibels), all new residential construction within Area 2 shall meet the following minimum construction specifications.

GENERAL STANDARDS

a. Brick veneer, masonry blocks, or stucco exterior walls shall be constructed airtight. All joints shall be grouted or caulked airtight.

b. At the penetration of exterior walls by pipes, ducts, or conduits, the space between the walls and pipes, ducts, or conduits shall be caulked or filled with mortar.

c. Window and/or through-the-wall ventilation units shall not be used.

d. Through-the wall/door mail boxes shall not be used.

e. All sleeping quarters shall be provided with a sound absorbing ceiling and carpeted floors.

EXTERIOR WALLS

a. Exterior walls, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-39;

b. Masonry walls having a weight of at least 25 pounds per square foot do not require a furred (study) interior wall. At least one surface or concrete block walls shall be plastered or painted with heavy bridging paint.

c. Stud walls shall be at least 4 inches in nominal depth and shall be finished on the outside with siding-on-sheathing stucco or brick veneer.

   1. Interior surface of the exterior walls shall be of gypsum board or plaster at least 1/2 inch thick, installed on the studs.

   2. Continuous composition board, plywood or gypsum board sheathing at least 1/2 inch shall cover the exterior side of the wall studs behind wood or metal siding. Asphaltic or wood shake shingles are acceptable in lieu of siding.

   3. Sheathing panels shall be butted tightly and covered on the exterior with overlapping building paper. The top and bottom edges of the sheathing shall be sealed.

4. Insulation material of at least R-11 shall be installed continuously throughout the cavity space behind the exterior sheathing and between wall studs. Insulation shall be glass fiber or mineral wool.

EXTERIOR WINDOWS AND DOORS

a. Windows and doors, other than as described in this section, shall have a laboratory sound transmission class rating of at least STC-28;

b. All exterior side-hinged doors shall be solid-core wood or insulated hollow metal at least 1-3/4" thick and shall be fully weatherstripped.

c. Exterior sliding doors shall be weatherstripped with material that is compressed airtight when the window is closed so as to conform to an infiltration test not to exceed 0.5 cubic feet per minute per foot of crack length in accordance with ASTM E-283-65-T. The glass in the sliding doors shall be at least 3/16" thick.

d. Glass in doors shall be sealed in an airtight nonhardening sealant or in a soft elastomer gasket or glazing tape.

e. The perimeter of window and door frames shall be sealed airtight to the exterior wall construction with a sealant conforming to one of the following Federal specifications: TT-S-0027, TT-S-00230, or T-S-00153.

f. The total area of glass in both windows and doors sleeping spaces shall not exceed 20% of the room's floor area.

g. All operable windows shall be weatherstripped and airtight when closed so as to conform to an air infiltration test not to exceed 0.5 cubic foot per minute per foot of crack length in accordance with ASTME – 283-65-T.

h. Glass of fixed sash windows shall be sealed in an airtight manner with a non-hardening sealant or a soft elastomer gasket or glazing tape.

ROOFS

a. Combined roof and ceiling construction other than described herein shall have a laboratory sound transmission class rating of at least STC-39; or

b. With an attic or rafter space at least 6" deep, and with a ceiling below, the roof shall consist of 1/2" composition board, plywood or gypsum board sheathing topped by roofing as required. Open beam roof construction shall follow the energy installation standards for batt insulation.

c. If the underside of the roof is exposed, or if the attic or rafter spacing is less than 6", thereof construction shall have a surface weight of at least 25 pounds per square foot. Rafters, joints, or other framing may not be included in the surface weight calculation.

d. Window or dome skylights shall have a sound transmission class rating of at least STC-28.