



MARICOPA
COUNTY



2020

Eye To The Future



ADOPTED SEPTEMBER 6, 2000

MARICOPA COUNTY, ARIZONA

TONOPAH/ARLINGTON AREA PLAN



Executive Summary

OVERVIEW

The Area Plan process is structured to emphasize public involvement and incorporate citizen comments, ideas, and direction into the plan. The Maricopa County Planning and Development Department began the **Tonopah/Arlington Area Plan** update in the winter of 1997. The update process involved many individuals and organizations from the Tonopah/Arlington planning area. Central to the planning process a citizen steering committee was formed, two open houses were held in the summer and fall of 1998 and another in the fall of 1999, and focus group sessions addressed specific community issues.

WHAT'S NEW IN THE PLAN?

1. Land use categories that follow the regional standard and are consistent with the Comprehensive Plan.
2. Additional land use categories for residential, resort, and industrial.
3. Discussion and analysis of current issues.
4. Redesigned and rewritten Area Plan with updated digital maps.
5. Tonopah and Arlington are discussed as individual areas.

HOW TO USE THE PLAN

The **Tonopah/Arlington Area Plan** provides a specific guide for decisions by the Planning and Zoning Commission and the Board of Supervisors concerning growth and development in the Tonopah/Arlington planning area. It is to be used by policy makers to guide their decisions and serve as a reference for private sector decision making.

AREA PLAN ELEMENTS

The Area Plan elements contain a series of goals, objectives and policies used to define development standards, guide public investment, and public and private decision making.

LAND USE

The land use designations in this Area Plan embody generalized land use, development or preservation concepts. Underlying these designations are more detailed plans that recommend specific land use in the planning area.

GOALS AND OBJECTIVES

THE GOAL OF THE LAND USE ELEMENT IS TO:

Promote efficient land development that is compatible with adjacent land uses, is well integrated with the transportation system, and is sensitive to the natural environment.

Within this goal the following objectives apply:

Tonopah/Arlington Objective L.1

- a. Create orderly, efficient, and functional development patterns.
- b. Create high quality residential, commercial, and industrial land developments that are compatible with adjacent land uses.

Tonopah/Arlington Objective L.2

Provide for a functional, efficient and cost effective system of utilities, facilities and services to serve county population and employment centers.



EXECUTIVE SUMMARY

Tonopah/Arlington Objective L.3

- a. Provide sufficient public services for intensity of land use.
- b. Minimize conflicts between urban and rural land uses.

TRANSPORTATION

THE GOAL OF THE TRANSPORTATION ELEMENT IS TO:

Provide an efficient, cost-effective, integrated, accessible, environmentally sensitive, and safe countywide multi-modal system that addresses existing and future roadway networks, as well as promotes transit, bikeways, and pedestrian travel.

With these goals the following objectives apply:

TONOPAHA/ARLINGTON OBJECTIVE T.1

Establish a circulation system that provides for the safe, convenient and efficient movement of goods and people throughout Maricopa County.

ENVIRONMENTAL

Two environmental goals have been established through the comprehensive planning process for Maricopa County that addresses the natural and human environment in the Tonopah/Arlington area:

GOALS AND OBJECTIVES

Goal 1: *Promote development that considers adverse environmental impacts on the natural and cultural environment, preserves highly valued open space, and remediates areas contaminated with hazardous materials.*

Goal 2: *Improve air quality and minimize noise impacts.*

With these goals the following objectives apply:

Tonopah/Arlington Objective 1

Encourage developments that are compatible with natural environmental features and which do not lead to their destruction.

Tonopah/Arlington Objective 2

Protect and preserve existing water resources and minimize flood hazards.

Tonopah/Arlington Objective 3

Preserve existing habitat areas of threatened or endangered wildlife and/or desert plant species.

Tonopah/Arlington Objective 4

Protect the County's historical and archaeological resources.



ECONOMIC DEVELOPMENT

Economic development opportunities should aid in the generation of employment and contribute to the enhancement of the quality of life for residents and communities.

GOALS AND OBJECTIVES

THE GOAL OF THE ECONOMIC DEVELOPMENT ELEMENT IS TO:

Promote a growing balanced, efficient, and diversified economy, consistent with available resources, that enhances quality employment opportunities, improves quality of life, and is sensitive to the natural and cultural environment.

Within this goal, the following objectives apply:

Tonopah/Arlington Objective 1

Permit major commercial and job employment centers where the labor force and infrastructure exist or are expanding.

Tonopah/Arlington Objective 2

In developments with densities greater than one dwelling unit per acre, create a land use environment that generates a diversified economic base which fosters varied employment opportunities, and encourages business formation and expansion.



ACKNOWLEDGEMENTS

The preparation of *Tonopah/Arlington Area Plan* was made possible by the cooperative efforts of the Maricopa County Board of Supervisors, the Planning and Zoning Commission, the Planning and Development Department staff and the Department of Transportation. Maricopa County would like to extend its appreciation to all the citizens, property owners, homeowners' associations, community organizations, non-governmental organizations, businesses, cities, towns, state agencies, and federal agencies.

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Introduction

The adoption of *Eye to the Future 2020, the Maricopa County Comprehensive Plan* in October 1997 required all existing area plans be updated to conform with the Comprehensive Plan. The **Tonopah/Arlington Area Plan** update includes changes in text, improved maps, more recent data, changes in citizen issues and an Agenda for Action. Refinements and changes to this plan will be required as continued development in the planning area occurs. The **Tonopah/Arlington Area Plan** will therefore be reviewed and updated periodically as needed.

ORGANIZATION OF THE PLAN

This document represents the results of the area plan update process for the Tonopah/Arlington planning area and is organized to follow the guidelines found in the *Eye to the Future 2020, Maricopa County Comprehensive Plan*. The **Tonopah/Arlington Area Plan** is an update of the existing Tonopah Land Use Plan and has been reorganized and rewritten to give detailed direction for development of the planning area.

The Introduction to the Area Plan describes how the plan is organized, how to use the plan, a brief history of the planning area and an overview of the Area Plan process in Maricopa County.

Inventory and Analysis is a presentation and analysis of data elements that detail existing conditions in the Tonopah/Arlington planning area.

The *Issues Identification* summarizes important land development and planning issues raised by both the citizen steering committee members and area residents.

The *Plan Elements* define the specific goals and policies, which the Board of Supervisors adopted with regard to growth and development in Tonopah/Arlington planning area.

The *Action Plan* is an outline of how the Area Plan will be implemented and establishes the strategies and programs for achieving the vision of the community. By design, these plans are flexible documents that can adapt to changing conditions. The amendment process highlights this and will facilitate the plan's evolution.

The *Appendixes* section contains a glossary of terms, a list of acronyms and by reference, other supporting documents.

The **Tonopah/Arlington Area Plan** presents a plan that includes land use, transportation, environmental, and economic development elements. Unlike the "Land Use Plan" that it updates and supersedes, this Area Plan provides more detailed information to accommodate growth.

UPDATE PROCESS

The **Tonopah/Arlington Area Plan** is intended to be a responsive document that reflects current issues, increases in resident population, and land use changes. As conditions change, the Area Plan will be reviewed to respond to those changes. The review will update the planning document, maps, and data.

Each time the Area Plan is updated, it will be considered for adoption at public hearings before the Planning and Zoning Commission and Board of Supervisors.



INTRODUCTION

HOW TO USE THE PLAN

The **Tonopah/Arlington Area Plan** is a guide for decision making for the Planning and Zoning Commission and the Board of Supervisors concerning growth and development in the planning area. While it is to be used by policy makers to guide their decisions, it also serves as a reference for the private sector in making informed investments and development decisions.

The Plan Elements contain a series of goals, objectives and policies used to define development standards and guide public investment, as well as public and private decision making. The overriding goals are those outlined in Eye to the Future 2020, the Maricopa County Comprehensive Plan and the objectives and policies are specific to the area plan.

HISTORY OF TONOPAH AREA

By Jodey Lynne Elsner

For more than five thousand years, the Tonopah desert has been a place to stop and rest for people travelling. The earliest known archaeological sites in the area date back as far as 3000 BC. Much later, such groups as the Hohokam, Patayan, Hakataya and Yavapai traveled through the area to and from the Colorado River. At Tonopah, they stopped to hunt and gather wild plants.

Roughly two hundred years ago, the first pioneers crossed the desert. In 1811, a traveler carved his name on a rock outcropping northwest of Tonopah. There are many prehistoric petroglyphs in the Saddle Mountain region and histograms from some early settlers dated 1856 and 1862.

Permanent settlement of the area began just prior to World War I. Most of the settlement was the direct result of homesteading. The first homestead in Tonopah was filed in 1916 by Elbert Winters. In 1920, Winters proved-up and received official ownership of his tract of land. A number of homesteaders that followed were World War I veterans.

Many of the former soldiers had been exposed to mustard gas while in Europe and suffered with respiratory problems after being gassed. Other veterans had contracted tuberculosis. The dry desert air in Tonopah helped to ease their health problems and let them lead productive lives. Not all homesteaders were World War I veterans, some were simply people looking for a fresh start in an undeveloped region and a plot of land all their own. Not all homesteaders were men, either. In at least one case, a woman was made entryman on a property after her husband deserted her, she later proved-up on the acreage. North of the settlement, the Tonopah-Belmont mine began mining lead and silver in the area around 1920. It was named for the large (and famous) mine in Nevada and the Belmont mountains in which it was located. The mountains were named after the mine in 1963. Approximately 50 miners were employed at the mine and lived in the area from 1924 and 1930. When a permanent settlement developed south of the mine, it too was called Tonopah (although the two were not directly related).

Around 1930, Tonopah and Winters Well (Wintersburg) saw a small population boom. Homesteading had become quite popular. The area's first post office located at Winters Well. On February 21, 1931, Marc Kentch became the first postmaster. Ten years later, mail service was discontinued and the post office closed. Wintersburg residents traveled to Arlington for their mail (oddly enough, not to Tonopah). The Tonopah post office opened on



June 15, 1934 with John Beauchamp (a major landowner in the area) as postmaster. The Beauchamp homestead house still stands near the corner of Indian School and 411th Avenue.

Although farming was not entirely successful in the early years, homesteading was. The United States Government relaxed the homesteading laws: entrymen still had to make “improvements” to the property, but they were no longer required to spend the entire four years on the property. The government issued a leave of absence to the desert dwellers during the summer so they could seek employment and more comfortable residences elsewhere. “Dry farming” was also allowed. Considered an improvement to the land, it constituted planting seeds or seedlings and waiting for Mother Nature to water them with rainstorms. If the weather was favorable and the crops grew, the homesteader took the produce to town (Phoenix, Buckeye or Hassayampa, most often) and sold it. These small operations were called “truck farms.”

Some enterprising settlers decided they could market Tonopah as a resort and destination. Mineral waters beneath the area with temperatures of anywhere between 116 and 122+ degrees were some of the hottest in the southwest. Contrary to popular belief, these waters are not springs but wells and the hot water must be pumped to the surface. The Lamoreaux family built a tiny resort just north of Indian School Road where I-10 is now and touted their mineral well for its healing and soothing powers. The Saguaro Health Resort located on 411th Avenue just south of the Tonopah post office also uses the hot mineral waters. The modest hotel, first called the Saguaro Sanitarium, was officially dedicated on June 17, 1934. George W.P. Hunt, the first governor of Arizona, attended the groundbreaking ceremony. Tonopah in the 1920s and 30s was a humble tourist destination and farm community. With more and more families settling in the area, schools were needed for their children. By most accounts, the Winters Well (Wintersburg) School was the first of its kind in the Tonopah Desert in 1929. Twelve years later, Ruth Fisher arrived to teach the children of Wintersburg and remained at the school for twenty-three years. She made such a strong impression on people that when the new elementary school at Indian School and Wintersburg Road was built in 1964, it was named after her. The Winters Well school was not the only one in the area. An accommodation school was built east of downtown Tonopah near the banks of the Old Camp Wash in 1931. The school would open to “accommodate” an increase in the number of children as needed. The school building moved closer to the “downtown” area in later years.

The area continued to grow throughout the 1940s and 1950s. With improvements in irrigation and farming technology, it was possible to run a successful farming operation in the area. In 1951, Otis “Mitch” Mitchell harvested the first cotton crop in the Tonopah Desert. The intrepid farmer irrigated his fields with hot mineral waters pumped from his well. Raising cattle and other stock also became a way for area farmers to make a living. Homesteading had allowed property ownership for many residents that otherwise might never had the opportunity. Some families, after proving up on their land, continued to live a transient lifestyle, but many settled in Tonopah. Improvements in the area followed with the addition of gas stations, restaurants, and other services. The construction of the Ruth Fisher School in 1964 showed the determination of the settlement.

In the early 1970s, progress came to Tonopah from the west. Interstate 10 slowly cut its way across western Arizona on its way to Phoenix through Tonopah. When it reached tiny



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Brenda, travelers had a choice of which route to take to Phoenix and beyond. They could either continue along US 60 to Wickenburg and then on to Phoenix or take US 60 to Salome and then head south on the Buckeye-Salome Highway to Buckeye and Old US 80. With construction of the interstate moving gradually, the government decided to pave and maintain the Salome Highway as a route for the myriad of travelers and truckers. When I-10 reached Tonopah in mid-June of 1973, travelers exited the freeway at 411th Avenue and headed toward the Salome Highway. Thousands of semi-trucks, autos and other vehicles rumbled through “downtown” Tonopah everyday. The once sleepy desert community became a boomtown.

The boom did not last long. Construction on I-10 did not stop at 411th Avenue but continued on to Phoenix. Tonopah area residents did not have to wait long for another large project to start. Construction of the \$9.3 billion Palo Verde Nuclear Generating Station began in 1976. It took eleven years to complete. At the height of the plant’s construction in 1980 and 1981, 8,500 people were employed. Among the 200 present at the official dedication in December of 1987 was then Governor Evan Mecham. Units 1,2, and 3 were fully operational in 1988.

With the area’s continued growth, the Ruth Fisher School became overcrowded. In 1983, a \$9 million school building was built. It was originally intended to be used as a high school. The high school was not needed at the time and the school remained an elementary school. The newer building housed the upper grades, while the older structure held the lower grades. During the last decade, the elementary school complex has continued to grow. Today the planning area continues to be sparsely populated but it will likely experience increased development in the coming years. Much of the area remains agricultural, particularly the Arlington area, with areas of large lot residential development. The desert and agricultural properties define the open, rural feeling of the area. Within the past decade, easy freeway access, the availability of land, and the beauty of the wide-open desert have made the Tonopah area a popular area to live.

ARLINGTON HISTORY

(Adapted from Mary Ella Murphy’s Arlington School’s History 1894 – 1994 by Chris Larson)

Early pioneers came to the Arlington Valley in the late 1800’s and early 1900’s and established a community that could and did endure. They built homes for their families, a school, and planned and built a canal that ensured productivity for the valley. The Homestead Act of 1862, allowed 160 acres to all settlers who would come, settle on land, and “prove up” on it. The J.W. Davis and the Clanton families were some of the earliest settlers in the Arlington area. The Davis family is believed to have arrived as early as 1871. Life in the Arlington Valley was not easy. Many settlers stayed on but many did not and sold their land off to others.

Water and water rights have always been important to the community. The Buckeye Irrigation Company began constructing a system of canals in 1887 and the Arlington Valley benefited from those canals. The canals were completed to the Hassayampa River in the latter part of 1886. Settlers below the confluence of the Hassayampa and Gila rivers had difficulty in getting enough water. This made it hard to irrigate the whole of the Arlington Valley. The Gila ran on the south side of the valley, as we know it now, and water could not



be taken out. The Buckeye Irrigation Company put a sand dam across the Hassayampa to raise the water level so the water could flow into the ditch that carried water to the valley. In 1890, the Walnut Grove Dam upstream on the Hassayampa River, broke sending water southward down the almost always-dry bed of the river. When the water reached Arlington it was several feet deep and about a mile wide. After the floodwaters receded, the Hassayampa was no longer a creek but a full fledged river and was much the same width and depth as it is today.

With more and more settlers coming to Arlington, there was not enough water to irrigate all of the farms. Often when the Gila flooded, it would wash away the settler's dams and fill their ditches and canals with sand. Settlers living in tents and cabins while they tried to establish homes found life difficult. Families in the new community needed schools, churches, stores and postal service. The roads to Arlington from Phoenix were not paved until the 1920s.

One of the first community buildings was a small one-room school just west of the Hassayampa, near the Gila, built sometime prior to 1890. It was called the Powers Butte School with Powers Butte across the Gila River, looming above the little school on the other bank. The school was shared by the Arlington and Palo Verde communities. Any time the subject of this old school is raised, another story, concerning the school emerges. It seems that the school trustees, living in Arlington, refused Palo Verde's request to move the school to Palo Verde where the majority of students lived. After being refused, some residents of Palo Verde took matters into their own hands. One night, with a flatbed trailer and a team of horses, they drove to the school site and loaded the small, one room school onto the trailer and moved it to a location in Palo Verde. When the teacher arrived in October to start school, the Trustees assured him that they would not pay his salary to teach in Palo Verde. He however, opened the school assuming that he would be paid, but the Trustees, true to their word, refused to pay him, and when he applied to the County School Superintendent for payment, the problem was resolved by dividing the district. The Hassayampa River was to be the dividing line, for the most part, of the two districts. Today, the Arlington School District is one of the largest school districts in Arizona covering roughly 700 square miles.

In 1899, a community meeting was held and the Arlington Canal Company was born. The Company constructed a canal from the Gila River to assure Arlington sufficient water to sustain the land under cultivation. Farmers purchased stock in the canal with one share granted for every 160 acres of land owned. The Arlington canal was completed in 1900 and still serves the community today.

Arlington's first store was built about the same time as the canal and sold everything needed by the settlers, even farm implements. The Arlington Post office was established November 23, 1899 with Moses Clanton as the first Postmaster. The main road ran south from Hassayampa. A hotel was built along the road and provided a welcome place for travelers to stay on their way to Yuma and points west. In 1904 telephone lines extended through Arlington. It has been said that the first cotton gin in Arizona was built in Arlington. At one time there is record of a Woman's Club chapter in Arlington, although it no longer exists. Today the Lions Club and CATS Club are active and lend a great deal of support to the community and school.

In the early 1890's, the Wolfley Dam was built on the Gila River at about the same location as the present Gillespie Dam. The dam was built to divert water into a large canal and



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irrigate land to the west of Gila Bend. When it was finished, it caused major flooding of farmlands in Arlington, particularly those farms nearest to the river. After the Wolfley dam was washed out many times, the oil rich Gillespie family emerged to build a proper dam. The family had purchased 85,000 acres west of Gila Bend and wanted the water. The Gillespie Dam was constructed and completed in 1921.

The Gillespie dam created a large reservoir behind the dam. As long as the floodgates were opened during periods of high water, damage to the surrounding area was reduced. The dam did eventually create new flooding problems. When the waters settled out behind the dam mud began to collect and eventually became higher than the dam. When water needed to be released, the floodgates were no longer used and water was allowed to just flow over the top of the dam. This allowed the mud buildup above the dam to continue and eventually there was no channel left in the river. When there was heavy rain and releases from the upriver dams, the water level rose higher into the valley. The schoolhouse was flooded several times, and travel on the road, about three quarters of a mile from the river, was impossible. Homes in the area were also flooded. School buses, moveable equipment, and household belongings were moved to higher ground but the homes often were damaged.

Floods in 1993 recorded the highest water levels in many years. The Gila River overflowed its banks with a loss of hundreds of acres of farmland and soil. An estimated 100,000 cubic feet per second of water flowed in the river. Land that had never flooded before was endangered. The Gillespie Dam, which had been build some 70 years before, broke near the center, losing 60 or more feet of concrete and the furious force of the water poured through the break. It relieved the upstream farms, though the flood left some of the farms so damaged they couldn't be repaired. The floodwaters unearthed two natural gas lines that floated to the surface and were ruptured by the current sending fire high into the night skies.

World War II brought change to the close knit community as young men went off to war, older people either moved away or died. The homesteaded farms were taken over by the younger family members or were sold. When the veterans returned to Arlington, several brought wives from other states with them.

The El Paso Gas Company moved a pumping station into the valley in the 1940s and built housing for 28 families. The company almost created a little town by itself, with homes, a recreation hall, and tennis courts. Later on, El Paso Gas moved all of the families out of the area. The station is still in operation but the skeleton crew that runs it no longer lives at the site. The Arlington Cattle Company feed lot was another large employer but it too closed and the employees moved away. The advent of modern farm equipment has also caused families to leave the area because less farm workers are needed for daily operations. Change has come to the Arlington valley and will continue to do so. Camels no longer carry butter and cheese into Phoenix to market. Dust no longer trails the stagecoach in its effort to get people to places farther west. It is a valley with a great deal of history and stories of interest. Today the Arlington Valley remains mostly agricultural with homes on large rural lots. It continues to be the kind of community that people remember and probably is why many seem to return here after growing up.



PLANNING HISTORY

Area Plan Development

In July 1985, the Maricopa County Department of Planning and Development issued a public “Request for Proposal” to professional planning consultants to prepare seven specific land use plans as part of the Maricopa County Comprehensive Land Use Plan. The Tonopah/Arlington planning area was one of these specific areas.

For each of the planning areas, the County requested that the consultants provide a collection and analysis of existing data leading to specific goals and policies to guide general land development. Each specific study area was also to be provided with a land use plan. As each planning process for an Area Plan began, community participation was emphasized. Various methods were used for public outreach. Flyers announcing workshops were prepared and distributed prior to each meeting. In addition, workshops with Planning and Zoning Commission members were held to review the project progress. Coverage by the news media was encouraged creating further awareness of the workshops and participation by the general public in the planning process.

The Tonopah Land Use Plan was first adopted March 21, 1988 and was updated in October 1990. The revisions reflected amendments and changes that affected portions of the Area Plan. This update responds to the need for the Area Plan to follow the format and direction of the Comprehensive Plan.

A 12 person Tonopah Land Use Citizen Committee was formed early in this update process. The Committee met four times and included representatives from the Ruth Fisher School Board, PVNGS, business owners, and private citizens. This citizen committee was formed to review alternatives and provide comments concerning the area plan update process.

Focus group sessions with members of the Arlington community helped to gather their concerns, define the subarea, and include information about Arlington to the update. In addition, three open house meetings in the Tonopah/Arlington planning area were held to get the participation of area residents, property owners, business people, and Planning and Zoning Commission members. Meeting summaries provided citizens with reports on the progress of the plan and were distributed prior to each workshop.

Comments were received from citizens, federal, state and local government agencies, interest groups, and the development community. These comments further refined the draft plan prior to it being forwarded to the Planning and Zoning Commission for formal hearing and adoption by the Maricopa County Board of Supervisors.



INTRODUCTION

NOTES:



Inventory and Analysis

LAND USE

This chapter of the *Tonopah/Arlington Area Plan* identifies the intended use of the plan as a guide to future development. The plan's relationship to environmental protection, transportation, public facilities, and services is discussed:

- Community Issues
- Planning Area Growth and Development Needs
- Land Uses
- Facilities and Services

Community Issues

The citizen participation process began in March 1998 with a series of open house meetings. These meetings were held to gather information concerning resident issues and concerns regarding land use, transportation, economic development and the environment.

The major issues identified by the residents of the area included:

- Maintain the rural character of the area
- Increased scattered development and lot splitting
- The undesirability of locating prison facilities in the planning area
- Need for commercial development in appropriate locations
- Needed transportation system improvements
- Restrict polluting industries
- Energy deregulation and power plant proposals in the planning area

A more detailed list of issues is presented in the *Issue Identification* section.

Planning Area Growth and Development Needs

In 1992, using the population projections presented in the "Inventory and Analysis," a reasonably accurate prediction of the amount of land needed for residential, commercial and industrial development was prepared.

Included in the 346 square mile Tonopah/Arlington planning area are the unincorporated communities of Tonopah, Arlington, Hassayampa, and Wintersburg. In 1970, 342 persons lived in the area. By 1980 the population had increased by 476 percent, to 1,971. As shown in **Table 1a**, the planning area population increased slightly from 1980, to 1,974 persons in 1985, and is projected to increase by approximately 50 percent to 2,922 by 2000 (**Table 1b**). By the year 2010, the population is expected to increase to 4,878 persons, a 150 percent increase. In comparison, during the 1985-2010 period, Maricopa County's population is projected to increase by 105 percent. (These figures do not include the Belmont Development Master Plan)

Population in the planning area could see a dramatic increase with development of the Belmont Development Master Plan (DMP). This 18,565 acre DMP was approved by the County Board of Supervisors in 1991 and could support a resident population of more than 150,000.



TABLE 1A PROJECTED RESIDENT POPULATION 1985-2010

| | Census | | Projected | | | |
|--------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | <u>1985</u> | <u>1990</u> | <u>1995</u> | <u>2000</u> | <u>2005</u> | <u>2010</u> |
| Tonopah/Arlington | 1,974 | 1,792 | 2,548 | 2,922 | 3,296 | 3,670 |
| Maricopa County | 1.8 | 2.1 | 2.5 | 2.7 | 3.0 | 3.3 |

(in millions)

Source: *Tonopah Land Use Plan*, January 1992

TABLE 1B PROJECTED RESIDENT POPULATION (REVISED) 1990-2010

| | Census | Projected | | | |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| | <u>1990</u> | <u>1997</u> | <u>2000</u> | <u>2005</u> | <u>2010</u> |
| Tonopah/Arlington | 1,792 | 1,739 | 2,666 | 3,945 | 4,878 |
| Maricopa County | 1.8 | 2.5 | 2.9 | 3.3 | 3.7 |

(in millions)

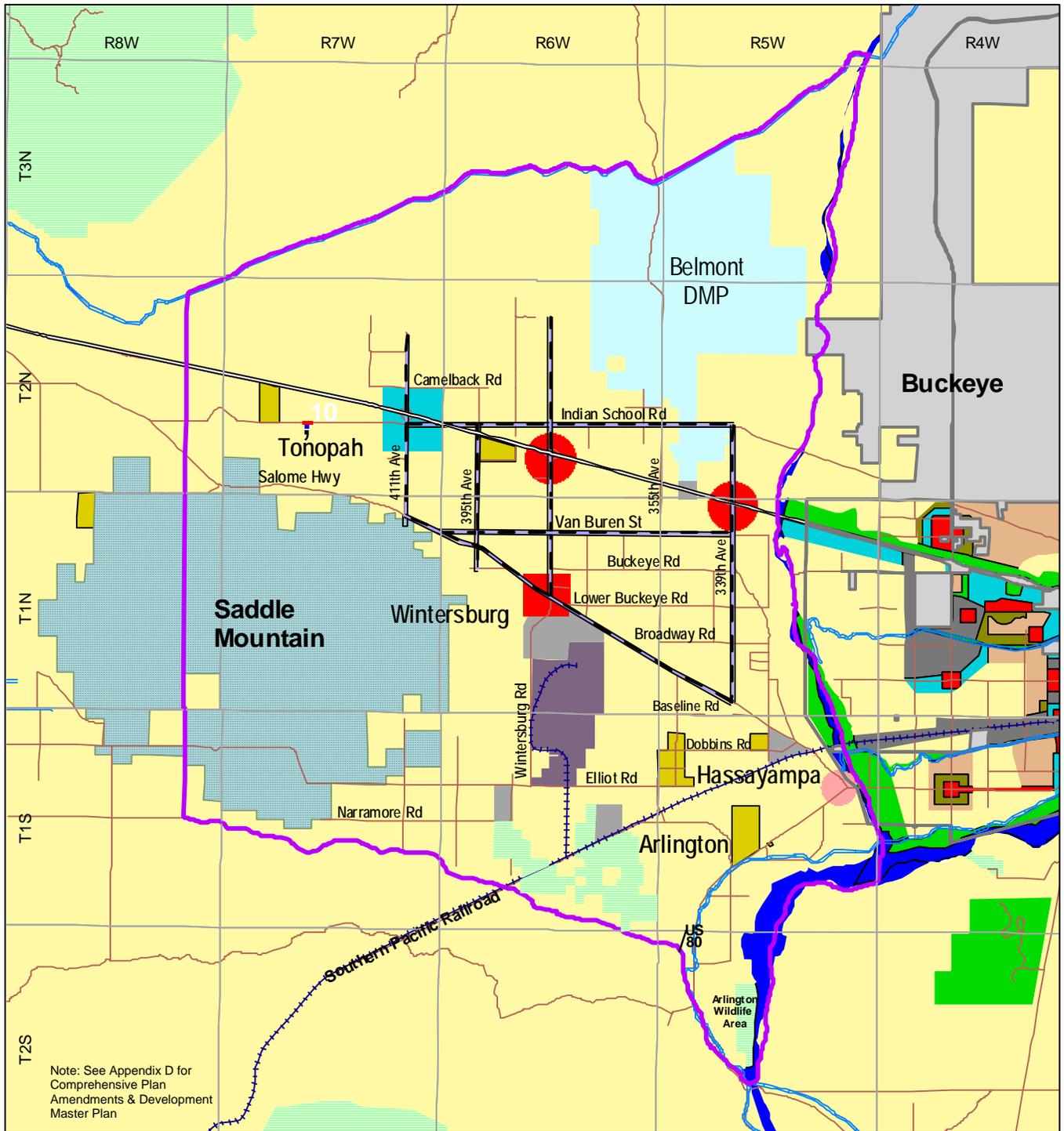
Source: *Maricopa Association of Governments (MAG), Socioeconomic Projections, Interim Report, June, 1997*

LAND USE MAP

The Land Use map (**Figure 1**) shows the proposed pattern of development for the Tonopah/Arlington planning area. The plan does not reflect the intended zoning of individual parcels, but generalizes desired future land uses.

In some instances the Land Use map might designate land use for properties located in the General Plan Development Area of an adjacent community. In these areas, the municipal general plan will be used as a guideline for development as specified in *Eye to the Future 2020*. The related policy in the Comprehensive Plan states: "Use the adopted general plan and standards of municipalities as a guideline for development in the General Plan Development Area contingent upon such plans having been updated or reviewed within five years and with evidence that the affected residents, property owners, and improvement districts have been involved in the process to update the general plan. (Policy L1.6)" Review of requests for development in those areas will be coordinated between the County and the adjacent municipality.

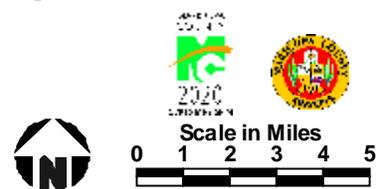
During public meetings in the area, citizens requested that certain "core" roads be designated as important connections within the community. These roads are shown on **Figure 1** for illustrative purposes and do not change existing roadway designations. The land use boundaries, shown on the Land Use map, are intended to represent natural or man-made demarcations where possible. Where boundaries are not readily distinguishable, transitions may be allowed, provided the intent of the Plan is not violated. With proper buffering and site planning techniques, transitions may be allowed without diminishing the intended purpose of the Area Plan.



Land Use Categories

- | | | |
|----------------------------|---------------------|--------------------|
| Rural | Proposed Open Space | Palo Verde NGS |
| Large Lot Residential | Recreation | Belmont DMP |
| Small Lot Residential | Open Space | Freeway |
| Neighborhood Retail Center | Educational | Streets |
| Community Retail Center | Mixed Use | Core Arterials |
| Regional Retail Center | Industrial | Railroad |
| Public Facility | | Area Plan Boundary |

Land Use Map Figure 1





The most notable features of the Land Use map are:

- Predominately rural land use
- Larger commercial development designations
- Industrial use added adjacent to the Palo Verde Nuclear Generating Station
- Proposed Saddle Mountain conservation area
- The Arlington Wildlife Area

Discussion of land use changes may be found in the *Issue Identification* section of the Plan.

LAND USE

The following definitions are included to better understand land use discussions found in the Area Plan. For each land use designation, the corresponding definition is to be used to assure consistent interpretation of the designated land use in the Area Plan. Land use categories in the **Tonopah/Arlington Area Plan** are compatible with the *Eye to the Future 2020, Maricopa County Comprehensive Plan* and the system of regional land use standards. Discussions related to land use development patterns in the planning area follow each definition. Portions of the **Tonopah/Arlington Area Plan** were prepared using the inventory and analysis of both natural and man-made features. While the goals, objectives, and policies form the basis of the desired land use patterns for the area, the ultimate development pattern is determined by following existing development activities and established patterns. This includes consideration for land uses and features outside the area that might affect the desired future development patterns within the planning area. Adopted land use plans of adjacent cities were considered as land uses were designated within the planning area.

Consistency in zoning for specific areas or parcels of land within the Tonopah/Arlington planning area (**Figure 2**) must be evaluated in terms of overall compliance with the plan's goals and policies. Guidelines following the land use definitions have been prepared to help insure that the intent and integrity of the Area Plan is retained over the life of its use.

RESIDENTIAL LAND USE DEFINITIONS

The "Land Use Categories" which permit residential development in the Tonopah/Arlington planning area are found in one of three designations based upon the availability of urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.). The original *Tonopah Land Use Plan* only had two residential land use categories. Those categories in which some or all of these services do not exist and are not anticipated to be provided have been defined as rural. Permitted uses in all residential use categories include schools and churches. Special attention to the location of these uses should be given with regard to access, traffic, sewer systems and proximity to arterial streets.

Development Master Plans, provided they meet specific criteria, are allowed in all residential districts. The *Eye to the Future 2020, Maricopa County Comprehensive Plan* outlined 24 land use categories with 5 allowed residential land uses. The **Tonopah/Arlington Area Plan** designates only the following 3 land use categories unless they are within an area designated as a DMP, which allow for development at higher densities. In the design of residences, hotels, and resorts, care should be given to ensure the appropriate preservation of hillsides, washes, and desert character in general.



INVENTORY AND ANALYSIS

RURAL, (0-1.0 DWELLING UNITS PER ACRE)

The Rural category denotes areas where single family residential development is desirable but urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.) are limited. Suitability is determined on the basis of location, access, existing land use patterns, and natural or man-made constraints. Densities greater than 1.0 du/acre may be permitted in a new development, but only if areas of lower densities offset the increase such that an average of no more than 1.0 du/acre is maintained. Uses in this category include agricultural and single family residential.

LARGE LOT RESIDENTIAL, (GREATER THAN 1 AND LESS THAN OR EQUAL TO 2.0 DWELLING UNITS PER ACRE)

The Large Lot Residential category denotes areas where single family residential development is desirable and urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.) may only be partially available or be required as an improvement district. Suitability is determined on the basis of location, access, existing land use patterns and natural or man-made constraints. In a development, densities greater than 2.0 du/acre may be permitted, but only if areas of lower densities offset the increase such that an average of no more than 2.0 du/acre is maintained. A community sewer and water system will be required for developments above 1.0 du/acre and may be required for those below 1.0 du/acre depending on the underlying conditions.

SMALL LOT RESIDENTIAL (GREATER THAN 2.0 AND LESS THAN OR EQUAL TO 5.0 DWELLING UNITS PER ACRE)

The Small Lot Residential category denotes areas where increased density residential development is appropriate and all urban services (sewer, water, law enforcement, fire protection, schools, parks, etc.) are available or will be provided. Single family development may be permitted, provided overall development densities do not exceed 5.0 du/acre. Within any particular development densities greater than 5.0 du/acre may be permitted, but only if areas of lower densities offset the increase such that an average of 5.0 du/acre or less is maintained. A community sewer and water system will be required for development at these densities.

HOTELS, MOTELS, AND RESORTS

Hotels, motels and resorts may be stand-alone facilities or part of a DMP.

RESIDENTIAL LAND USE DISCUSSION

The Tonopah/Arlington planning area is characterized by its natural Sonoran desert setting, open space corridors, agricultural uses, and overall low density development. This plan supports the continuation of lower densities in those areas considered environmentally sensitive, where residents desire a rural lifestyle, and where urban services are not available.

Residents choosing a rural lifestyle should not expect urban services in the unincorporated areas. Portions of the Tonopah/Arlington planning area rely on wells and on-site septic system and may never be annexed into a municipality that would provide even basic urban services. By concentrating development in certain locations, environmental mitigation is more easily obtained, less area is affected, and growth can be accommodated.



Subdivision developments that include areas of steep slope or have floodplain restrictions may be allowed in areas of higher density if the net density conforms to the underlying Rural-43 zoning.

Development of scattered single family homes will have a critical effect on the environmental quality and character of the Tonopah/Arlington planning area. Current constraints will not be sufficient to stop development in floodplains, steep-sloped areas, and in areas that lack the proper public services (i.e. sewer, water, and streets).

RESIDENTIAL LAND USE GUIDELINES

The following guidelines shall aid in governing the development of land designated as residential in the Area Plan.

ALLOWABLE RESIDENTIAL DENSITIES

| | |
|-----------------------|--------------------------------|
| Rural | 0 to 1.0 dwelling unit/acre |
| Large Lot Residential | 1.0 to 2.0 dwelling units/acre |
| Small Lot Residential | 2.0 to 5.0 dwelling units/acre |

Please note: residential densities within any given development project will be calculated based upon the gross acreage of the project.

DEVELOPMENT MASTER PLANS

Master planned communities have long been a preferred type of residential development in Maricopa County. The County encourages the use of DMPs to allow flexibility in the master planning of large tracts of land located outside of municipal boundaries.

Master planned communities may be initiated by property owners and should consider having the following features:

- Creative and innovative designs
- Mixed land use opportunities and a range of housing types
- A mix of housing intensities which are transitional with spatial, structural, and visual buffers
- Multi-modal transportation choices to reduce dependency on automobiles
- Flexible standards for roadway design, transit facilities, pedestrian circulation, and bicycle lanes
- Employment opportunities in the DMP
- Open space preservation to provide recreation, visual character, wildlife, vegetation and a greater quality of life
- Public facilities and services including police, fire, schools (except in age restricted communities), water, sewer, parks and libraries (if needed and not available)

DEVELOPMENT AGREEMENTS AND DMPs

Development agreements are voluntary understandings between county or municipal governments concerning the design and construction of development projects. These agreements protect projects from changes in laws and regulations, while allowing governments to obtain specified exactions to ensure construction of infrastructure and reinforce local planning efforts. Development agreements offer a way to reduce developers' risk while simultaneously increasing government's ability to guide local development.



INVENTORY AND ANALYSIS

COMMERCIAL LAND USE DEFINITIONS

The following are commercial land use categories allowed in the Tonopah/Arlington planning area. Their use provides varying intensities of commercial activities on a community scale. Direct access on an arterial street or a freeway frontage road is an important consideration.

NEIGHBORHOOD RETAIL CENTER – NRC

The Neighborhood Retail Center category denotes convenience commercial areas for the location of small shops and services that benefit local residents. This category permits developments with a building area of less than 100,000 sq. ft. Neighborhood Retail Center locations are designated in areas having a more rural character. Permitted uses in this category include gasoline stations, minor auto repair and maintenance, convenience food marts, barber shops, beauty shops, package liquor stores, laundromats, and eating or drinking establishments. Urban level services are not required. Allowed uses should be appropriate for the services available.

COMMUNITY RETAIL CENTER – CRC

The Community Retail Center category denotes areas where general neighborhood/community based commercial uses may take place. This category permits developments with a building area of 100,000 to 500,000 sq. ft. The Community Retail Center provides for the sale of convenience goods (food, drugs, and sundries) and personal services which meet the daily needs of an immediate neighborhood trade area. Such a trade area shall serve a minimum population of approximately 5,000 people. A limited number of permitted activities should be provided. A market analysis may be required. A community sewer and water system will be required for development. All uses within this category are subject to plan review and approval.

EMPLOYMENT CENTERS

The “Employment Center Categories” denote areas for the concentration of major employers. In recognition of the diverse nature of major employers, three land use categories have been developed which attempt to group uses by their impacts on the surrounding area.

INDUSTRIAL

The Industrial category identifies locations for major employment centers. Uses permitted in this category include general warehousing, storage, distribution activities, and general manufacturing. Compatibility with adjacent current and future land use is an important consideration, and developments within this category are subject to plan review and approval.

OFFICE

The Office land use category includes professional office environments which are comprised of real estate, health care, land banking, and related activities.



MIXED-USE – MU

The Mixed-Use Center category denotes areas for the location of major employment centers that have minimal impacts on surrounding areas outside of increased traffic demands.

Uses permitted in this category would include offices, light industrial parks, business parks, research parks, government facilities, post secondary educational facilities, hospitals and major medical facilities and residential/retail uses. Access to a principal arterial or freeway will be required. Noise, vibration, smoke, dust, odor, heat or glare shall be controlled and not permitted off-site. Urban services are available or will be provided. A community sewer and water system will be required for development. All uses within this category are subject to plan review and approval.

COMMERCIAL/INDUSTRIAL LAND USE GUIDELINES

The following guidelines shall aid in governing all land use planning pertaining to the development of land designated Commercial or Industrial.

1. Commercial activities in designated areas include appropriate service, retail and professional office uses. These uses may be permitted in neighborhood retail centers, but only at a scale compatible with adjacent residential development.
2. All commercial development should be landscaped using consistent landscaping themes that will tie adjacent projects together. Landscaped easements along public rights-of-way using shrubs, trees and/or earth berming will be provided and installed at the time of street construction. Signs should be controlled in terms of placement and maximum size.
3. New commercial development to the extent possible should be located at interchanges along I-10.
4. Commercial and Industrial development shall be restricted to the areas surrounding the I-10 interchanges with an additional industrial designation located north of the PVNGS. If more extensive development is desired, or if cost effective means are not available to resolve sewage and water supply problems the community should consider the forming of Special Districts to provide full services.
5. Energy service providers (ESPs) seeking locations for new power plants in western Maricopa County will be required to seek an industrial designation in addition to a Special Use Permit.
6. Proposed uses must be appropriate for the type of employment center in which they are located. Mixed use development at 411th Ave. should include a residential component.
7. Heavy industrial uses and warehousing activities should be located away from arterial streets, allowing garden-type light industrial and business park uses to buffer the general view of heavy industrial activities. Industrial development may also be required to landscape and/or to screen unattractive uses from public view.
8. Industrial land use designations pertaining to ESPs shall be in effect for as long as the Special Use Permit is in effect and may revert to the underlying land use should the Special Use Permit expire.



INVENTORY AND ANALYSIS

OPEN SPACE, OS

The Open Space category denotes areas best suited for open space and recreation. Development of residential uses up to one (1) dwelling unit per acre is permitted in the Open Space Category provided development of environmentally sensitive areas, like steep slopes and floodplains, are in compliance with the Hillside Development Overlay District and Floodplain Development Regulations. Additional uses in this category include parks, recreation areas, drainage ways and scenic areas.

OPEN SPACE LAND USE DEFINITIONS

The *Eye to the Future 2020, the Maricopa County Comprehensive Plan* further defines two types of Open Space, Dedicated and Proposed Open Space.

DEDICATED OPEN SPACE

Dedicated open space areas are areas under public ownership—except State Trust land—with unique environmental and physical qualities. These qualities include mountains and foothills, rivers and washes, canals, significant desert vegetation, wildlife habitat, and cultural resources. In Maricopa County, dedicated open space exists in the form of regional parks, wilderness areas, wildlife areas and the Tonto National Forest. These sources of open space, nearly 2,000 square miles, provide recreation and visual resources for the residents of Maricopa County.

PROPOSED OPEN SPACE

These areas, if acquired for the public domain, are intended to be planned and managed to protect, maintain, and enhance their intrinsic value for recreational, aesthetic, and biological purposes. Within proposed open spaces, public access should be protected and preservation encouraged. All privately-owned and State Trust land considered for open space conservation may be developed unless it is added to the public domain or protected using other techniques that respect property rights.

The proposed open spaces, when combined with existing Dedicated Open Space, provide guidance for the establishment of an interconnected system of protected natural open spaces.

The degree to which open space can be added to the public domain, or be otherwise protected depends on the use of specific preservation techniques (actions that can be used to acquire and protect open space) and the public commitment to financial support for such actions.

Techniques that could be utilized include:

- Fee simple purchase
- Dedication/donations
- Conservation easements
- Preservation easement
- Purchase of development rights
- Hillside ordinance
- Purchase of right-of-way easements
- Density transfers



- Lease/use agreements
- Cluster development
- Right of first refusal
- Arizona Preserve Initiative
- Transfer of property to HOA
- Performance based zoning
- Environmentally Sensitive Land Ordinance

The suitability of any of these techniques to preserve a specific parcel in the Tonopah/Arlington planning area would be evaluated on a case by case basis. The application of preservation techniques must not infringe on the property rights of any landowner.

OPEN SPACE LAND USE DISCUSSION

A significant amount of the Tonopah/Arlington planning area is designated for use as open space. These open space areas are comprised mainly of Bureau of Land Management (BLM) owned lands (62 sq. mi.). The Arizona State Land Department is the next largest public landowner with 15 sq. mi. available for sale or lease. A portion of the State Trust land is currently held in grazing or mineral leases.

To emphasize the importance of promoting preservation of the area's scenic beauty and the existing rural lifestyle, some lands held in public ownership are retained as open space. In much of the planning area, the open space category is intended to protect mountainsides—where slopes exceed 15 percent—and floodplains from development. It should be noted that State Trust land may be acquired and set aside for conservation purposes, otherwise the lands might be purchased privately and developed.

Additionally, specific requests should be reviewed by the County to insure that adequate safeguards are used to offset any negative impacts associated with steep slope development.

AGRICULTURE LAND USE

The Agriculture Land Use category identifies lands that are suitable for cultivation, growing crops, and the production and maintenance of livestock. Certain agribusiness activities will also be allowed subject to plan review and approval.

Historically, agriculture has been the county's most important industry and is found in the Tonopah and Arlington portions of the planning area. Much of Maricopa County's agricultural land is being converted to urban uses, even though many residents believe that agriculture is an important activity. Owners of agricultural property retain the right to develop their land as they choose, subject to zoning, comprehensive/area plan guidelines, and other applicable laws and regulations. For those residents who wish to continue farming, Maricopa County should consider providing technical guidance to ensure agriculture viability. Such guidance could include:

- Transferring development rights to other areas where development may be more appropriate
- Encourage infill development and directing residential development into a more urbanized area
- Establish land use buffers to mitigate the impact of agriculture and agricultural resources on nonagricultural development
- Providing incentives to promote the preservation of agricultural lands, such as clustered development or community supported farms.



BUFFERING AND TRANSITIONAL LAND USE GUIDELINES

When any two different land use types are shown on the *Tonopah/Arlington Area Plan* or are approved as part of a Development Master Plan, buffering or a transitional land use between the two uses may be necessary. Buffering may consist of the placement of open space between two incompatible uses, transitional densities, walls, berms, landscaped setbacks, or other methods of transitioning use. These will be required of the more intensive use where a less intensive use already exists, or where the *Tonopah/Arlington Area Plan* shows that a less intensive use is intended adjacent to the more intensive use. The use of transitional land uses consists of placing uses of intermediate intensity between incompatible uses.

Situations necessitating transitional land uses may include:

- Low density; single family development adjacent to multi-family development.
- Single or Multi-family development adjacent to commercial.

In cases where buffering is proposed, the following examples or others may be considered:

- Areas of landscaped open space
- Arterial and collector streets with landscaping
- Major transmission line easements, if landscaped
- Block walls, landscaping, earth berms, or
- Combinations of the above

Facilities and Services

For much of the development within the Tonopah/Arlington planning area, a full compliment of facilities and services will not be required and is usually not expected by the prospective resident, with the exception of education, law enforcement, and fire protection services. This situation will generally apply to development where densities remain less than 1.0 du/acre as in the Rural land use category. The County will continue to review major developments where densities exceed 1.0 du/acre and are more urban in nature. In these situations, community sewer and water service is required and other facilities expected, depending upon the actual character and magnitude of the development. Each development must be considered on its own merits.

Table 2 provides guidelines that may be used as a reference when determining and sizing necessary facilities for a given development.

TABLE 2—FACILITIES SPACE STANDARDS

| <u>Type</u> | <u>Space Requirements</u> | <u>Source</u> |
|---|--|--|
| <i>Parks and Recreation Facilities:</i> | | |
| Minimal Park Standards | 6 ¼ to 10 ½ acres/1,000 persons ¹ | <i>National Recreation and Parks Individual Park Type Standards, National Recreation and Parks Association</i> |
| Playlots | .1 to .3 acres/1,000 persons | |
| Neighborhood Playground | 2.0 acres/1,000 persons | |
| Neighborhood Park | 2.0 acres/1,000 persons | |
| Community Playfield | 1 acre/1,000 persons | |
| Major Community Park | 5 acres/for 1,000 to 10,000 persons | |
| Open Space | .75 to 1 acre /1,000 persons | |
| Baseball (Youth) | 1.2 acres/ 5,000 persons | |
| Basketball | 7,280 sq.ft./5,000 persons | |
| Swimming Pool | 2.0 acres/ 20,000 persons | |



| | | |
|---|---|--|
| <i>Library</i> | | |
| Regional | 40-50,000 sq.ft./80-125,000 persons | <i>Planning for Implementation for the Maricopa County Library District, 1990</i> |
| Community | 15-20,000 sq.ft./30-50,000 persons | |
| Neighborhood | 3-5,000 sq.ft./10-20,000 persons | |
| <i>Education Facilities² :</i> | | |
| Elementary School | 8-12 acres, 1 school/1,500-5,000persons | <i>U.S. Department of Health, Education and Welfare; Urban Planning and Design Criteria, 3rd Edition</i> |
| Junior High School | 20-25 acres, 1 school/1,000-16,000persons | |
| Senior High School | 30-45 acres, 1 school/14,000-25,000persons | |

¹Using the NRPA standard applied to the existing Tonopah Population-apark system, at a minimum, is composed of a total acreage of 6.25 to 10.5 acres developed open space per 1,000 persons.

²Note: These standards are provided as a base reference for the Area Plan. The appropriate school district will determine standards for all facilities within that school district.

EXISTING LAND USE AND DEVELOPMENT

In describing land use and zoning in the Tonopah/Arlington planning area, the following six sections are presented:

- General Pattern of Land Development
- Public Land Ownership
- Public Facilities and Utilities
- Special Development Concerns
- Policy Implications
- Transportation

The purpose of this section of the area plan is to document existing land uses and zoning regulations, to note public land ownership, locations of special concern, and to describe public facilities and transportation in the Tonopah/Arlington planning area.

GENERAL PATTERN OF LAND DEVELOPMENT

Figure 1 illustrates the land use pattern within the planning area. As a review of this map indicates, the majority of the area remains undeveloped. Scattered, low-density residential development has been occurring in many places throughout the planning area. The majority of the new homes in the Tonopah subarea are located on sites of 5 acres or less. A second emerging development pattern of large-lot subdivisions has occurred over the past ten years. These are 36 acre or greater “ranchettes” that offer larger lots with little or no services. A few areas of commercial development are located at or near the I-10 interchanges. The Palo Verde Nuclear Generating Facility is the largest industrial type of development in the planning area.

The Arlington subarea consists of land generally bounded by the Hassayampa River on the east, the Gila River on the southwest, Baseline Road on the north, the western border of the Area Plan, and Agua Caliente Road on the south. The southern portion of the Arlington area is primarily farmed. Crops include cotton, alfalfa, wheat, and barley. There are also some cattle raised in the area. To the northwest the area is divided into parcels that range from open desert to small farms from 10 to 80 acres. The northeastern portion of Arlington is mostly large residential properties of 2 acres or more. The very eastern edge has some small agricultural businesses.



INVENTORY AND ANALYSIS

ZONING

Maricopa County enforces a zoning ordinance to regulate land development. Established Zoning District categories are found in Appendix B-Generalized Existing Zoning.

PUBLIC LAND OWNERSHIP

Figure 3 – Land Ownership illustrates the public property ownership in the Tonopah/Arlington planning area. The public landowners in the area are:

- Federal Government
- State of Arizona
- Arizona Game and Fish Department

The Arizona State Land Department owns approximately 15 square miles located at several sites within the planning area. In addition, a wildlife preserve (Arlington Wildlife Area) near Gillespie Dam is owned by the State and managed by the Arizona Game and Fish Department.

There are 62 square miles (39,680 acres) of Bureau of Land Management (BLM) land in the planning area. The majority of this land encompasses the Palo Verde Hills in the southwest part of the planning area and the eastern edge of Saddle Mountain. Much of the land is undeveloped and in its natural state. Mining and grazing claims may be found in some of the BLM managed areas.

The Arizona State Land Department (SLD) oversees 15 square miles (9,600 acres) of State Trust land in the planning area. SLD properties are scattered throughout the central and southeast portions of the Tonopah/Arlington planning area and range from a few acres to 2-3 square miles. These areas are currently undeveloped and remain in their natural state.

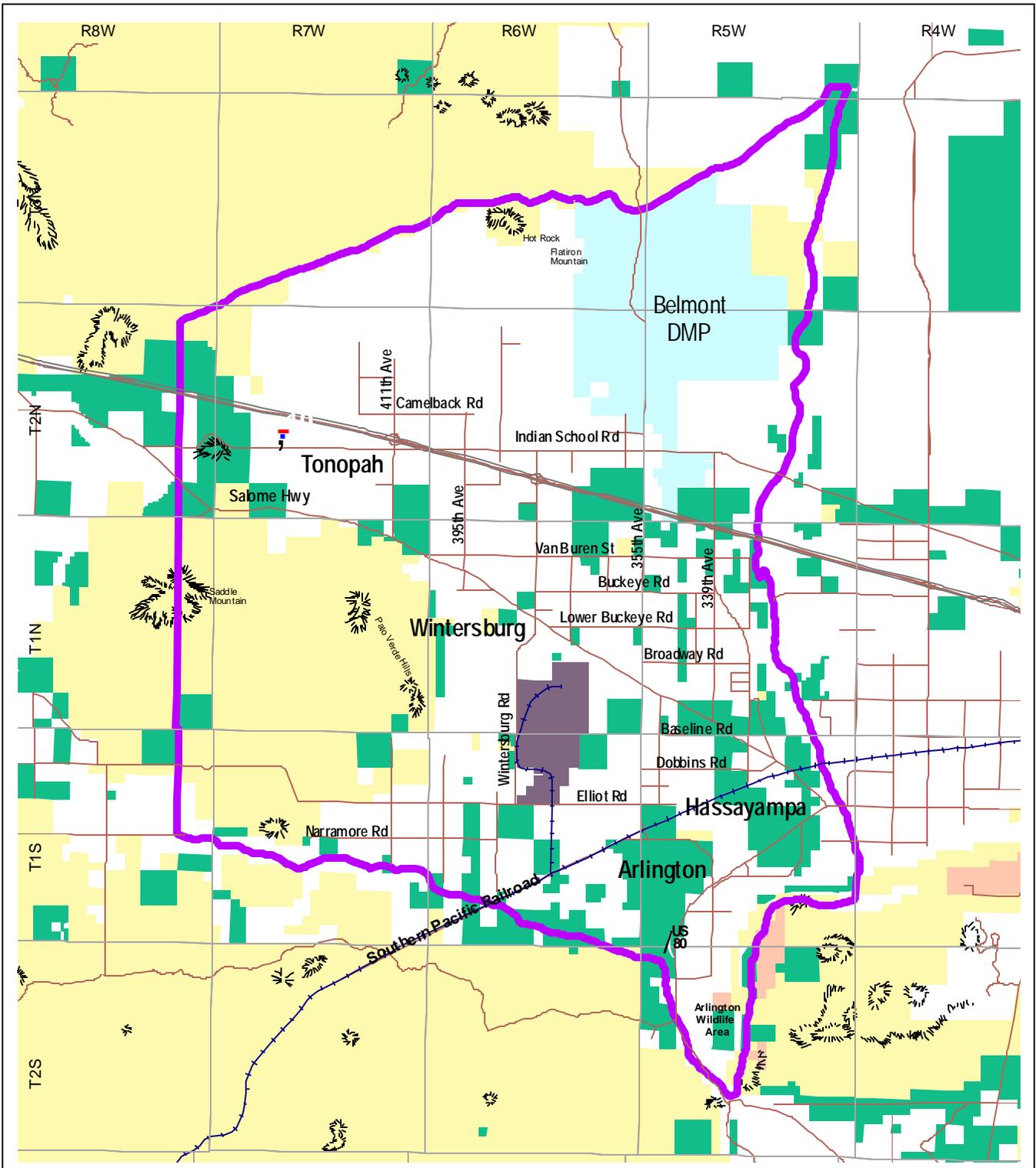
Development could occur if the SLD provides lease contracts or sells the land. Approximately ½ of the State Trust land in the Tonopah/Arlington planning area is subject to the 1996 Arizona Preserve Initiative (API).

The API is designed to encourage the preservation of select parcels of State Trust land in and around urban areas for open space to benefit future generations. The law lays out a process by which Trust land can be leased for up to 50 years or sold for conservation purposes. Leases and sales must both occur at a public auction.

Conservation is defined in the law as “protection of the natural assets of State Trust land for the long-term benefit of the land, the beneficiaries, lessees, the public, and unique resources such as open space, scenic beauty, protected plants, wildlife, archaeology, and multiple use values.” Under the original legislation, only State Trust land within incorporated cities and towns, within one mile of incorporated municipalities of less than 10,000 persons, or within three miles of municipalities equal to or greater than 10,000 persons may be reclassified for conservation purposes.

PUBLIC FACILITIES AND UTILITIES

The Public Facilities and Utilities section is an overview of the various public and semipublic utilities, public safety facilities and semipublic facilities in the Tonopah/Arlington planning area as shown in **Figure 4 – Existing Facilities and Utilities**. This section is presented in six subsections:



Ownership

- Bureau of Land Management
- State Trust Land
- State Wildlife
- Private
- Palo Verde NGS
- Belmont DMP

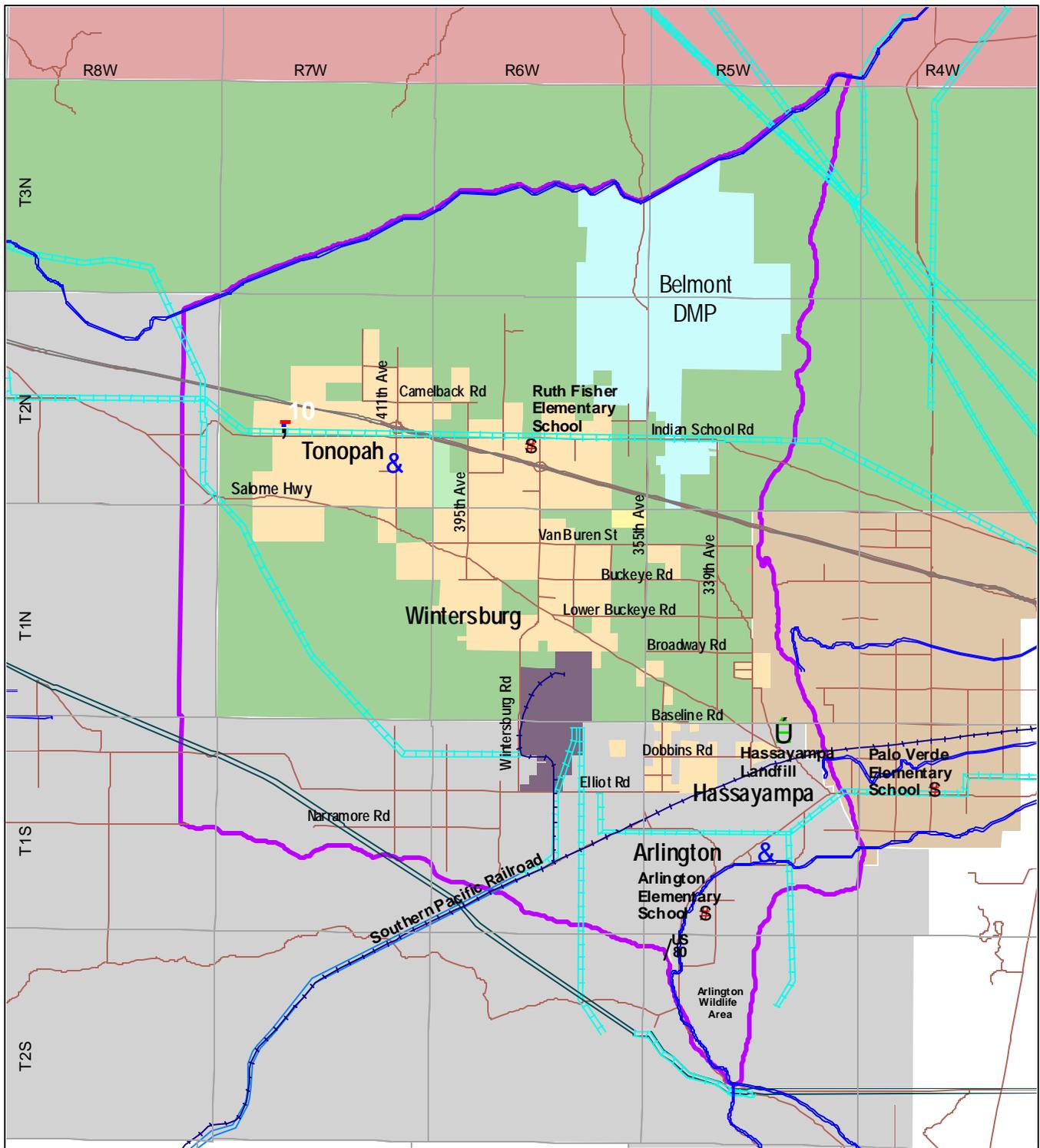
- Freeway
- Arterials
- Railroad
- Area Plan Boundary

Land Ownership

Figure 3

2020
UPDATE

Scale in Miles



Water Service Areas

- Hassayampa Water Company, Inc
- Valley View Water Company, Inc.
- Water Utility of Greater Tonopah, Inc.
- West Phoenix Water Company (Defunct)

School Districts

- Arlington Elementary
- Palo Verde
- Ruth Fisher
- Wickenburg

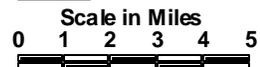
Utilities

- Electric
- Gas
- Oil
- Railroad
- Freeway
- Arterials
- Canals
- Planning Area Boundary
- Belmont DMP
- Palo Verde NGS

Existing Facilities and Utilities

Figure 4

- Post Office
- School
- Landfill
- Fire Station



Revised 3/17/2000



- Water Distribution System
- Sanitary Sewer System
- Sheriff's Department
- Fire Protection
- Educational Facilities
- Parks and Open Space

The purpose of this section of the Area Plan is to inventory and document present conditions, and use of community facilities and services. Assessment of the various community facilities and services presented is not intended to be an in-depth operation or program evaluation, but rather an overview of existing physical plants in terms of how they currently, and can in the future, support increased development.

A) WATER DISTRIBUTION SYSTEM

This section of the public facilities and services inventory discusses the quality of water and its use and the location of the water distribution system within the planning area.

DOMESTIC WATER SUPPLY

Domestic Water in the Tonopah/Arlington planning area is supplied by the following water companies, as illustrated on **Figure 4**.

- Water Utility of Greater Tonopah
- Valley View Water Company
- Hassayampa Water Coop

Currently, 100% of the domestic water supply in the planning area is groundwater drawn from the aquifer beneath the planning area and the surrounding areas. On an average, the water companies deliver a total of 60 AF (acre-feet) of water each year.

The Tonopah Irrigation District located within the planning area only supplies water for agricultural purposes. The district irrigates an area of nearly 3,600 acres and also delivers CAP water. Many growers pump from their own wells to supplement the CAP supplies. The total CAP allocation for this irrigation district is approximately 25,000 AF of water per year and the total water use ranges from 12,000 to 15,000 AF each year. The Arlington area has an adequate water supply for sustained domestic, recreation, and farming use.

According to the Arizona Department of Water Resources (ADWR) report and as illustrated in **Figure 5 – Groundwater**, depth to groundwater in this area ranges from less than 50 feet to greater than 450 feet.

Generally in the Tonopah/Arlington planning area groundwater is high in total dissolved solids and fluorides. Some wells require the removal of nitrates before the water is potable. Certain wells in the central part of the planning area are geothermal with temperatures ranging from 85 to over 120 degrees Fahrenheit. High temperatures tend to increase problems with corrosiveness, fluoride and other contaminants. Periodic tests are necessary to assess the water quality of local wells. The state also requires that chemical analysis tests be conducted on a three-year basis.

FUTURE WATER SUPPLY ALTERNATIVES

As the population grows in the Tonopah/Arlington planning area, all of the water companies plan to activate a number of presently unused wells to supplement groundwater resources.



INVENTORY AND ANALYSIS

The possibility of the Tonopah/Arlington area using water from the Central Arizona Project (CAP) also exists. Before CAP water can be delivered on a long-term basis, each prospective user must sign a valid subcontract with the Central Arizona Project Water Conservation District (CAWCD). One of the water companies, Water Utility of Greater Tonopah has signed a subcontract with an allocation of 64 AF of water per year, for future use. Development of “merchant” power plants that are dependant on groundwater resources requires a cumulative review of their effects on the aquifer.

B) SANITARY SEWER SYSTEM

EXISTING SANITARY SYSTEM

The Tonopah/Arlington planning area operates on individual septic tanks and treatment plants. There are no major contamination problems with the septic tanks. Eventually, the entire area could be served by a sanitary sewer system.

FUTURE SANITARY SEWER SYSTEM

Unless a sanitary sewer system(s) can be provided for the Tonopah/Arlington planning area, development intensities should be limited. Soils in some areas lack the ability to absorb and filter effluent without contaminating groundwater sources.

Development proposals at urban intensities should include plans for the construction of sanitary sewer service for residents.

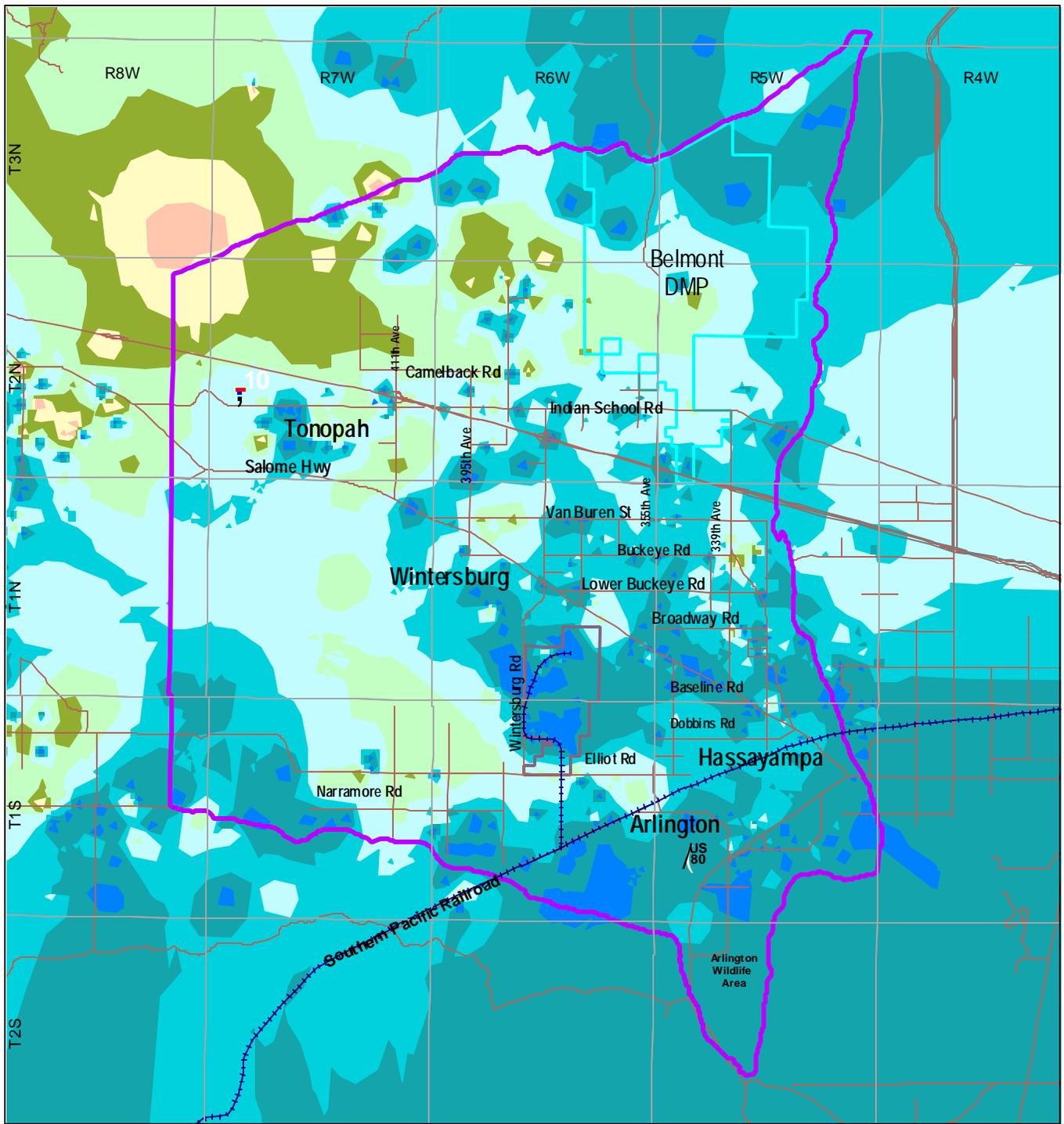
C) SHERIFF’S DEPARTMENT

The Maricopa County Sheriff’s Department, located at 102 West Madison Street, in downtown Phoenix, serves the unincorporated areas. Presently, the Buckeye Substation located approximately 14 miles east of the planning area at 100 N. Apache Road, Buckeye, serves the Tonopah/Arlington planning area.

D) FIRE DEPARTMENT

Two voluntary fire districts provide fire protection for the Tonopah/Arlington planning area. Residents in the planning area rely on the Buckeye Valley Fire District and the Harquahala Valley Fire District for emergency response. On June 19, 1999, the Tonopah Valley Fire District was established. The fire district is governed by a three-member board of directors and is projected to be operational by January 1, 2001. At that time, the district will take over emergency response responsibilities from the Buckeye Valley Fire District and the Harquahala Valley Fire District. Mutual aid assistance between the three fire districts will be sought to ensure timely response to medical and fire emergencies in the planning area. The Buckeye Valley Fire District serves the portion of the planning area east of 411th Avenue and up to the Hassayampa River. The fire district operates with 106 firefighters, 30 fire apparatus and three ambulances. The Harquahala Fire District services areas west of Wintersburg Road and also assists Buckeye in certain emergency situations in areas east of Wintersburg Road. The fire district operates with 24 firefighters and fire fighting equipment includes three (3) engines, two (2) brush trucks, one (1) 3,800 gallon water tender, one (1) 2,600 gallon water tender, one (1) rescue squad, and one (1) command vehicle.

The Palo Verde Nuclear Generating Station Fire Department operates with 27 firefighters, two (2) engines, two (2) pumper trucks, two (2) ambulances, one (1) SOV rescue vehicle, and one (1) community vehicle. Federal regulations require that most of these individuals



- | | | |
|----------------|----------------|--------------------|
| 0 - 10 Feet | 200 - 300 Feet | Palo Verde NGS |
| 10 - 50 Feet | 300 - 400 Feet | Belmont DMP |
| 50 - 100 Feet | 400 - 500 Feet | Freeway |
| 100 - 200 Feet | 500 - 650 Feet | Arterials |
| | | Railroad |
| | | Area Plan Boundary |

Groundwater Depth

Figure 5





and equipment remain onsite 24-hours a day. However, there have been occasions when limited personnel and equipment have responded to situations in areas outside the station. This is not done on a regular basis but only in life-threatening situations.

E) EDUCATIONAL FACILITIES

Two school districts, the Ruth Fisher Elementary School District and the Arlington School District serve the Tonopah/Arlington planning area.

Ruth Fisher Elementary School has approximately 360 students attending kindergarten through eighth grade. About 40 of the students reside in areas outside the school district. The district operates 8 buses and a special needs bus within and outside the planning area. The school has added twelve new classrooms and a cafetorium. The completed expansion, which began in 1997, is expected to increase the school's capacity by 500-600 students.

The Arlington School District includes two elementary schools within the planing area. Arlington Elementary School has approximately 200 students enrolled from kindergarten through the eighth grade. The school operates an extensive bus system with six buses covering an area of 450 square miles. 12 to 15 students enrolled in this school are bused in from Buckeye. Harquahala Elementary School located in the Harquahala valley, west of Van Buren is currently closed. The school may reopen if required.

All ninth to twelfth grade students from the planning area attend high schools outside the area. Nearly 120 students attend Buckeye Union High School and Wickenburg High School. These students also use district buses to travel to and from school.

F) PARKS AND OPEN SPACES

The Tonopah/Arlington planning area does not have community parks or dedicated open space.

The planning area is bordered by a number of mountains including Saddle Mountain to the west, the Palo Verde Hills in the south central area, the Bighorn Mountains to the northwest, and the Belmont Mountains to the north. All these areas are unimproved desert and do not include any type of programmed recreational activities or restrictions such as trails for nonmotorized recreation only.

The planning area includes a wildlife preserve, owned by the State and managed by the Arizona Game and Fish Department. The Arlington Wildlife Preserve is located in the southeast portion of the Tonopah/Arlington planning area, near Gillespie Dam. The preserve covers 1,000 acres and includes passive habitat management with activities such as hunting, fishing, and bird watching. Two large ponds on the site with water supplied from wells are used for the recreational activities. The Game and Fish Department is currently in the process of acquiring a special use permit to expand the preserve boundaries to include an additional 2,000 acres of land.

SPECIAL DEVELOPMENT CONCERNS

In the future, consolidation of parcels of land into a large land holding or the transfer of large areas of public land (Federal /State) into private ownership may have major impacts on the planning area. When a large land holding is the subject of a Development Master Plan (DMP), population, housing, and land use projections and distribution for the area change dramatically.

Master planned communities are a preferred type of residential development within



INVENTORY AND ANALYSIS

Maricopa County. The *Eye to the Future 2020, Maricopa County Comprehensive Plan* encourages the use of DMPs to promote quality standards of prudent and sustainable land use for future master planned development in the unincorporated areas. DMPs provide opportunities for creative and innovative design and development techniques. These communities have the potential to provide mixed land use opportunities, a range of housing choices, open space and recreational opportunities, and an appropriate multi-modal transportation system connected to schools, parks, retail, and employment centers. Historically, DMPs have been allowed throughout the county. While future DMPs can be developed at any location in the unincorporated county, appropriate development guidelines would vary depending on the land use as defined in the Comprehensive Plan. Approved DMPs in the county—including those areas covered by a new or existing area plan—become the controlling planning document and area plan for that property.

The developer of a DMP must demonstrate how the project will impact the affected Area Plan at the plan's projected build out. Area Plans are generally more rural in nature while a DMP is urban in scale and use. Development agreements may be used to define appropriate standards and incentives, and aid in the implementation of Comprehensive Plan goals and policies in specific DMPs.

LOCATION

A DMP in the unincorporated county is required to establish urban level services; i.e., water, sewer, fire and police protection, parks, and schools. Any owner/developer wishing to locate a DMP in a rural area will have to address provision of services before any large scale planning or development can occur.

Water supply and wastewater treatment is a major challenge for developing a DMP in the Tonopah/Arlington planning area. The Arizona Department of Water Resources (ADWR) requires a 100-year assured water supply prior to the development of a DMP. If an adequate water supply is not obtained or sewage treatment is not available, a DMP cannot be realized.

POLICY IMPLICATIONS

This section describes the key land use and zoning issues that should be addressed by the County when reviewing development projects in the Tonopah/Arlington area.

A) PUBLIC LAND OWNERSHIP

The State of Arizona holds a portion of the planning area in trust. The State Land Department's policies and decisions will guide the potential for development of the many SLD sites.

B) PUBLIC FACILITIES AND UTILITIES

The County should address the need for public facilities when higher development densities are requested. The possibility of future septic tank contamination may prove to be a problem as further development occurs. Water availability will become increasingly important as growth continues. Due to the limited availability of domestic water, restrictions on future development may need to be considered. Larger water users, such as merchant power plants, may be required to provide alternatives or adjuncts to groundwater use.



c) PARKS AND OPEN SPACES

Maricopa County encourages the development of a multi-use trail system to connect the regional parks. This system would connect all of the open space areas including floodplains and hillsides with developed recreation areas and regional parks, allowing for greater accessibility and use. The Tonopah/Arlington area is presently a sparsely developed community however, access to, and conservation of existing trails may become more important in the future. To ensure trail conservation, funding and acquisition mechanisms would need to be developed to set aside easements, land, etc. These would include trails through both public and private land.

TRANSPORTATION

TRANSPORTATION SYSTEM PLAN

An appropriate County transportation network supports the safe and efficient movement of goods and people, is environmentally compatible with surrounding conditions, and is supportive of economic development activities. To accomplish this, Maricopa County developed a flexible, comprehensive Transportation System Plan (TSP). The TSP helps evaluate regional transportation system impacts, helps identify funding and maintenance priorities, and organizes roadways under MCDOT's jurisdiction into Primary, Secondary, and Local roadways. **Figure 6 – Transportation – Functional Classification – Current** and **Figure 7 – Transportation – Functional Classification – Future**, identifies this transportation network.

Please Note: Future Functional Classification is being fully evaluated through another planning process and will be superseded upon completion and approval of that process.

PRIMARY ROADWAYS

Primary roadways are significant routes that receive the highest funding and maintenance priority. Primary roads are intended to serve regional travel by creating a seamless roadway system crossing jurisdictional boundaries. Because of their importance, Maricopa County recognizes and encourages partnerships with other jurisdictions for primary roadway improvements.

Examples of Primary roadways in the Tonopah/Arlington area include Old US 80, Salome Highway, Dobbins/Elliot Road, 355th Avenues. Since future expansion of these roads could significantly impact development patterns, careful analysis and planning is necessary.

SECONDARY ROADWAYS

Secondary roadways are arterial and collector streets, located within County jurisdiction but not included in the primary system. They serve mostly sub-regional travel. Secondary roads are lower priority corridors where Maricopa County's participation is more limited in comparison to the primary system. Examples of secondary roads include Indian School, Van Buren, and Lower Buckeye Roads.

LOCAL ROADWAYS

Local roadways compose the remaining street network and provide residential access into the secondary system. Local roadways serve nearby development and can be identified as collectors for primary and secondary roads. In general, the county will only program major



improvements to local roadways where there is a special need or unless there is extensive participation from the surrounding community.

ROADWAY LEVEL OF SERVICE (LOS)

Roadway level of service is used to determine the efficiency level of existing and future roads and intersections. Levels of service provide a comparative measure for traffic operation efficiency, and are usually identified with letter grades. These letter measurements include:

| | |
|-----------------|--|
| <i>Level A:</i> | Free flowing condition where vehicle operation is essentially unaffected by other vehicles. |
| <i>Level B:</i> | Essentially free flowing traffic conditions, but increased vehicle counts begin to have a noticeable effect on speeds and maneuverability. |
| <i>Level C:</i> | Traffic flow and efficiency begin deteriorating. Vehicle speed and movement become impacted by increased congestion. |
| <i>Level D:</i> | Traffic reaches an unstable flow rate. Congestion begins to severely impact both vehicle speed and movement. |
| <i>Level E:</i> | Traffic operations are unstable and roadways are at or near capacity. |
| <i>Level F:</i> | Forced or breakdown traffic flow. |

Since most jurisdictions want service levels of D or better on all roadways, those in the service level E and F range normally require further review and possible improvement. Where feasible, capacity improvements or other actions are usually recommended if service levels are worse than level D.

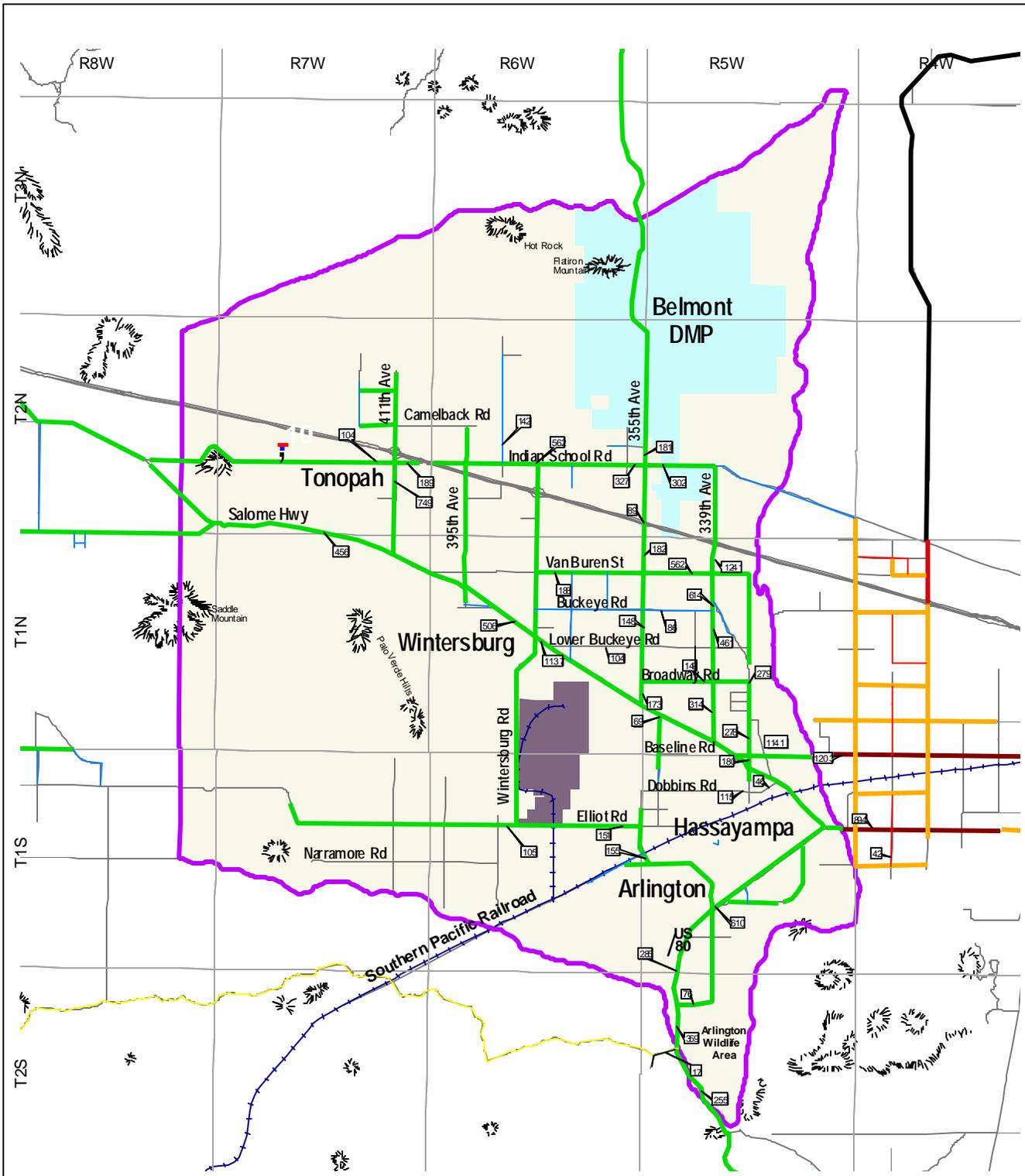
Few roads in the Tonopah/Arlington planning area are currently at or below service level C. However, as future growth and development occurs, other planning area roadways may reach unacceptable traffic levels and require modification.

TRANSPORTATION IMPROVEMENT PROGRAM

Roadway investment decisions at the Maricopa County Department of Transportation are based on a fundamental principle: to provide the right transportation system, at the right time, and for the right cost. To achieve this vision, Maricopa County develops an annual Transportation Improvement Program (TIP) to identify project-funding priorities for the next five years. Each year new projects are added to the fifth year, while previously programmed projects move up a year in the schedule. As a structured finance plan, the TIP determines future road expansions and improvements. No projects are identified in the planning area for the 1998-2002 Transportation Improvement Plan.

Any proposed project in the Tonopah/Arlington area must compete for funding with roughly eighty other annual proposals countywide. Only a few projects are added to the fifth year of the TIP each year based on the available funds. In addition, ADOT is responsible for improvements to I-10 interchanges. The agency uses a ranking system to prioritize the importance of interchanges. The process has led to the following rankings for interchanges in the Tonopah/Arlington area.

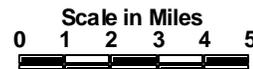
1. 411th Avenue: 31st out of 122 interchanges countywide
2. 339th Avenue: 96th out of 122 interchanges countywide
3. Wintersburg Road: 119th out of 122 interchanges countywide

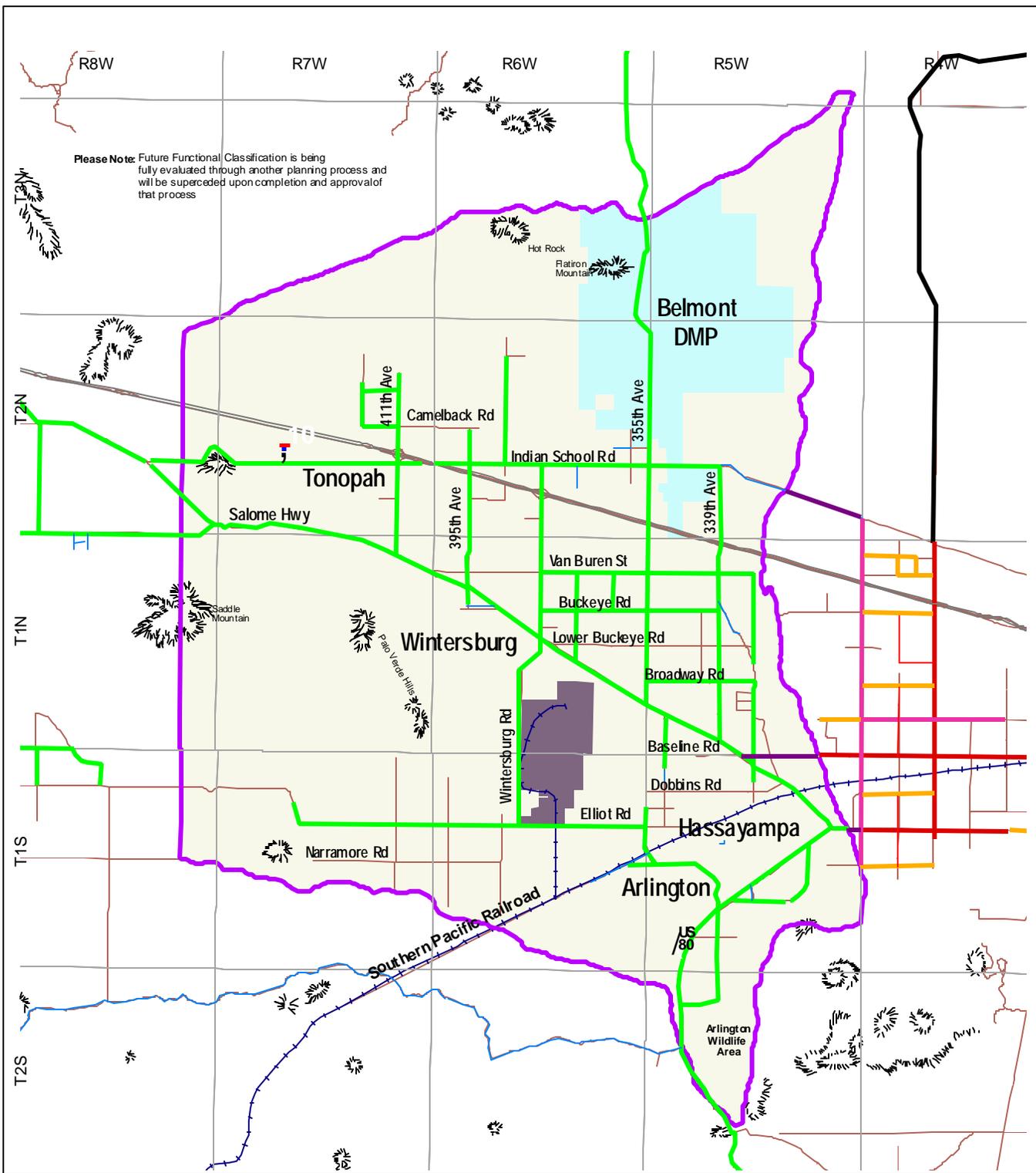


- Rural Local
- Rural Collector
- Rural Principal Arterial
- Freeway
- Roadways
- Railroad
- Area Plan Boundary
- Urban Local
- Urban Minor Collector
- Urban Major Collector
- Urban Principal Arterial
- Palo VerdeNGS
- Belmont DMP

Average Daily Traffic Counts - MCDOT 1997

Transportation Functional Classification – Current Figure 6





Please Note: Future Functional Classification is being fully evaluated through another planning process and will be superseded upon completion and approval of that process

- Rural Local
- Rural Collector
- Rural Minor Arterial
- Rural Principal Arterial
- Freeway
- Roadways
- Railroad
- Area Plan Boundary
- Urban Local
- Urban Minor Collector
- Urban Major Collector
- Urban Minor Collector
- Urban Principal Arterial
- Palo Verde NGS
- Belmont DMP

Transportation
Functional Classification – Future
Figure 7





PUBLIC TRANSIT SERVICE

Public transportation in unincorporated Maricopa County is strongly influenced by population and land use patterns. Current land patterns and lack of population density prevent significant transit service. However, providing public transit service for residents in rural communities is important to mobility and quality of life. Viable rural transportation alternatives, both public and private, should be evaluated and encouraged.

ALTERNATIVE TRANSPORTATION MODES

In addition to public transit, alternative transportation modes must play an increasingly larger role in Maricopa County's future transportation system. New growth and development must consider an integrated and balanced circulation system that contributes to an efficient regional transportation system. Facilities and services should be made available to both pedestrians and bicycle riders in order to make these transportation options more efficient, safer, and cost-effective.

INVENTORY OF EXISTING TRANSPORTATION SYSTEM IN THE TONOPAH/ARLINGTON AREA

The Tonopah/Arlington area transportation system consists of forty-one roads, divided into 189 total segments, as well as I-10. There are 170 miles of road maintained by the county. 116 miles are paved in some form, and 54 miles are dirt, ranging from 24 to 42 feet in width. The roads in the Tonopah/Arlington area are classified as two types: rural collectors and locals. These are defined in the *Maricopa County Transportation System Plan*.

The Tonopah/Arlington system contains (of the 189 total segments) 154 rural collector segments and 35 rural local segments. Average Daily Traffic (ADT) volumes have been measured for 104 of the 189 segments in the past ten years. The locations of the highest ADT volumes reflect traffic to and from the Palo Verde Nuclear Generating Station. The collector streets are the most heavily traveled in the area. They provide the connection between local streets and the freeway and other major destinations.

The Hassayampa-Salome Highway provides a continuous route roughly parallel to and about three miles south of I-10. This was the principal arterial through the area prior to construction of I-10. Both 379th and 411th Avenues provide connections between I-10 and the Hassayampa-Salome Highway. Access to the Palo Verde Nuclear Generating Station is gained along Wintersburg Road (379th Ave.), south of the Hassayampa-Salome Highway. As stated earlier, the highest ADT volumes occur near the station, along 379th Avenue between the I-10 interchange and the station itself. This points to the large number of employees at the PVNGS that commute to the facility from other areas of the valley.

The remaining 35 road segments are classified as rural locals. These are local streets providing a link between property access and collector streets.

Generally, collector streets are secondary, and rural locals are considered local. However, in the Tonopah/Arlington system, six of the collector streets are designated as primary roads in the TSP. These collector streets are Dobbins/Elliot Roads, Old U.S. Hwy. 80, Salome Highway, 351st Ave., and 355th Ave. (Wickenburg Rd.).

The Southern Pacific Railroad maintains a line through the Tonopah/Arlington area from the southwest towards Phoenix. A spur line branches off to serve the Palo Verde Nuclear Generating Station. Annually an estimated two million tons of general merchandise, mineral resources, and goods are transported on the line.



ENVIRONMENT

Development of the *Tonopah/Arlington Area Plan* hinges on a thorough understanding of the various physical and economic aspects of life in the immediate and surrounding area.

This chapter of the area plan identifies and describes the following elements.

- Natural Resources
- Economic Characteristics

NATURAL RESOURCES

In describing natural resources in the Tonopah/Arlington planning area, the following five elements are identified:

- Physical Characteristics
- Hydrology
- Vegetation and Wildlife
- Archaeology
- Policy Implications

The purpose of this section of the *Tonopah/Arlington Area Plan* is to describe the physical setting, to identify existing aquifers and flood control measures, to locate habitat areas, to note any archaeological resources and to identify policy implications.

PHYSICAL CHARACTERISTICS

The **Physical Characteristics** section describes key features of the natural and man-made environment, which affect growth and development in the Tonopah/Arlington planning area. “Physical Characteristics” are presented in the following six sections:

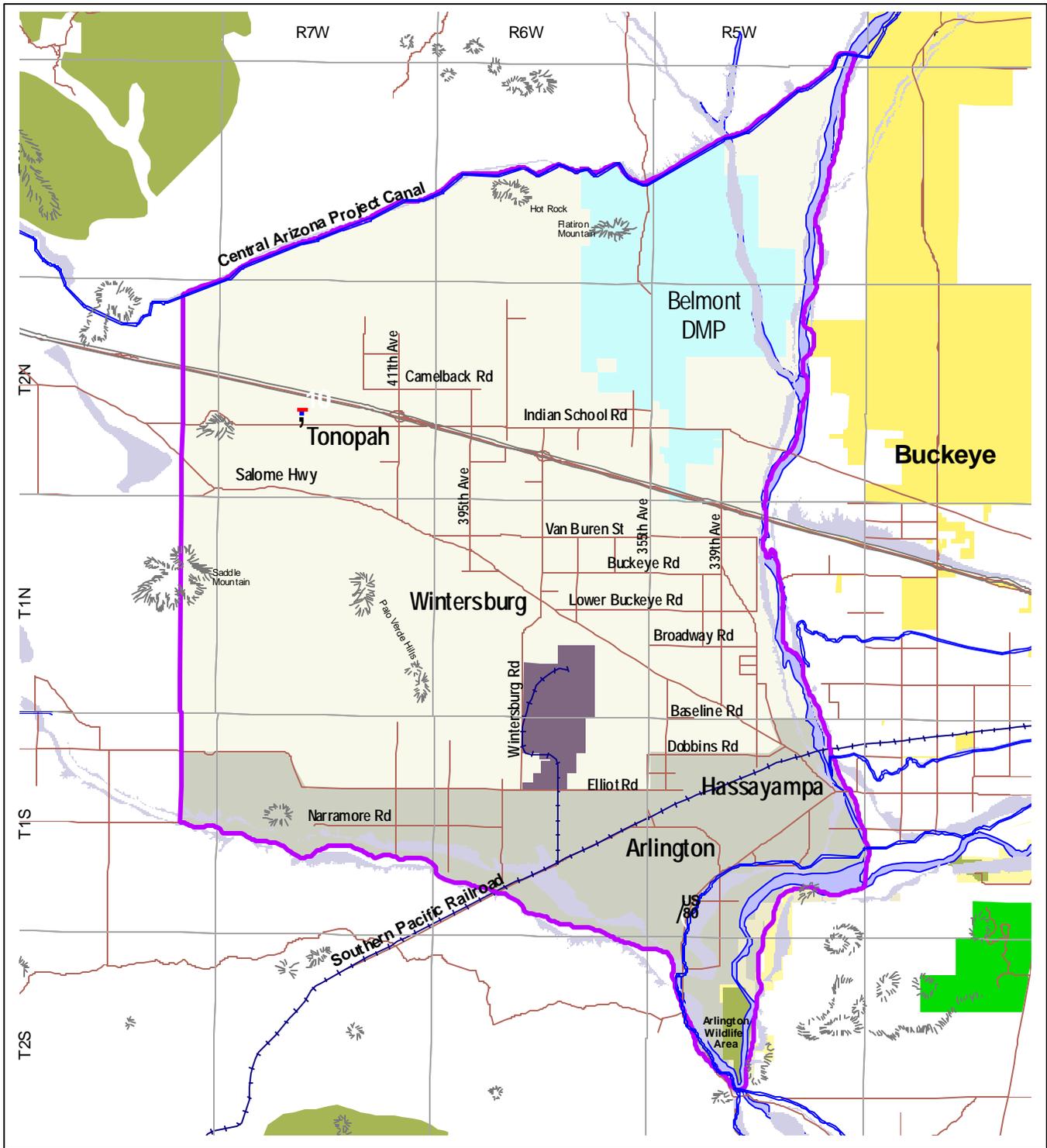
- Physical Setting
- Soils
- Topography
- Geology
- Visual Features
- Air and Noise Quality

Each of these will, to some extent, dictate the quality, character and direction of development in the planning area. The purpose of this section is to understand the environmental characteristics that affect, and will continue to affect, growth and development in the planning area.

A) PHYSICAL SETTING

The Tonopah/Arlington planning area is located in the west central portion of Maricopa County. The planning area is shown in **Figure 8** and can generally be described as lying east of Saddle Mountain, west of the Hassayampa River, south of the Central Arizona Project Canal and north of Centennial Wash. Elevations within the planning area range from 2,172 feet above sea level in the Palo Verde Hills, located in the south central part of the planning area, to 760 feet above sea level in the Gillespie Dam area south of Arlington. Terrain within the planning area ranges from south central rock outcrops to alluvium, in much of the remaining portions.

The Tonopah/Arlington planning area encompasses approximately 346 square miles. Landscapes are characterized by typical Sonoran Desert scenes, most of which are



Legend

- | | | |
|---------------------|-------------------|--------------------|
| Game and Fish | Buckeye | Freeway |
| Regional Parks | Tonopah Subarea | Arterials |
| State/County Parks | Arlington Subarea | Railroad |
| State Wildlife Area | Palo Verde NGS | Area Plan Boundary |
| Stream/Wash | Belmont DMP | Canals |
| Floodplains | | |

Tonopah/Arlington Planning Area

Figure 8



Revised 3/17/2000



composed of desert lowlands with plants of the Creosote Community, and desert foothills with the Palo Verde-Saguaro Community.

B) SOILS

Eleven major soil associations are found within the Tonopah/Arlington planning area (**Figure 9**). The Rillito-Gunsight-Perryville Association covers a large portion of the planning area to the east and west of Winters Wash in the northern half of the planning area, and is also located in the southern area surrounding the Palo Verde Hills. The Laveen-Coolidge Association covers a small portion north of Interstate 10 and east of 395th Avenue and on both sides of Elliot Road, west of Winters Wash. The Casa Grande-Harquua Association covers mainly the southeast corner of the planning area stretching north to Four Mile Wash. The Gilman-Estrella-Avondale and the Antho-Valencia Associations generally follow washes in the planning area. The Cherioni-Rock Outcrop Association includes most of the Palo Verde Hills and the foothills of Saddle Mountain on the western boundary of the planning area.

The Carrizo-Brios Association occurs along the Hassayampa River from Gillespie Dam to about I-10. The Carrizo Association occurs from about I-10 to the Central Arizona Project (CAP) canal along the Hassayampa River. Momoli-Carrizo-Denure Association occurs south of the CAP canal on the west side of Four Mile Wash. Gunsight-Rillito-Chuckawalla Association occurs across the northern areas of the planning area. The Gachado-Rock Outcrop-Quilotosa occurs only once on the northern edge of the area.

The Rillito-Gunsight-Perryville Association is well drained on nearly level to moderately steep slopes. The Laveen-Coolidge Association is well drained on nearly level land. The Casa Grande-Harquua Association is well drained on slopes of between zero and two percent. The Gilman-Estrella-Avondale and the Antho-Valencia Associations generally share the same characteristics, being very well drained, nearly level to moderately sloping between zero to three percent. The Cherioni-Rock Outcrop Association is well drained, gentle to steep sloping with slopes of more than 10 percent.

The Carrizo-Brios Association is nearly level to gently sloping, gravelly sandy loams and sandy loams in stream channels and on low stream terraces. The Carrizo Association is nearly level and gently sloping, occasionally flooded, very gravelly, sandy soils, on floodplains. The Momoli-Carrizo-Denure Association is nearly level, non-gravelly to very gravelly, loamy and sandy soils, on fan terraces. The Gunsight-Rillito-Chuckawalla Association is dominantly gently sloping to moderately steep, gravelly to very gravelly, loamy soils, on fan terraces. The Gachado-Rock Outcrop-Quilotosa is dominantly strongly sloping to steep, very gravelly, loamy soils and rock outcrop, on hill and mountain slopes.

The four general soil properties, which effect soil suitability for development, are permeability, available water capacity, shrink-swell potential, and corrosivity.

Permeability refers to the rate at which water moves through the soil and is usually determined by the texture of the soil. Soils with a slow permeability pose severe limitations for septic tank absorption fields. Soils with slow permeability do not allow adequate absorption of effluent from tile or perforated pipe into natural soil. Most of the soils in the southern portion of the planning area pose severe permeability limitations for the use of septic tank absorption fields.

Available water capacity is the amount of water a soil can hold which is available for plants.



INVENTORY AND ANALYSIS

The ability of soil to hold water in part determines the type of plants that can be used for landscaping and lawns. About 80 percent of the soils in the planning area have low to moderate available water capacity. The other 20 percent have high available water. Soil limitations should not prevent the use of imported topsoil for landscaping purposes; provided; the topsoil has a high available water capacity.

Shrink-swell potential refers to the capacity of a soil to expand or shrink as the moisture content is increased or decreased. Generally, soils with a high percentage of clay have a tendency to have a high shrink-swell capacity. Soils with a high shrink-swell capacity can contribute to structural problems for buildings and roads. Both, the Cipriano-Sun City-Carefree Association and Tremant-Ebon Pinamt Association, have high shrink-swell characteristics. These soils account for approximately 10 to 15 percent of the planning area.

Corrosivity refers to a soil's capacity to induce chemical reactions that will corrode or weaken metals and concrete. Most soils within the planning area are moderately to highly corrosive. Soils with a high corrosivity may create potential problems for underground utilities, if installed unprotected.

The characteristics of each soil association, as related to development, are illustrated in **Table 3**. Variability of locations for each soil type within the associations require that soil testing should take place prior to actual development, particularly in an area that might contain soils that can pose problems for septic tank use, building and road foundation placement.

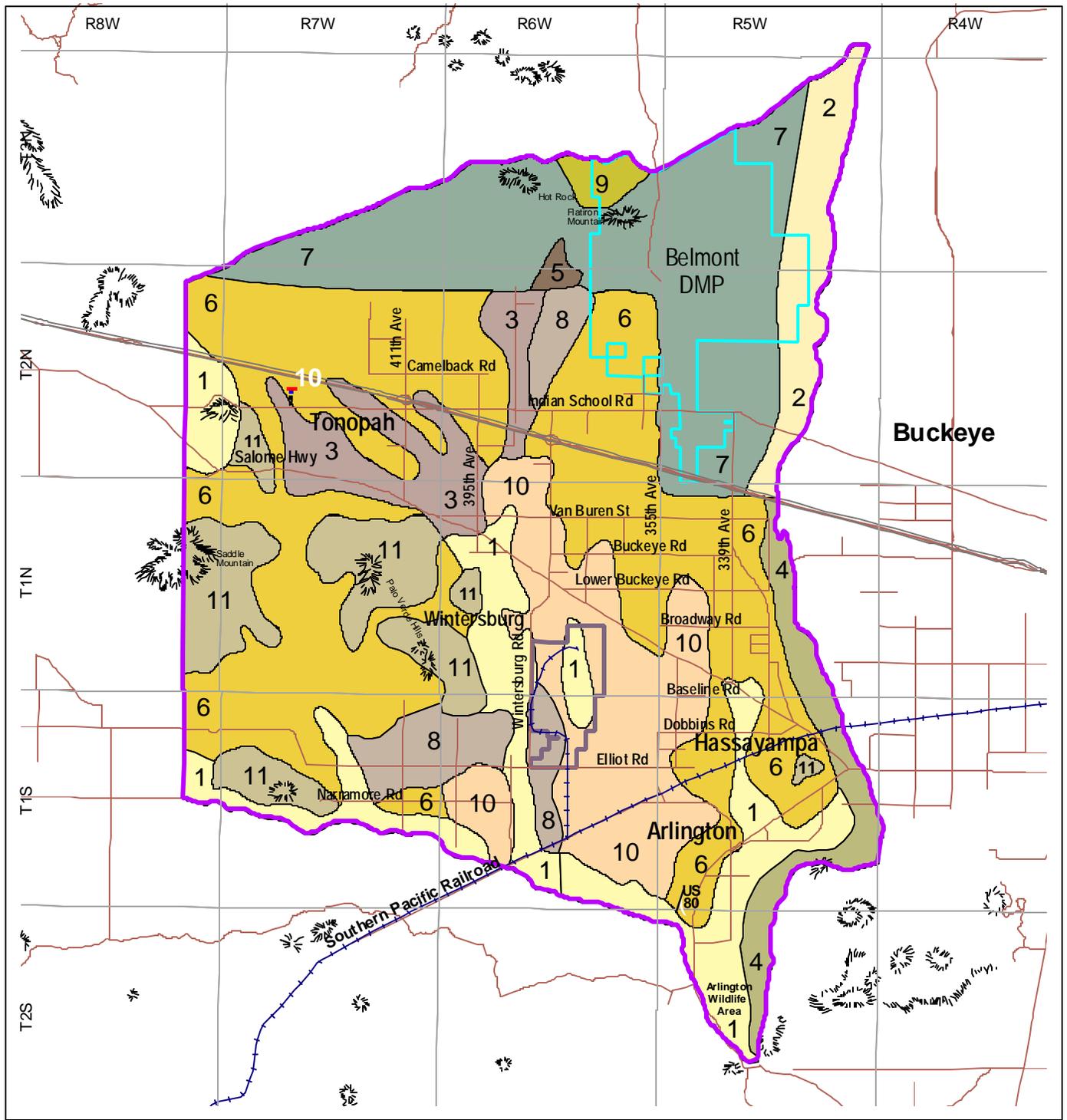
c) TOPOGRAPHY

Slope in the planning area is illustrated in **Figure 10**. The Palo Verde Hills are located in the south central portion of the planning area. The planning area tends to slope towards the south to the Palo Verde Hills and the Arlington Valley. The low point in the planning area, approximately 760 feet above sea level, is along Winters Wash, while the high point at 2,172 feet above sea level, is on a peak in the Palo Verde Hills.

The area generally slopes to the south with slopes from less than 1 percent to greater than 20 percent. Approximately 80 percent of the area is between 0 to 2 percent, 15 percent between 2 and 15 percent slope, and 5 percent more than 15 percent slope.

d) GEOLOGY

General geology within the Tonopah/Arlington planning area consists of sedimentary and igneous rocks. The majority of the planning area consists of rock from the Quaternary time period composed of silt, sand, gravel and other conglomerates. The foothill area was formed during the Cretaceous period and is composed mostly of andesite. The rock outcrop area forming the Palo Verde Hills during the Tertiary period is primarily composed of basalt.

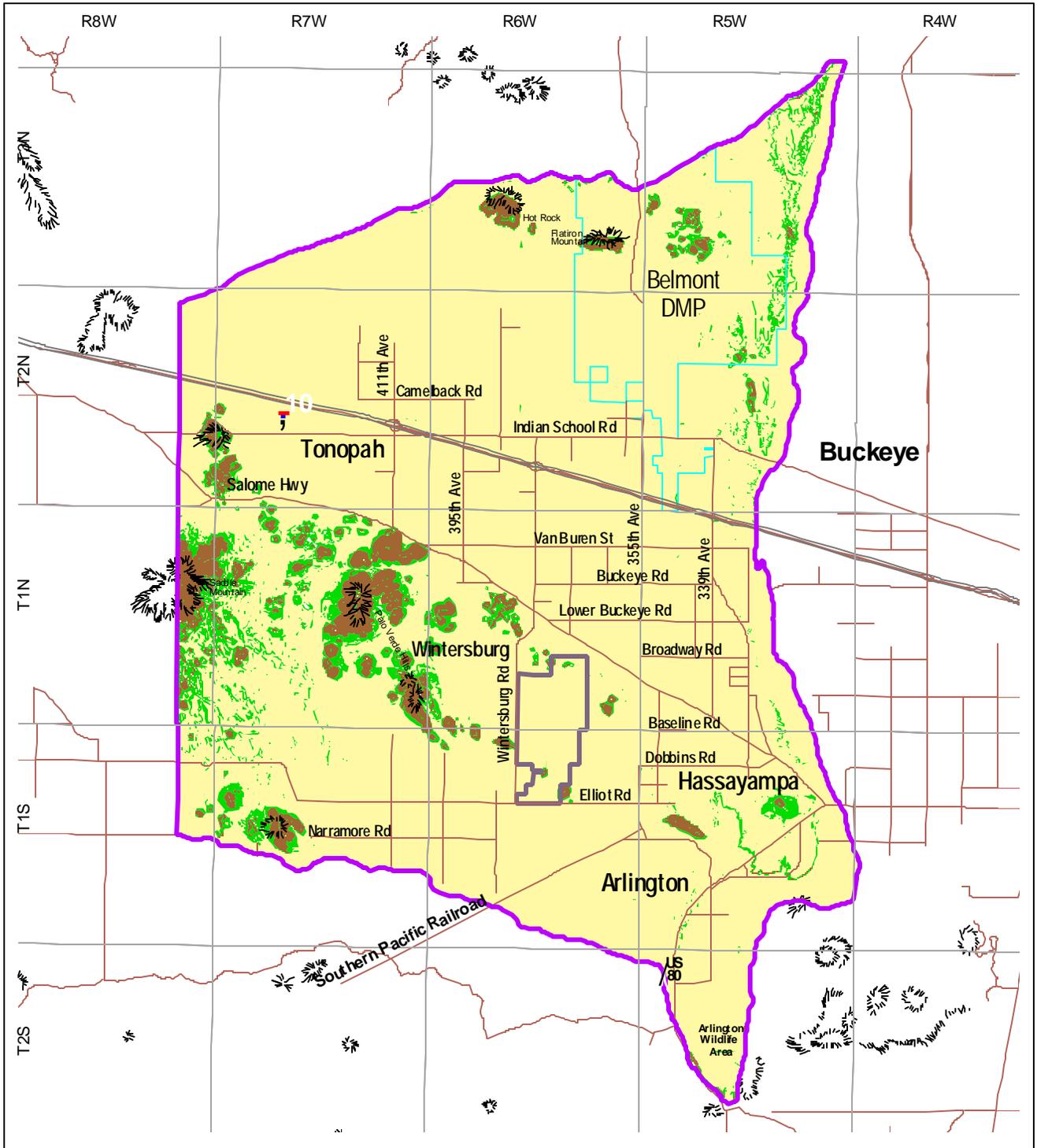


Soil Associations

| | | |
|-------------------------------|----------------------------------|--------------------|
| 1 Gilman-Estrella-Avondale | 7 Gunsight Rillito-Chuckawalla | Freeway |
| 2 Carrizo | 8 Laveen-Coolidge | Arterials |
| 3 Antho-Valencia | 9 Gachado-Rock Outcrop-Quilotosa | Railroad |
| 4 Carrizo-Brios | 10 Casa Grande - Harqua | Area Plan Boundary |
| 5 Momoli-Carrizo-Denure | 11 Cherioni - Rock Outcrop | |
| 6 Rillito-Gunsight-Perryville | Palo Verde NGS | |
| | Belmont DMP | |

Soils
Figure 9





Slope (by percent)

- 0 to 5%
- 5 to 15%
- 15% and Greater

- Palo Verde NGS
- Belmont DMP

- Freeway
- Arterials
- Railroad
- Area Plan Boundary

**Slope
Figure 10**

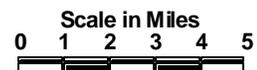




Table 3 – Soil Associations

| Soil Associations | Septic Tank Absorption Fields | Dwellings Without Basements | Dwellings With Basements | Local Roads, Streets | Small Commercial Buildings | Lawns, and Landscaping |
|--------------------------------------|-------------------------------|-----------------------------|--------------------------|----------------------|----------------------------|------------------------|
| Gilman- Estrella- Avondale | Slight | Slight | Slight | Slight | Slight | Slight |
| Carrizo | Severe | Severe | Severe | Severe | Severe | Poor |
| Antho Valencia | Slight | Slight | Slight | Slight | Slight | None to Slight |
| Carrizo Brios | Severe | Severe | Severe | Severe | Severe | Poor |
| Momoli Carrizo Denure | Slight | Slight | Slight | Slight | Slight | Severe |
| Rillito- Gunsight- Perryville | Slight | Slight | Slight | Slight | Slight | Slight to Moderate |
| Gunsight- Rillito- Chuckawalla | Slight to Moderate | Slight to Moderate | Slight to Moderate | Slight to Moderate | Slight to Moderate | Slight to Moderate |
| Laveen- Coolidge | Slight | Slight | Slight | Slight to Moderate | Slight | Slight |
| Gachado- Rock | Severe | Severe | Severe | Severe | Severe | Severe |
| Casa Grande- Harqua | Severe | Moderate | Moderate | Severe | Moderate | Severe |
| Cherioni- Rock | Severe | Severe | Severe | Severe | Severe | Severe |

Source: U.S. Department of Agriculture, Soil Conservation Service



E) VISUAL FEATURES

The most significant visual aspects of the Tonopah/Arlington planning area are Saddle Mountain to the west, the Palo Verde Hills to the south, the Big Horn Mountains to the northwest, and the Belmont Mountains to the north. Within the planning area, Saddle Mountain and the Palo Verde Hills dominate views.

From the east, the Palo Verde Nuclear Generating Station and the Central Arizona Project Canal can be seen from a great distance. The generating station, Saddle Mountain and the Palo Verde Hills serve as reference points to travelers on I-10 and the Salome Highway.

F) AIR AND NOISE QUALITY

Air quality is effected by a variety of activities. Sources of air pollutants may be mobile or stationary. One mobile source of air pollution results from motor vehicle use. Such vehicle-generated emissions include carbon monoxide, nitrogen oxides, PM₁₀ and hydrocarbons. The pollutant of greatest concern is carbon monoxide because, under certain atmospheric and topographic conditions, concentrations may accumulate which are hazardous to health under prolonged exposure. Stationary sources of air pollution come from roads, agricultural fields, vacant lots and construction sites where wind-borne particulate, such as dust and microscopic debris, originate. One pollutant that comes from both mobile and stationary sources is ozone.

While carbon monoxide and wind-borne particulate usually come from a known source, ozone originates from atmospheric chemical reactions between nitrogen oxides, hydrocarbons, and ultraviolet light. Air quality records do not exist for the Tonopah/Arlington planning area, nor are there any air quality-monitoring stations nearby. PVNGS monitors ambient air quality in the area surrounding the generating station.

HYDROLOGY

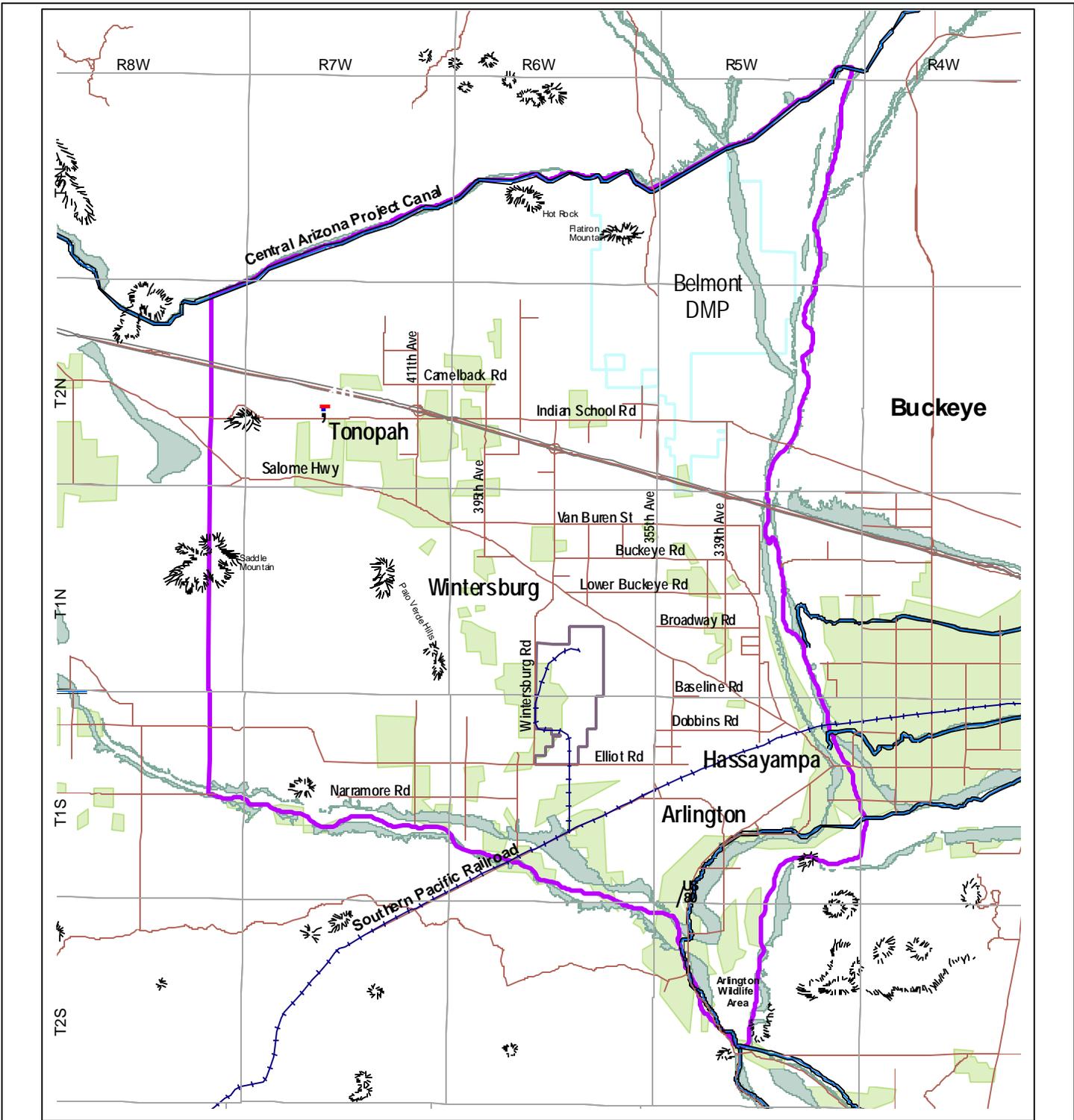
A) SURFACE WATER

Currently, no flood control projects are located in the Tonopah/Arlington planning area. The Harquahala and Saddleback diversion structures are located to the west and divert flows to Centennial Wash. The Centennial Wash flows along the southern planning boundary to Gillespie Dam. On the east are the Gila-Salt clearing and Buckeye structures that divert flows into the Hassayampa River. The Hassayampa River flows along the east boundary into the Gila River that flows along the southeast boundary to Gillespie Dam. The Gila River, Hassayampa River and Centennial Wash are normally dry and will flow or flood only if excessive amounts of water divert or naturally drain to these rivers/washes.

As illustrated in **Figure 11**, the northeast portion of the planning area is relatively flat with slopes between 0 and 2 percent, so some shallow flooding could occur. The southwest area is hilly with some slopes greater than 15 percent causing some flooding in normally dry washes.

B) GROUNDWATER

Groundwater levels within the planning area vary in depth (**Figure 5**). The depth to groundwater along the eastern boundary is less than 150 feet and ranges to over 250 feet in the northwest portion of the planning area.



Legend

- Floodplains
- Belmont DMP
- Canals
- Palo Verde NGS
- Belmont DMP
- Freeway
- Aterials
- Railroad
- Area Plan Boundary

Surface Water
Figure 11





c) WATER QUALITY

Water quality for the area has been split into two categories: primary and secondary contaminants. Primary contaminants are nitrates above 10 milligrams/liter and metals. Secondary contaminants are sulfates above 250 milligram/liter and total dissolved solids above 500 milligram/liter. The contamination is a result of the extensive agricultural use throughout the area. Water quality impacts from ranchettes and low-density housing is typically low. Residents in the area use individual septic systems to handle wastewater.

Elevated levels of nitrates that have been identified in the planning area but the low-density housing does not contribute a significant amount to the existing nitrate levels. As population and housing densities increase, options for denitrifying the waste may be necessary if primary contaminants increase significantly over the established concentrations. Large developments or large-scale dairy farms would need a wastewater treatment facility in order to control nitrates to reduce impacts on water quality.

VEGETATION AND WILDLIFE

This section of the **Tonopah/Arlington Area Plan** describes the natural vegetation and wildlife in the planning area.

A) VEGETATION

The Tonopah/Arlington planning area is located within the Sonoran Desert. Four native plant communities, Palo Verde-Saguaro, Riparian Deciduous Woodland, Saltbush, and Creosote are found in the study area. **Figure 12 -Vegetation** illustrates the location of those plant communities. The Creosote Community dominates the area except in the central, western and northern parts of the planning area where the Palo Verde-Saguaro Community is found. The Palo Verde-Saguaro Community is the most scenic of the desert communities. This community is composed of small trees such as the Palo Verde, Acacia and Mesquite; shrubs such as Creosote and Bursage; and Cacti including the giant Saguaro, Fishhook, Hedgehog, Opuntia and several other species. High concentrations of trees and shrubs can be found along the local drainage ways of the area.

The Palo Verde-Saguaro Community is highly popular for development because it is the most scenic of the Sonoran Desert plant communities. When disturbed, the soil is usually invaded by such plants as Desert Broom and some species of Mustard. Consideration should be given for areas of development that are compatible with plants in the Palo Verde-Saguaro Community.

The Riparian Deciduous Woodland Community is frequently found near flowing water. This is a very scenic community with a wide range of wildlife. This community is made up of trees such as Palo Verde, Ironwood, Mesquite, Salt Cedar and Sycamore; and shrubs such as Thornbush, Quail Bush, and Mediterranean Grass. This is a fragile community and if developed can be invaded by other desert plant types, i.e., Desert Broom and Mustard. The Creosote Community is found in much of the planning area and is considered to be the least desirable of the desert plant communities. Based on the Creosote Community's generally perceived lack of scenic quality, much of the planning area is not a candidate for preservation except those areas where the Palo Verde-Saguaro, Riparian Deciduous Woodland Communities are found.

The Saltbush Community is located along Centennial Wash, the Hassayampa River and the



INVENTORY AND ANALYSIS

Salome Highway. This community is composed of small trees such as the Acacia and the Mesquite; shrubs such as Burrobush, Bursage and Thornbush; and cacti including Hedgehog, Barrel, Prickly Pear, Cholla and several other species. Tree and shrub concentrations are found in and around washes.

There may be plants within these plant communities, which by law, (Arizona Revised Statute Chapter 7, Article 2) can only be moved from one location to another after applying for a state permit, regardless of ownership. For removal or destruction of protected species on private property the Arizona Department of Agriculture must be notified. The protected plants within these communities are:

TABLE 4 - PROTECTED PLANT SPECIES IN THE TONOPAH/ARLINGTON AREA

| <i>Cacti</i> | <i>Trees and Shrubs</i> |
|-------------------------------|-------------------------------|
| Barrel | Arizona Agave (Century Plant) |
| Mesa Verde Hedgehog | Desert Holly Ocotillo |
| Beehive Night Blooming Cereus | Desert Spoon |
| Cholla | Flannel Bush |
| Saguaro | Yucca |
| Prickly Pear (Opuntia) | |
| Pin Cushion | |
| Needle "Mulee" | |

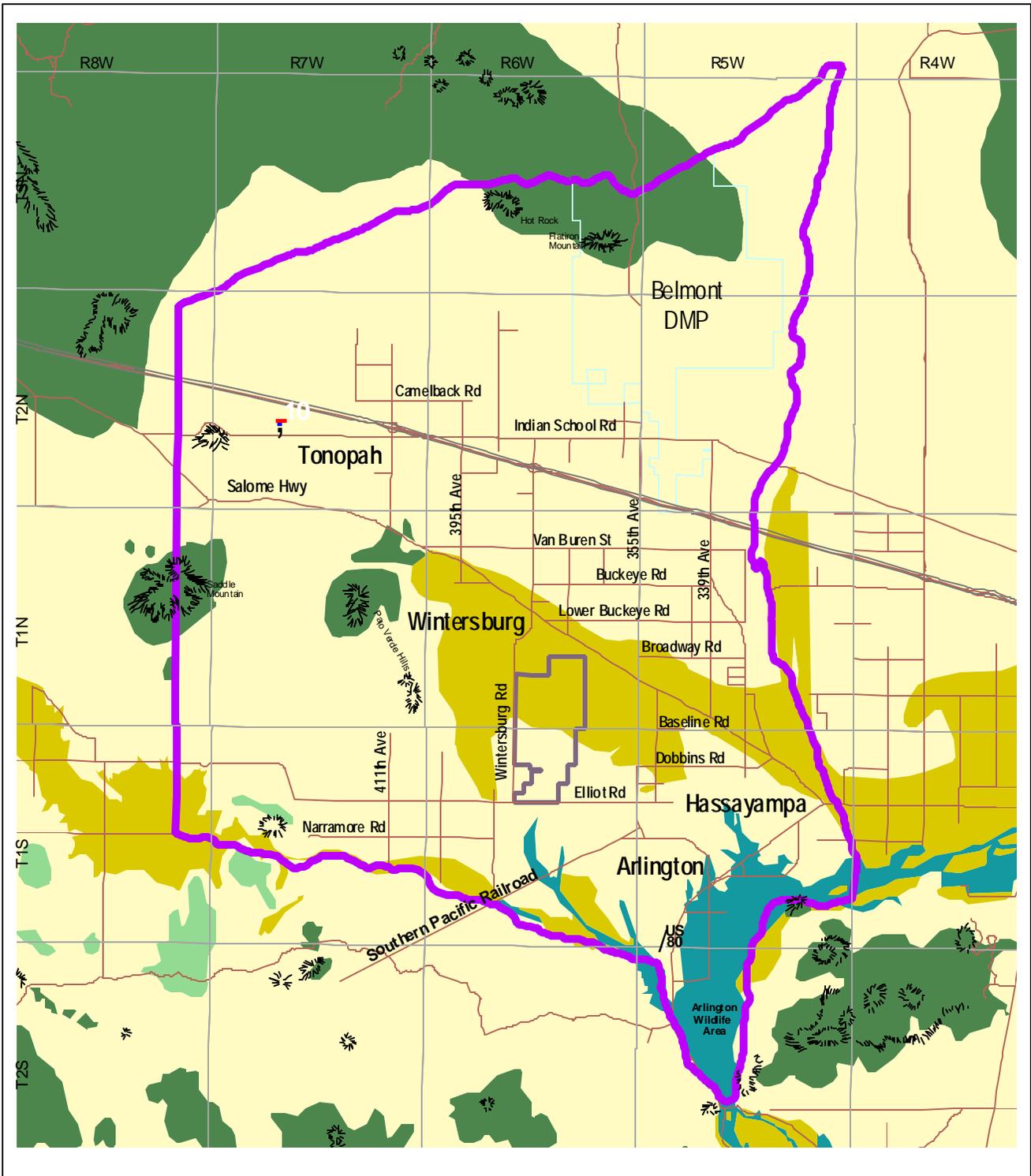
B) WILDLIFE

The Tonopah/Arlington planning area contains many animal species including rodents, birds, reptiles, foxes, coyotes and deer. Many birds live in the creosote communities including Mourning Dove, Gamble Quail, Inca Dove and Gila Woodpeckers.

The Palo Verde-Saguaro community supports many types of wildlife. In the undisturbed to slightly disturbed areas, the Desert Mule Deer, Feral burro and Kit Fox can be found. Typical wildlife include the Desert Pocket Mouse, Vizcaino Desert Kangaroo Rat, Mourning Dove, Ladder Backed woodpecker, Cactus Wren plus several other varieties of pocket mice, kangaroo rats, quail, woodpeckers and doves.

The Riparian Deciduous Woodland community can include Beaver, the Big Brown Bat, Silver Haired Bat, Desert Pocket Mouse and Raccoon. These riparian areas, if undisturbed, may contain the Gray Hawk, and the Bald Eagle. More typical birds include the Cardinal, Mourning Dove, Aberr's Towhee and several other bird varieties.

The Arlington Wildlife Area (AWA) lies along the west bank of the Gila River approximately 3.5 miles south of Arlington. This 1,320 acre wildlife area was established in 1951 and provides habitat for waterfowl, upland game birds and other wildlife species. AWA falls within Resource Category I for Wildlife and Wildlife Habitat Compensation, one of the highest value to Arizona wildlife species. The wildlife area provides hunting, wildlife viewing, and other wildlife oriented recreational opportunities. The wild life area provides habitat for waterfowl, doves, and the Yuma Clapper Rail, a federally endangered species. The Saddle Mountain area is part of the northern range of a herd of Bighorn Sheep (*Ovis canadensis nelsonii*) that extends south to the Gila Mountains and west to the Eagletail Mountain Wilderness range. The herd is an estimated 10-15 sheep and they are found in the isolated habitats in the surrounding mountains.



Communities

- Creosote Community
- Palo Verde/Cacti/Creosote Community
- Palo Verde/ Saguaro Community
- Riparian Deciduous Woodland
- Saltbush Community

- Freeway
- Arterials
- Railroad
- Area Plan Boundary

Vegetation

Figure 12





The Saddle Mountain resource area lies within BLMs Phoenix Management Area. The mountain area is part of a special recreational management area that BLM allows for vehicle access. BLM recommends limited public facilities in the management area.

The following table lists the species common to AWA, the Saddle Mountain area, and throughout the Tonopah/Arlington planning area. Included are species on the endangered, threatened, and candidate listings.

TABLE 5 – ARLINGTON WILDLIFE AREA SPECIES

Upland Species

| Genus | Species |
|---------------------------------|---|
| Black-tailed Jack Rabbit | <i>Lepus californicus</i> |
| Coyote | <i>Canis latrans</i> |
| Round-tailed squirrel | <i>Spermophilus tereticauda</i> |
| Pocket mouse | <i>Perognathus hemionus crooki</i> |
| Dove | <i>Scardafella inco</i> |
| Gambels Quail | <i>Lophortyx gambel</i> |
| Cactus Wren | <i>Camphylorhynchus brunneicapillus</i> |
| Harris Hawk | <i>Parabuteo unicinctus</i> |
| Western Diamondback Rattlesnake | <i>Crotalus atrox</i> |
| Greater Roadrunner | <i>Geococcyx californianus</i> |
| Mourning Dove | <i>Zenaida macroura</i> |
| Desert Horned Lizard | <i>Phrynosoma platyhinus calidiarum</i> |
| American Kestrel | <i>Falco sparverius</i> |
| Great Horned Owl | <i>Bubo virginianus</i> |
| Lesser Nighthawk | <i>Chordeiles acutipennis</i> |
| Costs'a Hummingbird | <i>Calypte costae</i> |
| Common Kingsnake | <i>Lampropeltis getula</i> |
| Ground Snake | <i>Sonora semiannulata</i> |
| Lowland Leopard Frog | <i>Rana yavapaiensis</i> |
| Western Banded Gecko | <i>Coleonyx variegatus</i> |
| Collared Lizard | <i>Crotaphytus collaris</i> |
| Western Whiptail Lizard | <i>Cnemidophorus tigris</i> |
| Desert Bighorn Sheep | <i>Ovis canadensis nelsonii</i> |

Riparian Species

| Genus | Species |
|------------------|--------------------------|
| Snowy egret | <i>Egretta thula</i> |
| Great Blue Heron | <i>Arda herodias</i> |
| Beaver | <i>Castor canadensis</i> |



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| | |
|-----------------------|-----------------------------|
| Skunk | <i>Mephitis mephitis</i> |
| Raccoon | <i>Procyon lotor</i> |
| Killdeer | <i>Charadrius vociferus</i> |
| Green Heron | <i>Butorides virescens</i> |
| Red Winged Blackbirds | <i>Agelaius phoeniceus</i> |
| Mallard | <i>Anas platyrhynchos</i> |
| Cinnamon Teal | <i>Anas cyanoptera</i> |
| Belted Kingfisher | <i>Ceryle alcyon</i> |

TABLE 6 – ENDANGERED AND SENSITIVE SPECIES

WILDLIFE

| Genus | Species |
|--------------------------------|---|
| Yuma Clapper Rail | <i>Rallus longirostris yumanensis</i> |
| Southwestern Willow Flycatcher | <i>Empidonax traillii extimus.</i> |
| American Peregrine Falcon | <i>Falco Peregrinus anatum</i> |
| Bald Eagle | <i>Halieetus leucocephalus</i> |
| Lesser Long-nosed Bat | <i>Leptonycteris curasoae yerbabuenae</i> |
| Southern Yellow Bat | <i>Lasiurus ega</i> |
| Sonoran Pronghorn | <i>Antilocapra Americana Sonoriensis</i> |
| Chuckwalla | <i>Sauromalus obesus</i> |
| Sonoran Desert tortoise | <i>Gopherus agassizii</i> |

PLANT LIFE

| | |
|----------------------------|--|
| Arizona Agave | <i>Agave arizonica</i> |
| Arizona Cliffrose | <i>Purshia Subintegra</i> |
| Arizona Hedgehog Cactus | <i>Echinocereus Triglochidiatus Arizonicus</i> |
| Crested or Fan-top Saguaro | <i>Carnegiea gigantea</i> |

ARCHAEOLOGY

Arizona, and especially Maricopa County, has a high concentration of archaeological sites. The State Historic Preservation Office (SHPO) has detailed information on file for site locations and surveys that have been conducted in the planning area. For the protection of the resource, private citizens cannot examine the files. Only members of federal, state, or local government agencies may view the files. If a federal or state agency is involved in a project, that agency should take the lead on consulting with the SHPO to determine if any historic or archeological properties exist in the project area or if a survey would need to be done.

No systematic reconnaissance field survey of the county has been conducted. It is assumed that unreported cultural resources, including historic resources, exist within the study area. The SHPO, in cooperation with federal, state, and other agencies, is developing a statewide electronic database (AZsite) to provide a comprehensive survey of all the historic sites in Arizona.



Prior to development, excavation, or grading, an archaeological/historical review should be completed to determine the full archaeological potential so that preservation precautions can be implemented where necessary.

POLICY IMPLICATIONS:

This section concerning natural resources summarizes the key issues that should be addressed in the development of the Tonopah/Arlington planning area.

A) PHYSICAL CHARACTERISTICS

Approximately 20 percent of the Planning area is covered by soils characterized by slow permeability, which can limit the safe use of septic tanks. The majority of the slopes within the planning area are 0 to 2 percent.

B) HYDROLOGY

The planning area domestic and agricultural water supplies are primarily groundwater. The Tonopah Irrigation District uses some CAP water to supplement their groundwater supplies. Care should be taken to protect local aquifers from overdraft or excessive groundwater harvesting. Without natural recharge or mechanical recharge, land subsidence presents a very real problem. Groundwater contamination may become a problem in the future as development continues.

C) VEGETATION AND WILDLIFE

The Palo Verde Hills and other remote parts of the planning area are largely undisturbed areas of the Palo Verde-Saguaro Community. Any development in these areas should be sensitive to this unique plant habitat. Riparian habitats should be protected from development and left undisturbed.

D) ARCHAEOLOGY

Several archaeological sites are located in the planning area. These sites exist along major drainage ways, such as Four Mile Wash, Centennial Wash, and in the Palo Verde Hills. There is also a light scattering of historic sites in the area. Other washes and hillside areas in the planning area may contain additional sites.

E) HAZARDOUS MATERIALS

NUCLEAR WASTE

The Palo Verde Nuclear Generating Station is the largest nuclear electric generating site in the United States. There are three Combustion Engineering Pressurized Water Reactor units each with an output of 1270 MW. Each unit has two reactor cooling loops, with a two reactor cooling pumps and a single steam generator. Arizona Public Service Company is the operator and co-owns the units with other utility companies from New Mexico, Texas and California. Units 1 and 2 were activated in 1986 and Unit 3 went online in 1988. Palo Verde Nuclear Generating Station produces low-level radioactive waste, spent nuclear fuel, and other high-level radioactive wastes that are stored on site until transported to federal repository sites out of state.

Congress has requirements for disposal of radioactive waste generated within a state's borders. Arizona, California, North Dakota and South Dakota have entered into a compact (the "Southwestern Compact") for the disposal of low-level radioactive waste. California



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will act as the first host state of the Southwestern Compact. Arizona will serve as the second host state. The construction and opening of the California low-level radioactive waste disposal site in Ward Valley has been delayed due to public hearings, environmental issues and technical issues related to the proposed site. Palo Verde is projected to undergo decommissioning during the period in which Arizona will act as host for the Southwestern Compact.

The spent fuel storage facilities at PVNGS have capacity to store all fuel expected to be discharged from normal operation of all three Palo Verde units through at least 1999. Arizona Public Service (APS) is anticipated to request permission from the Nuclear Regulatory Commission (NRC) to use more space in the existing spent fuel storage facilities to extend the available storage capacity into 2003. Alternative on-site storage facilities are currently being constructed to supplement existing facilities.

In accordance with the Nuclear Waste Policy Act of 1982, the Department of Energy (DOE) entered into a spent nuclear fuel contract with the APS and the other Palo Verde participants. In November 1989, the DOE reported that its spent nuclear fuel disposal facilities would not be in operation until 2010. Subsequent judicial decisions required the DOE to start accepting spent nuclear fuel no later than January 31, 1998. The DOE did not meet that deadline, and it can not currently be estimated when spent fuel shipments to the DOE's permanent disposal site will begin. The 1998 decommissioning study assumes that only 14 of 333 spent fuel casks will have been removed from Palo Verde by 2037 when title to the remaining spent fuel is assumed to be transferred to the DOE. In January 1997, the Texas Commission established a project to evaluate what action it should take with regard to payments made to the DOE for funding of their obligation to begin taking spent nuclear fuel by January 31, 1998. After receiving initial comments, no further action has been taken on the project.

In July 1998, APS filed, on behalf of all Palo Verde participants, a Petition for Review with the United States Court of Appeals for the District of Columbia Circuit regarding the DOE's failure to comply with its obligation to begin accepting spent nuclear fuel. APS is continuing, on behalf of the Palo Verde participants, to pursue remedies under the contractual terms in place with the DOE. APS is unable to predict the outcome of this matter at this time.

SUPERFUND SITES

The Environmental Protection Agency (EPA) placed the Hassayampa Landfill on the National Priorities List (NPL), making it eligible for Superfund cleanup. The Hassayampa Landfill Superfund site is located approximately forty miles west of Phoenix and three miles north of Arlington. The Hassayampa Landfill is a portion of a 77-acre County-owned property, in which 47 acres were used for disposal of municipal and domestic solid waste, including a 10-acre former Hazardous Waste Disposal Area located in the northeast section of the landfill. The landfill lies within the drainage area of the ephemeral Hassayampa River, which is located 3/4 mile east of the landfill, but outside of the 100-year floodplain. Several water-bearing geologic units have been identified beneath the site with a general groundwater flow of south-southwest.

About 350 people use private wells for their drinking water, and 2,800 acres of farmland are irrigated by wells within three miles of the site. The nearest residential well is about 1,000 yards south of the hazardous waste area. Residential land use of the landfill property is considered unlikely in the future.



Maricopa County began operating Hassayampa as a municipal landfill beginning in 1961. During a period from April 20, 1979 to October 28, 1980, hazardous wastes were disposed in unlined pits in a ten-acre area in the northeast portion of the landfill. Under an Arizona Department of Health Services (ADHS) program, a wide range of hazardous wastes were approved for disposal at the Hassayampa Landfill, including up to 3.28 million gallons of liquid wastes and 4,150 tons of solid wastes. The landfill pits were subsequently covered with native soil and restored to grade at the end of the eighteen month period. All disposal to the landfill ceased in June, 1997.

In 1981, ADHS constructed three groundwater monitoring wells at the Hassayampa Landfill. Samples collected from these wells were found to be contaminated with volatile organic compounds (VOCs). In 1984, ADHS conducted a site inspection of the Hassayampa Landfill and surrounding area. In response to ADHS findings, EPA proposed adding Hassayampa to the Superfund National Priorities List (NPL) on June 10, 1986.

The EPA and the Arizona Department of Environmental Quality (ADEQ) are working together to clean up this site. The EPA is the lead regulatory agency with technical support being provided by ADEQ.

A second site, Beane and Company, an Agricultural Chemical Plant was considered for listing on the National Priorities List as a State WARF site. The Beane site is located in the general vicinity of the Hassayampa Landfill and is still on file with ADEQ, however it is not an active file and is currently not listed as a NPL site.

UNDERGROUND STORAGE TANKS

Arizona Department of Environmental Quality regulates the use of underground storage tanks (UST). These tanks have the potential for contaminating groundwater and domestic water wells if they should leak. During the last decade, there have been more than 330,000 releases from USTs nationally and more than 8,000 reported in Arizona. A list of USTs located in the Tonopah/Arlington planning area may be obtained from ADEQ.

ECONOMIC CHARACTERISTICS

Economic Characteristics of the Tonopah/Arlington planning area are described in the following sections:

- Population, Age, and Gender
- Economic Characteristics
- Area-wide, Economy/Economic Base
- Economic Base Potential
- Policy Implications

Residential, Commercial and Industrial Demand

The purpose of this section is to give a brief overview of population, economic characteristics, and economic conditions.

POPULATION, AGE, AND GENDER

This section of the *Tonopah/Arlington Area Plan* highlights historic and projected population and housing unit data to the year 2010. Comparative 1985, 1990 and 1995 U.S. Census data is also reviewed for age, and gender for the planning area and Maricopa County populations. Population projections have been derived from the Maricopa



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Association of Governments projections for the planning area. The estimates are based on present and historic census figures. Table 7 and Table 8 show total housing units, and persons per housing unit. During that period, 195 building permits for manufactured and single family housing were issued.

The 346 square mile Tonopah/Arlington planning area includes the unincorporated communities of Tonopah, Wintersburg, Hassayampa, Arlington, and adjacent lands. Population and housing unit projections are for the entire planning area. The future distribution of population in Maricopa County shows that new developments in these unincorporated areas will continue to occur.

In 1970, the population of the Tonopah/Arlington planning area was about 342. From 1970 to 1980, the planning area population increased to 1,971. From 1980 to 1985, the planning area population increased only slightly to 1,974 persons and decreased to 1,792 persons in 1990. The population is projected to reach 2,666 persons by 2000 and 4,878 by 2010. In comparison, Maricopa County's population is projected to increase nearly 2 ½ times from 1990 to 2020. Recently, the Tonopah/Arlington area has been experiencing an increase in residential development. This has occurred mainly with more lot splits and large lot subdivisions. This development is projected to continue as people move further outward from cities and towns. Census 2000 will be undertaken in April 2000 and will provide accurate information on where people reside in the United States and their demographic characteristics. This information will provide a better idea of population trends and growth in Maricopa County.

TABLE 7 – TOTAL RESIDENT HOUSING UNITS

| Area | Census | | | | | |
|--------------------------|---------------|-------------|-------------|-------------|-------------|-------------|
| | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| Tonopah/Arlington | 805 | 862 | 873 | 1,131 | 1,717 | 2,142 |
| Maricopa County | 866,186 | 952,041 | 1,194,944 | 1,398,585 | 1,602,226 | 1,805,867 |

TABLE 8 – PERSONS PER OCCUPIED RESIDENTIAL HOUSING UNIT

| Area | Census | | | | | |
|--------------------------|---------------|-------------|-------------|-------------|-------------|-------------|
| | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 |
| Tonopah/Arlington | 2.45 | 2.10 | 1.99 | 2.36 | 2.30 | 2.28 |
| Maricopa County | 2.12 | 2.23 | 2.10 | 1.93 | 1.86 | 1.81 |

Sources: 1990 U. S. Census Bureau, 1995 U.S. Special Census

In 1985, the planning area had 805 resident households and 2.45 persons per household (Note: A household is a family unit - a housing unit constitutes one dwelling structure and may contain more than one household). In 1990, there were 862 total housing units and approximately 873 units in 1995.

Table 9 indicates that the average age of Tonopah/Arlington residents is somewhat lower than the County's population and that there are more males than females.



TABLE 9 – POPULATION DISTRIBUTION BY AGE AND GENDER (BY PERCENTAGE)

| | <u>Male</u> | <u>Female</u> | <u>Under 5</u> | <u>5-17</u> | <u>18-54</u> | <u>55-85</u> | <u>85+</u> |
|--------------------------|-------------|---------------|----------------|-------------|--------------|--------------|------------|
| Tonopah/Arlington | 56.1 | 43.9 | 8.0 | 25.3 | 48.3 | 17.7 | 0.7 |
| Maricopa County | 50.2 | 49.8 | 7.7 | 19.2 | 53.1 | 14.3 | 5.6 |

Source: 1995 U.S. Special Census

As shown in Table 10, median household income in the planning area is much lower than the comparable County average.

TABLE 10 – HOUSEHOLD INCOME DISTRIBUTION AND MEDIAN INCOME

| <u>Area</u> | <u>Less Than \$10,000- \$15,000- \$30,000- \$40,000- \$60,000</u> | | | | | | <u>Median Income</u> |
|--------------------------|---|---------------|---------------|---------------|---------------|-------------------|----------------------|
| | <u>\$9,999</u> | <u>14,999</u> | <u>29,999</u> | <u>39,999</u> | <u>59,999</u> | <u>& over</u> | |
| Tonopah/Arlington | 21.6% | 14.7% | 25.9% | 12.9% | 15.6% | 9.3% | \$22,529 |
| Maricopa County | 9.6% | 9.2% | 22.8% | 15.0% | 22.3% | 21.1% | \$35,623 |

Source: 1995 U.S. Special Census.

AREA-WIDE, ECONOMY/ECONOMIC BASE

The economic base of this 346 square-mile planning area is modest. The area is characterized by scattered low-density residential development, large undeveloped areas, and other areas of open desert. More than 22% of the planning area is owned by State Land Department, the Bureau of Land Management, or Maricopa County. Most of the businesses in the planning area are retail or service establishments adjacent to I-10 or in the vicinity of Wintersburg Road and the Salome Highway.

PVNGS is located in the planning area’s south central region and plays a major role in the area’s existing and future economic base. There are an estimated 2,800 permanent on-site employees. Approximately 10% of the PVNGS employees live in the planning area.

RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL DEMAND

A) RESIDENTIAL DEMAND

An estimated 2,142 housing units will be needed in the Tonopah/Arlington planning area by the year 2010. The number of housing units in 1995 was approximately 873. Using these figures, and assuming residential development takes place at an average of one dwelling unit per acre, 1,269 acres of residential development will be required during the period from 1995 to 2010.

The following table describes recommended ratios of commercial and industrial acreage based on resident population.



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TABLE 11 RECOMMENDED COMMERCIAL/INDUSTRIAL LAND USE RATIOS

| Land Use | Acres of Land per 1000 people |
|------------|-------------------------------|
| Commercial | 10.5 |
| Retail | 5.5 |
| General | 5.0 |
| Industrial | 8.0 |

Source: Maricopa County Subdivision Regulations—Administrative Guidelines, 1990

B) COMMERCIAL DEMAND

Commercial land use demand is estimated based on the projected resident population increase. As noted there will be a projected 10,538 residents in the planning area by 2020. Presently, about 140 acres of property is zoned commercial and much of that is freeway and not community oriented. (this projection does not include population from the Belmont DMP)

Table 12 describes the projected need for commercial land use to serve the residents in the planning area.

TABLE 12 COMMERCIAL LAND USE NEEDS (BASED ON POPULATION FORECAST)

| Year | 2000 | 2005 | 2010 | 2015 | 2020 |
|----------------------|-------|-------|-------|-------|--------|
| Estimated Population | 2,666 | 3,945 | 4,878 | 6,750 | 10,538 |
| Acres | 28 | 41 | 51 | 71 | 111 |

Acreage estimate based on 10.5 acres of Commercial per 1,000 persons, excluding future Belmont residents.

Source: Maricopa Association of Governments (MAG), Socioeconomic Projections, Interim Report, June 1997

C) INDUSTRIAL DEMAND

Demand for industrial land use is calculated using the same method as for commercial land use. Based on the resident population projection of 4,878 people by the year 2010, an estimated 39 acres of industrial development will be required. This assumes a ratio of 8.00 acres/1,000 people. Approximately 21 acres are zoned industrial at this time. (Not including industrial special use)



NOTES:



INVENTORY AND ANALYSIS

NOTES:



ISSUE IDENTIFICATION

The Issue Identification element of the *Tonopah/Arlington Area Plan* summarizes the major land development issues raised by the residents of Tonopah.

Open house meetings were held at Ruth Fisher Elementary School where residents, business people, property owners, Maricopa County Planning and Zoning Commission members and the Maricopa County Board of Supervisors were invited to comment on the future of the planning area. Prior to each open house, an informational flyer and legal ads were placed in the *Buckeye Valley News* to inform the public of the open house meetings.

Participants at the open houses identified specific issues and ideas they felt should be pursued to resolve the issues. Fifty-two issues were identified in the areas of Land Use, Transportation, Environment, and Economic Development. These issues were listed by the participants in terms of relative importance. Each issue was rated as low, medium or high. Twenty-six of the issues were rated as high in importance. Additionally, focus group sessions were held and these groups provided a more detailed view of community issues.

BACKGROUND

Figure 1 illustrates the land use pattern within the Tonopah/Arlington planning area. Presently, most of the planning area is either vacant or in agricultural use. Some commercial development exists in Tonopah, Wintersburg and at interchanges along I-10. Residential development is scattered throughout the planning area. With the exception of the Palo Verde Nuclear Generating Station, no major industrial development or employment center is located in the planning area.

Tonopah residents attended focus group sessions sponsored by the Arizona Department of Commerce and expressed an interest in maintaining their rural lifestyle, however, many expressed the need for urban amenities and services. It's possible to meet these competing goals by creating urban development in a "node" of approximately one mile in diameter. Water and sewer could be developed to serve the node. Residents identified places for nodes that allow for unique opportunities for various types of development potential and character.

The sessions produced the *Future Direction of Tonopah Community Development Plan*, and discussions with residents and Citizen Steering Committee members during the Area Plan process concurred with that plan. The I-10 Freeway is recognized as a vital link in the development of the planning area. The area is strategically situated within the I-10 growth corridor, and also has direct access through existing and potential freeway interchanges. In fact, the freeway interchanges were identified as the key interface between the freeway and the adjacent land uses.

SUMMARY OF RESIDENT ISSUES

The main issues for each plan element are as follows:

LAND USE

- Maintain a rural lifestyle and attract planned developments to the area
- Improve and expand the existing public utilities and services



ISSUE IDENTIFICATION

TRANSPORTATION

- Improve the existing street network
- Pave roads as is necessary
- Develop a light/general aviation airport

ENVIRONMENT

- Protect the groundwater supply and quality
- Allow fishing along the CAP
- Promote Saddle Mountain as a conservation or special management area
- Promote Saddle Mountain as a recreational area and a regional park

ECONOMIC DEVELOPMENT

- Promote industrial and commercial development

CURRENT ISSUES

LAND USE

Residents in the Tonopah/Arlington planning area who attended open houses expressed concerns and made comments about the Area Plan. The following is a list of their responses:

- Maintain/preserve existing rural lifestyle
- Some landowners in the planning area voiced opposition to the 1 du/ac rural land use designation and wanted 1 du/ 5ac
- Encourage planned residential development and discourage lot splits
- Use reverse-fronting lots on arterial streets adjacent to residential development so direct access to arterial streets from individual driveways is eliminated
- Provide/promote areas for churches
- Reduce requirements for mobile homes and their placement
- Maintain agricultural land use designations
- Define the specific areas within the Tonopah planning area (i.e. Arlington).
- Adequate services should be available for all new development. Existing levels of service should be analyzed to aid in more efficient public facilities.
- Development in the Tonopah/Arlington planning area is affected by PVNGS.
- No open range law
- Locate a high school in the planning area
- Encourage medical facilities to locate in the Tonopah/Arlington area
- Improve traffic enforcement
- Obtain CAP water

TRANSPORTATION

- Improve and add to freeway interchanges
- Increase the number of interchanges and/or access Roads
- Improve Salome Highway
- Improve dirt roads/pave roads
- Acquire dedication of section line roads
- Locate a light/general aviation airport
- Concerns about maintenance and safety of the existing roadways



ENVIRONMENT

- Place air quality monitoring stations in the planning area.
- Promote the preservation of Saddle Mountain
- Protect groundwater quality and quantity
- Allow fishing along CAP canal
- Develop package sewer plant(s) and encourage sewer improvement districts

ECONOMIC DEVELOPMENT

- Encourage commercial development within one mile of freeway interchanges
- Concerned about future use of PVNGS man camp, do not locate prison facilities at the man camp site
- Encourage commercial development/quality
- One-half mile commercial/industrial strip off I-10
- Minimize the number of commercial intersections
- Prohibit linear or strip commercial development along arterial streets
- Encourage industrial development near PVNGS

ISSUE ANALYSIS

FUTURE DEVELOPMENT

The location of future development is dependent on many factors. It is critical to maintain a balance among different types of land uses within the planning area. A large increase in commercial development without a corresponding increase in residential development is inappropriate. Location of new development should relate to the feasibility of providing infrastructure to potential sites, and relationship, to natural features.

During the development of the *Tonopah/Arlington Area Plan*—especially during the focus group sessions—it became apparent that emerging issues in the planning area are minor land division (lot splits) and large lot, ranchette subdivisions.

The planning area is experiencing significant scattered residential growth from minor land divisions. Arizona (ARS 11-809) permits parcels to be subdivided up to five (5) times by one individual (not acting in concert with another). Lot splitting often results in the creation of scattered residential communities without proper access, roads, sewers, water, or community services. Continued minor land divisions threatens rural lifestyle and natural habitats. In many cases lot splits have had and will continue to have major impacts on land, washes, aquifers, wildlife and other components of the environment if not managed. A number of large lot subdivisions (**Figure 13**) have been developed in the planning area over the past decade. These subdivisions are characterized by lot sizes greater than 36 acres (ranchettes), little or no infrastructure improvements, and they cover large portions of undeveloped desert. More than 30 square miles of the planning area is divided into this type of subdivision. These subdivisions are not regulated by the County subdivision process due to state regulations. While many of the ranchettes will remain large and unsubdivided, in the future they may be developed as residential subdivisions, or be developed through lot splitting.



ISSUE IDENTIFICATION

TRANSPORTATION ISSUES

Transportation issues in the Tonopah/Arlington area have been raised through meetings and public questionnaires. These issues include:

- Improved access to the interstate provided by ADOT
- Residents would like their dirt roads paved
- Existing road could use more maintenance
- Residents feel that there are more accidents than before

Tonopah is a relatively undeveloped area with low-density development, and rural lifestyle. Traffic demand is currently very low, which limits the likelihood of projects being funded out of the County TIP. Maricopa County only maintains roads that are declared and accepted into the County System. State statute provides clear guidance to counties concerning which roads can and should be within their systems. Those roads that Maricopa County already has in its system will continue to receive regular maintenance and improvement when it is the right time (refer to *Eye to the Future 2020*, the Maricopa County Comprehensive Plan). The desire for additional roads in the area will only come as the result of development in the future. Minor roadway improvements (paving dirt roads) in the Tonopah area will most likely come in the form of improvement districts. Improvements to the existing one-mile grid roads will only happen as future growth in the area warrants these improvements.

ECONOMIC DEVELOPMENT

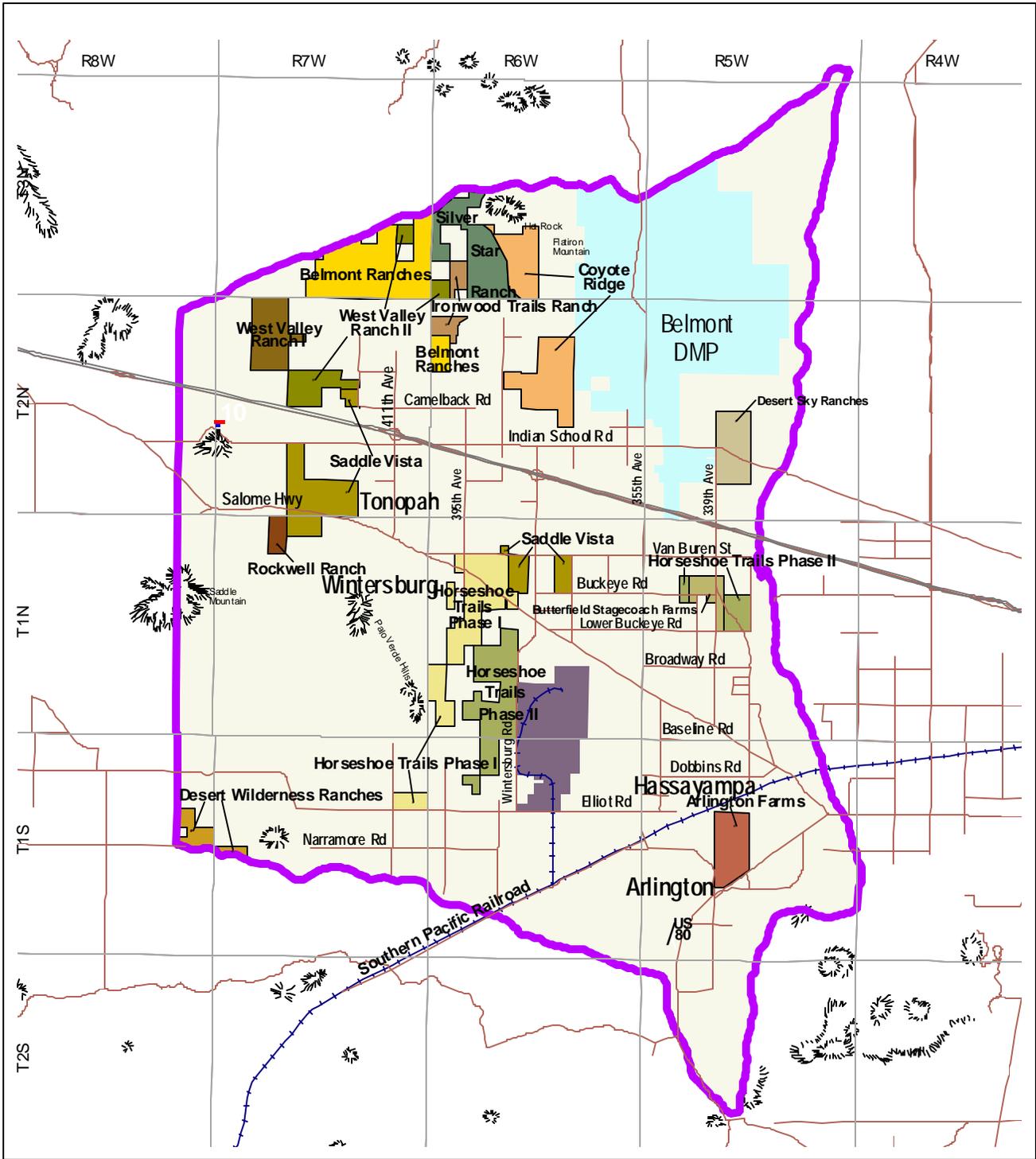
Although Maricopa County is not actively involved in economic development programs, this section outlines economic development issues identified at the start of the planning process. The following is an analysis of the area's potential for economic development.

The Tonopah/Arlington planning area has good east-west transportation access on I-10. This corridor provides the most long-term potential for economic growth in the planning area. New businesses locating along I-10 would increase employment opportunities for the surrounding community.

A large portion of the planning area suffers a lack of improved roads and streets. In the next few years, there will be a continuing rise in residential development. Due in part to its distance from the more urbanized parts of the County, the Tonopah/Arlington planning area is expected to experience a more modest rise in residential growth compared to other portions of the County. Merchant power plants may contribute to some expansion of residential and commercial growth in the area as these plants are developed.

The Tonopah/Arlington area's current economic base consists of various agricultural activities, a small number of retail and service operations, retirees, and the PVNGS. The scattered character of these activities leaves the planning area without an established identity. Even with a clear identity and a solid community development effort, the planning area may have trouble attracting certain types of business.

On May 16, 1998, the Arizona Department of Commerce conducted an Economic Development seminar with residents of the planning area in an attempt to improve the economic health of the community. The purpose of the seminar was to give local residents an introduction to economic development principles. The seminar also allowed them the opportunity to develop strategies to guide the decision-making process for future economic development in area.



Legend

-  Palo Verde NGS
-  Belmont DMP
-  Freeway
-  Arterials
-  Railroad
-  Area Plan Boundary

**Large Lot Subdivisions
Figure 13**





During the five-hour seminar, participants were asked their expectations for the community. The following expectations were identified:

- A change is needed in the community and residents wanted a say in that change
- The location of the planning area may cause growth
- They want to maintain their rural lifestyle and improve the school system
- Residents recognized infrastructure needs and deficiencies
- New job opportunities are needed
- Balanced economic growth is important
- Private investment in the community should be encouraged
- BLM land exchanges may add form to the community, the County should partner with BLM

The residents found that before a community can successfully create jobs, support or attract private investments, or expand the local tax base, that it must focus on its strengths and transform its weaknesses. Additionally, it must identify benefits and costs to economic development.

Participants identified the following costs and benefits:

TABLE 13— BENEFIT/COST ANALYSIS

| Benefit | COST |
|---|----------------------|
| Plan with County | Loss of Lifestyle |
| Developed background with County | More pollution |
| Organized Community Council | Increased traffic |
| Increased Jobs | Increased crime |
| Improved Police/Sheriff protection | Too much growth |
| More growth | Closer to metro area |
| Close to fastest growing area in County | Increased taxes |
| School – need for High School | |
| Increased tax base | |

Source: Introduction to Economic Development, Tonopah, 1998, Arizona Department of Commerce.

Community participants identified the following assets and barriers to help make better economic development decisions in the future. Participants determined that all barriers could be corrected within the next ten years.

TABLE 14— ASSETS AND BARRIERS

| ASSETS | BARRIERS |
|--|---------------------------------|
| Transportation I-8, I-10 | Nuclear Plant (PVNGS) |
| Location of Southern Pacific Railway | Undeveloped land |
| Nuclear Plant (PVNGS) | No high school |
| Central Arizona Project | Level of fluoride in water |
| Inexpensive land available | Lack of medical facilities |
| School – No High School, independent school district | Lack of community solidarity |
| Geothermal water | Identity and location |
| Pristine environment | Image |
| Nearness to the Phoenix metro area | Appearance |
| Availability of water | Lack of community library |
| Nearby recreation and hunting | Need for multi-purpose facility |
| | Apathy (welfare attitude) |

Source: Introduction to Economic Development, Tonopah, 1998, Arizona Department of Commerce.



ISSUE IDENTIFICATION

Based on a scenario of improving economic opportunities in the Tonopah/Arlington area, and working within the set of goals outlined by the community, the following types of economic activities may hold some potential for the planning area:

TOURISM AND RETIREMENT

This sector can leverage off Tonopah/Arlington's desert environment, easy freeway access, RV facilities and natural hot "springs". Due to the rural nature of the area and low congestion, retirees appear to be a strong possibility. Both activities would expand the economic base of the planning area.

However, in spite of the impressive natural environment and two protected wilderness area there are significant obstacles and implications associated with these kinds of development. First, PVNGS will have a negative impact on the marketing of the Tonopah/Arlington area, especially for ecotourism. Although the hot water wells could possibly offset this impact, their development as recreational uses would require significant investment. Promoting the area for retirement development may be a problem until medical services are more readily available. The tourist and retirement industries do not typically offer the type of higher paying jobs residents desire.

RETAIL AND SERVICE ACTIVITIES

Tonopah/Arlington's location relative to I-10 appears to provide long term potential for growth in the retail and service industry due to its potential for future residential development. However, this type of development will require substantial improvements in infrastructure, such as expanded water and sewer services, in addition to adequate police and fire protection services.

Retail and service development will have difficulty competing with the broader range of goods and services available in the Phoenix metro area. Ultimately, the distance to the metro area will encourage local trade. This type of development shares one negative implication with tourism and retirement in that many of the new jobs created will have lower pay than residents desire.

Distribution and Industrial

In the long term, Tonopah/Arlington appears to be a prime area for industrial development, including distribution and light manufacturing. The proximity to the I-10 Freeway and its access to a large regional market-particularly Southern California-and the low cost of land. Jobs resulting from these activities would produce higher paying jobs than those created by retail and service industry. Energy deregulation makes the area attractive for locating merchant power plants due to the large amount of available land, the location of PVNGS, the proximity of the southwestern electrical grid, and the availability of natural gas. Impediments to this type of development are many, although most can be overcome. In addition to requiring similar levels of services as most service and retail development, these operations will be concerned about the availability of a quality workforce. The large workforce at PVNGS demonstrates that importing skilled workers to the area can be accomplished. However, a first step to taking advantage of this type of development will be to offer a wider range of residential development, thereby encouraging more workers to live in the area.



DMP

The Belmont Development Master Plan was adopted on May 23, 1991 and may be beneficial to economic growth in the Tonopah/Arlington area. The original DMP provided for 3,293 acres of industrial and commercial land uses and consisted of six villages with varying types of residential development, open space, and equestrian trails. As the Belmont DMP develops, this commercial and industrial growth will play a more important role in the economic base of the Tonopah/Arlington region.

The Tonopah/Arlington area currently offers potential commercial and industrial locations, rural lifestyle, natural resources, and inexpensive raw land. However, extensive infrastructure investments are needed, the local labor force must expand, and human services need improvement. Compared to other Valley communities, the Tonopah/Arlington area is not positioned to be a major player in economic development at this time.

An organized community effort and an active program of economic development, could help to create opportunities. This could include several factors such as creating a plan focusing on development in the area, creating road, water, and sewer districts, and a single community organization to enact the development plan.

The following describes the potential character economic development of specific nodes within the planning area:

TONOPAH INTERCHANGE (411TH AVENUE)

This node was identified as favoring commercial uses, tourism, and retirement, keying off the existing hot mineral wells and light commercial. Existing businesses and key services include the Tonopah Post Office, Tonopah Joe's and Alice Truck Stop/Restaurant, Woody's Chevron/Mini Mart, Minute Mart/Texaco, Carillo Tire Service, Saguaro Hot Mineral Wells, Westward Motel, El Dorado Hot Springs, and Saddle Mountain Rv Park and Stockbridge Ranch Land Sales.

WINTERSBURG INTERCHANGE (379TH AVENUE)

The Wintersburg interchange node favors housing development north of the freeway, keying off Ruth Fisher School, Valley Baptist Church, and light industrial and manufacturing south along Wintersburg Road, near the Palo Verde Nuclear Generating Station (PVNGS).

THE 339TH AVENUE INTERCHANGE

This node favors commercial, warehousing and distribution, focusing on the trucking related facilities of the Rip Griffin Truck Service Center.

WICKENBURG INTERCHANGE (355TH AVENUE)

Potential interchanges at either 347th or Wickenburg Road would provide for residential development and access to the Belmont DMP.

ENERGY DEREGULATION

Deregulation is a shift in the control of electricity generators from government to consumers. A competitive environment is created when the market responds to demand and not just regulatory ruling. Without the structure of regulation, utilities have less government oversight and must compete for customers. In the end, consumers benefit with lower electricity prices and a choice of where they buy their power.



ISSUE IDENTIFICATION

The Arizona Corporation Commission (ACC) passed the Retail Electric Competition Rule on December 26, 1996. This Rule (since amended) makes changes to electrical monopolies in place for more than eighty years and serving Arizona's residential, commercial and industrial users.

The Rule:

1. Authorizes phased retail competition giving consumers a choice of electrical utility providers. All customers will be able to pick their provider by January 1, 2001.
2. Recognizes that competition will replace regulation to determine the cost of electrical generation to the user.
3. Encourages innovation and new business opportunities to develop in buying, selling or brokering electricity for individual customers or customer groups.
4. Allows utilities to recover their transition ("stranded") costs from ratepayers. Stranded costs are expenses utilities are required to pay, or investments they made but are not yet repaid by electricity rates.
5. Provides funds for the continuation of public programs such as energy conservation, public assistance, and consumer education.
6. Allows customers to continue service from their existing utility if they do not choose to be served by a new merchant electrical provider.

In the old market structure, investor-owned utilities-such as APS, Tucson Electric Power, and Citizens Utilities-had franchisee areas where they had exclusive rights to provide electric service. All aspects of their businesses were regulated by the government in exchange for this right. Standards for electric providers were set by the ACC. The Commission authorized utility investment in new facilities such as power plants, transmission lines or other necessary equipment. The ACC also set the rates that customers pay to the providers for their electric service.

After deregulation, the ACC sets service standards and regulates some of the competitive electricity market, but much of the old structure will change. The Rule essentially treats the major private utilities as if they had four distinct functions:

- Generation of electricity-deregulated
- Transmission of electricity by transmission lines-regulated
- Distribution of electricity and customer service-regulated
- Metering and billing for electricity-regulated

Before deregulation, these functions were performed by one utility company in a defined service area subject to regulatory oversight by the ACC. After deregulation, these functions are done by the existing utility company, partly through new competitive businesses, and possibly by new regulated entities. The final goal is to achieve an industry where the free market influences price and efficiency without disrupting reliability and safety.

DEREGULATION AND WESTERN MARICOPA COUNTY

The first effects of deregulation are being encountered in the area surrounding the Palo Verde Nuclear Generating Station (PVNGS). This area offers many opportunities for energy companies seeking to locate "merchant" power plants near a major electrical switching area in the western energy grid. Merchant plants sell power on the wholesale market. Existing



energy infrastructure provides a strong attraction for energy service providers (ESPs) seeking locations for new power plants in western Maricopa County.

ESPs have chosen Maricopa County to build merchant power plants for many reasons. The primary reason is PVNGS. It is the largest nuclear generating facility in the world and has perhaps the second largest switching facilities in the western U.S. Utility companies investing in new power plants are no longer solely Arizona energy providers. Deregulation allows existing utilities from other regions of the country to locate in Maricopa County and "plug" into the existing power infrastructure.

Another byproduct of deregulation is the independent affiliate. New West Energy and Pinnacle West Energy are "spin-off" companies from Salt River Project (SRP) and Arizona Public Service (APS). They have entered the competitive merchant ESP market with national companies such as PG&E Generating, Duke Energy, Sempra Energy and Panda Energy.

The most common type of merchant power plant built is the combined cycle gas-fired facility. Natural Gas is used as an energy source for gas turbines to generate electrical energy. These plants produce significantly less air pollution than other fossil fuel-based plants. They create heat as a by-product, which in turn is used to generate additional electrical energy by creating steam which drives a steam generator. The life expectancy of a combined cycle plant is approximately 30 to 50 years.

The El Paso Natural Gas Company pipeline crosses Maricopa County just to the south of PVNGS. This is the largest pipeline in their system and can serve major industrial users. The pipeline has the capacity to serve many new industrial users without requiring significant changes in the existing system.

Combined cycle gas fired facilities require large amounts of water for steam generation and for cooling. A typical 2,000 megawatt (MW) plant would require on the order of 10,000 acre feet of water per year for normal operations. This water can come from wells, treated effluent, irrigation districts, CAP allotments, or municipal water supplies.

Much of the land surrounding PVNGS is either active or retired farmland. These properties are large and unsubdivided. There are also a number of large tracts of State Trust Land in the area. ESPs have purchased large tracts of land seeking the grandfathered water rights associated with the former farms.

ISSUES

The following are issues related to energy deregulation:

■ WATER USE

Natural gas, combined cycle plants use large quantities of water for steam generation and cooling. A single 2,000 MW plant would use the same amount of water that is needed to 10,000 to 12,000 homes. In comparison, according to the Department of Water Resources, in 1995 all the electrical power plants in Maricopa County used a total of approximately 3,832 acre feet of ground water. The area surrounding PVNGS has two primary sources of water. Treated effluent surplus from PVNGS or groundwater. Pinnacle West has proposed a combined cycle plant would use surplus treated effluent allotment from PVNGS. Some merchant plants have purchased large tracts of land to obtain the grandfathered irrigation rights associated with the land. The impact of the



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activation of these rights on the water table in the area has not been thoroughly quantified.

- **EVAPORATION PONDS**

Water is cycled through the generating plants up to 15 times. At the end of the cycle, the level of dissolved solids in the water rises above the usable range. The water is then removed from the system and placed in evaporation ponds to remove the solids. Depending on the size of the facility, the required pond require hundreds of acres. These ponds have an increased alkalinity, which may present a problem for migrating waterfowl, and may affect the underlying hydrology. Some plants may mechanically, rather than passively, evaporate their water using a Zero Discharge System. This method reduces the total water required for cooling by approximately 10 percent.

- **LARGE TRACTS OF VACANT DESERT**

With an ESP using the grandfathered water rights, the land can no longer be used for agricultural production nor can it have any use that requires water, such as industrial or residential development. While the actual power plant requires only a small amount of the land, the remainder of the property will remain fallow.

- **INCREASED TRANSMISSION LINES/SWITCHBOARDS**

With more power plants being built, there will be an associated rise in the number and length of transmission lines. These connections are needed to transmit the power from the deregulated ESP to the regulated transmission lines and grid. There is also a need for a new and larger switching yard. According to SRP, who is responsible for providing the new plants (called interconnectors) access to the regional power grid, at present there is room at the switching yard at PVNGS for three additional interconnectors. A new yard will need to be built if there will be four or more interconnectors. Under the rules of deregulation, SRP is required to provide connections to everyone, but the switching facility is to be paid for by the interconnectors.

- **CONSTRUCTION**

These projects will employ hundreds of workers construction and are more than sixty miles from Phoenix. Little if any housing or services are available for these workers in the project area. Construction of a number of plants may seriously affect air quality both from the commuting workers and from on-site dust.

- **EMPLOYMENT AND HOUSING**

The power plants will provide a limited number of high quality employment opportunities and may include job training. The question is how many of the proposed positions will be available for the local job market? Many employees will be transferred to these projects. These projects will affect the surrounding community but there remains a lack of housing (temporary and permanent) and services for these workers.



- **INCREASED TRAFFIC AND LONG COMMUTES**

The plants will have material deliveries both during construction and normal operation. How these deliveries will be handled, their schedules, and their impacts are in question. How employees will work at the project and still achieve an appropriate balance of automobile use is an issue the area must face. Alternatives to a number of single occupant vehicles (SOV) commuting 60 miles (one-way) to the project should be considered. Van pooling or some similar type of alternative transportation should be sought.



ISSUE IDENTIFICATION

NOTES:



PLAN ELEMENTS

GOALS, OBJECTIVES, AND POLICIES

The Comprehensive Plan goals, objectives, and policies evolved from existing county goals, goals of municipalities within Maricopa County, and lengthy discussions at public meetings, focus groups and partnering meetings. The formulation of a realistic and implementable plan for the Tonopah/Arlington planning area is based on a set of comprehensive goals, objectives, and policies. These objectives and policies are intended to augment the Comprehensive Plan and reflect citizen concerns in the Tonopah/Arlington planning area. The Area Plan elements are presented in four subject areas:

- Land Use
- Transportation
- Environmental
- Economic Development

The following are generalized definitions that should be referred to as a guide when reading this chapter of the ***Tonopah/Arlington Area Plan***.

A **goal** is a concise statement describing a condition to be achieved. It does not suggest specific actions, but describes a desired outcome.

An **objective** is an achievable step toward the goal. Progress towards an objective can be measured and is generally time dependant.

A **policy** is a specific statement to guide decision-making. It is derived from the goals and objectives of the plan.

LAND USE

GOALS, OBJECTIVES AND POLICIES

The following goals, objectives, and policies have been developed to accomplish specific policies of the land use component of the ***Tonopah/Arlington Area Plan***.

The goal of the land use element is to:

Promote efficient land development that is compatible with adjacent land uses, is well integrated with the transportation system, and is sensitive to the natural environment.

Within this goal, the following objectives and policies apply:

Tonopah/Arlington Objective L.1

- a. Create orderly, efficient, and functional development patterns.
- b. Create high quality residential, commercial, and industrial land developments that are compatible with adjacent land uses.

Policy L1.1 Residential development at one (1) unit per acre or greater intensities are to be directed toward urbanizing portions of the County.

Policy L1.2 Residential development exceeding one dwelling unit per acre shall be permitted only in areas designated as mixed use or in approved development master plans.



PLAN ELEMENTS

- Policy L1.3** Encourage land developers to cooperate with residents, and homeowner's associations during any development review process for construction near the property holdings of those residents and homeowner's associations.
- Policy L1.4** Encourage the location of rural density residential development (less than one dwelling unit per acre) where natural environmental conditions suggest low intensity development.
- Policy L1.5** Review development proposals along major streets and adjacent to existing and approved land uses to determine compatibility with those uses.
- Policy L1.6** Discourage the location of commercial or industrial developments in locations specified for development with rural density land uses.
- Policy L1.7** Encourage light industrial development in the vicinity of the Palo Verde Nuclear Generating Station.
- Policy L 1.8** Encourage preservation of existing agricultural land.
- Policy L 1.9** Consider the impacts of development applications that have an effect on population, housing and land use projections, and document these effects in the approved plan.
- Policy L 1.10** Discourage the construction of dirt roads caused by unplanned lot splitting.

TONOPAH/ARLINGTON OBJECTIVE L.2

Provide for a functional, efficient and cost effective system of utilities, facilities and services to serve county population and employment centers.

- Policy L2.1** Permit residential developments that exceed one dwelling unit per acre only if they have community water and sanitary sewer systems provided.
- Policy L2.2** Where possible and appropriate, in the design and construction of new development, preserve natural drainage ways, including the Hassayampa River, major washes, and open space corridors.
- Policy L2.3** Encourage the inclusion of private open space and recreational opportunities to meet the needs of occupants in subdivisions and development master plans.
- Policy L2.4** Support public agency coordination to provide a balanced system of recreational opportunities in the County.
- Policy L2.5** Continue to establish and maintain a system of regional park and recreational facilities to serve the residents of the County.

TONOPAH/ARLINGTON OBJECTIVE L.3

- a. Provide sufficient public services for intensity of land use.
- b. Minimize conflicts between urban and rural land uses.

- Policy L3.1** New urban land use development shall be in accordance with the Tonopah/ Arlington Area Plan and respective land use categories.
- Policy L3.2** New urban development shall 1) supply evidence of adequate supply of potable water, and 2) provide for public wastewater treatment.
- Policy L3.3** New urban zoning shall be within one mile of existing urban development.



- Policy L3.4** New urban development shall identify sites for parks and schools. Developments outside the General Plan Development Area may be required to provide additional urban services that include police, fire, schools, parks and libraries as necessary.
- Policy L3.5** New urban development (residential and commercial) shall provide evidence of adequate fire protection prior to rezoning. The following standards apply:
- a) Four (4) minute response time
 - b) 500 gallons per minute pressure rating
 - c) Minimum two (2) engines able to respond
- Policy L3.6:** New urban development shall have access to a four (4) lane improved arterial road (110-foot right-of-way).

TRANSPORTATION

GOALS, OBJECTIVES AND POLICIES

The following goals and policies were developed for the Tonopah/Arlington Area Plan. They fall into three broad categories: roadway planning, non-motorized travelways, and natural and cultural resource protection. Further development in the Tonopah/Arlington transportation system shall adhere to these goals and policies. These goals were developed from review of prior plans including the *Tonopah Land Use Plan* (1992), and the *County Wide Comprehensive Plan Goals, Policies, and Standards* (1997). Public comments and a survey of area households conducted in 1997 supplemented these. The following outlines the specific goals, objectives, and policies.

The goal of the transportation element is to:

Provide an efficient, cost-effective, integrated, accessible, environmentally sensitive, and safe countywide multi-modal system that addresses existing and future roadway networks, as well as promotes transit, bikeways, and pedestrian travel.

With this goal the following objectives and policies apply:

TONOPAH/ARLINGTON OBJECTIVE T.1

Establish a circulation system that provides for the safe, convenient and efficient movement of goods and people throughout Maricopa County.

- Policy T1.1** Maintain Level of Service C or better on all County-owned roadways and intersections.
- Policy T1.2** Encourage and support the development of safe efficient alternate mode facilities and service in the Tonopah area including bicycles, pedestrians and transit as appropriate
- Policy T1.3** Support the continued maintenance of existing roadways to provide safe and long lasting travelways in the Tonopah area.
- Policy T1.4** Support efforts to provide all-weather travel over washes where justified.
- Policy T1.5** Encourage the Arizona Department of Transportation to improve interstate access at the appropriate time.



PLAN ELEMENTS

- Policy T1.6** Where appropriate, support efforts to obtain land dedication for roadways during rezoning and subdivision processes.
- Policy T1.7** Development applications should require the continuation of the arterial street system based upon existing grid based system. Deviation can be made, but must be accompanied by documentation that the proposed alternative is superior.
- Policy T1.8** Encourage landowners to form improvement districts as a mechanism to pave dirt roads.

ENVIRONMENT

GOALS, OBJECTIVES, AND POLICIES

There are four general conditions within Maricopa County which deserve consideration of the application of environmental protection measures. These include floodplains and drainage ways, mountainsides where slopes exceed 15 percent and areas within the Palo Verde-Saguaro Community. Floodplains and drainage ways require protection or restrictive development standards to minimize destruction of property during periods of flooding. Areas with slopes greater than 15 percent should be subjected to minimal development due to the potentially destructive nature of cut and fill operations that are often necessary for providing property access and building pads.

Major drainage ways, with designated floodplains have been designated as open space corridors. Where appropriate, other drainage ways may also be established as open space, but in any case, provisions for continued drainage should be maintained. Where possible, open space corridors are encouraged to function as walkways or bicycle and equestrian trails as well as drainage corridors.

The Palo Verde-Saguaro Community represents the stereotypical desert environment and the natural beauty associated with arid landscapes. Although development can be compatible with Palo Verde-Saguaro Communities, it must usually be maintained at relatively low densities (not greater than 2.0 du/acre), and sensitively designed so that the image of the Palo Verde-Saguaro Community is retained.

In many instances within Maricopa County the Palo Verde-Saguaro Community exists in or near areas of steep slopes. Therefore, development restraints that are intended for either steep slope or Palo Verde-Saguaro Communities will be mutually compatible.

Two environmental goals have been established through the comprehensive planning process for Maricopa County to specifically address the natural and human environment:

Goal 1: Promote development that considers adverse environmental impacts on the natural and cultural environment, preserves highly valued open space, and remediates areas contaminated with hazardous materials.

Goal 2: Improve air quality and reduce noise impacts.

With these goals the following objectives and polices apply to the Tonopah/Arlington planning area:



TONOPAH/ARLINGTON OBJECTIVE 1

Encourage developments that are compatible with natural environmental features and which do not lead to their destruction.

- Policy E1.1** In order to minimize adverse impacts of hillside development, the submittal of land development applications on lands with slopes of 15 percent or greater should be discouraged.
- Policy E1.2** Encourage land uses and development designs that are compatible with environmentally sensitive areas such as parks, open space, floodplains, hillsides, wildlife habitat, scenic areas, and unstable geologic and soil conditions.
- Policy E1.3** Encourage compatible land use relationships with sources of excessive noise.
- Policy E1.4** Encourage the preservation of the scenic quality of the Tonopah Mountains, Saddle Mountain, Flatiron Mountain, and Palo Verde Hills.
- Policy E1.5** Encourage land uses and development designs that are compatible with soil conditions which have severe development constraints such as within the Cherioni Rock outcrop area located in the southwestern portion of the planning area, the Casa Grande Harqua located in the southeast portion of the planning area, and the Carrizo-Brios and Carrizo associates which are located along the eastern edge of the planning area.
- Policy E1.6** Support the Bureau of Land Management in their efforts to designate Saddle Mountain as a special management area.

TONOPAH/ARLINGTON OBJECTIVE 2

Protect and preserve existing water resources and minimize flood hazards.

- Policy E2.1** Support Flood Control District policies, drainage regulations, and floodplain regulations for all development within the County.
- Policy E2.2** Encourage cooperation with the Flood Control District to minimize land development conflicts and achieve compatibility with the development and implementation of Area Drainage Master Plan Studies and other relevant investigations.
- Policy E2.3** Discourage the location of structures that would alter current storm water drainage patterns and which would increase water ponding and sheetflow in areas of extremely flat land and areas currently susceptible to sheetflow.
- Policy E2.4** Limit the location of land uses, which rely on direct extraction of groundwater to where subsidence is neither an existing condition nor is projected to occur in the future.
- Policy E2.5** Encourage developments that maximize recharge of groundwater supplies and utilize treated wastewater for water amenities and irrigation.
- Policy E2.6** Encourage the use of drought tolerant and low water consumptive landscape materials.

TONOPAH/ARLINGTON OBJECTIVE 3

Preserve existing habitat areas of wildlife and/or desert plant species.



PLAN ELEMENTS

- Policy E3.1** Encourage the protection of threatened and endangered species.
- Policy E3.2** Support preservation practices in the Palo Verde-Saguaro Community.
- Policy E3.3** Encourage the use of replacement vegetation that is primarily indigenous to the Palo Verde-Saguaro Community for land developments which disturb that community.
- Policy E3.4** Recognize the unique character of the Palo Verde Hills and encourage desert preservation practices when reviewing proposed land use changes that may affect them.
- Policy E3.5** Encourage the preservation and/or restoration of riparian habitats.

TONOPAH/ARLINGTON OBJECTIVE 4

Protect historical and archaeological resources.

- Policy E4.1** Prior to development, excavation, or grading, require that an applicant submit a letter from the Arizona State Historical Preservation Office stating that the proposed land development will have no effect on historical and cultural resources.

TONOPAH/ARLINGTON OBJECTIVE 5

Support Maricopa County efforts to reduce PM-10.

- Policy E5.1** Encourage the reduction of unpaved roads.

ECONOMIC DEVELOPMENT

GOALS, OBJECTIVES, AND POLICIES

The goal of the economic development element is to:

Promote a growing, balanced, efficient, and diversified economy, consistent with available resources, that enhances quality employment opportunities, improves quality of life, and is sensitive to the natural and cultural environment.

TONOPAH/ARLINGTON OBJECTIVE 1

Permit major commercial and job employment centers where the labor force and infrastructure exist or are planned.

- Policy ED1.1** Encourage commercial development only when its demand can be justified and with the provision that construction will be completed on the proposed facilities within a specified time period.
- Policy ED1.2** Encourage commercial development in areas currently zoned for such activity and in areas that are a portion of a large scale or planned development.
- Policy ED1.3** Discourage strip commercial development.
- Policy ED1.4** Encourage commercial development adjacent to designated I-10 interchanges.
- Policy ED1.5** Encourage mixed use development at the I-10 Interchange at Tonopah Road (411th Avenue).



- Policy ED1.6** Require that existing recreational vehicle/mobile home parks be fully constructed prior to the approval of new ones. Require a market study that clearly demonstrates the need and market for additional recreational vehicle/mobile home parks prior to approval of new parks.
- Policy ED1.7** Require that future industrial and commercial development be adequately screened from public view.
- Policy ED1.8** Encourage industrial development on property zoned industrial prior to rezoning of additional property for industrial use.
- Policy ED1.9** Encourage low intensity industrial development in the area designated industrial north of the Palo Verde Nuclear Generating Station.
- Policy ED1.10** Encourage energy production industrial contributions to occur within their surrounding community.
- Policy ED1.11** Encourage the construction of a high school in the Tonopah/Arlington planning area at such time that student population will support its existence.

TONOPAH/ARLINGTON OBJECTIVE 2

In developments with densities greater than one dwelling unit per acre create a land use environment that generates a diversified economic base which fosters varied employment opportunities, and encourages business formation and expansion.

- Policy ED2.1** In the review of development master plan applications where the application will greatly effect current population, housing, and land use projections and distribution, the impacts of the application must be thoroughly considered and the effects on the current plan noted.



PLAN ELEMENTS

NOTES:



Action Plan

PURPOSE

Eye to the Future 2020, the Maricopa County Comprehensive Plan seeks to promote vibrant communities by encouraging growth in areas suitable for development, an efficient transportation system, a healthy environment, and a diversified economy. The **Tonopah/Arlington Area Plan** is intended to reflect the character of the Tonopah/Arlington planning area. The Action Plan identifies short- and long-term measures that can be undertaken to implement the objectives and policies in the Area Plan. The table is organized as follows:

Action Lists the actions necessary to carry out the vision of the **Tonopah/Arlington Area Plan**.

Description: Describes process for resolution of issue.

Elements Involved: Lists the elements of the Tonopah/Arlington Area Plan involved in the action.

Department/Agency: The county departments and/or partnering agencies involved in plan implementation are identified as follows:

| | |
|-------------------|---|
| MCP&DD | Maricopa County Planning and Development Department |
| MCDOT | Maricopa County Department of Transportation |
| MCCDD | Maricopa County Community Development Department |
| MCESD | Maricopa County Environmental Services Department |
| MCFCF | Maricopa County Flood Control District |

TABLE 15 – ACTION PLAN

| Action | Description | Elements Involved | Department Agency |
|------------------------------|---|----------------------------|--|
| Development Issues | Resolve small lot split issues in Tonopah/Arlington area | Land Use Transportation | MCP&DD MCDOT Buckeye BLM State Land Dept. |
| Open Space Management | Develop method to protect open space and protect natural areas | Land Use Environment | Citizens MCP&DD MCFCF State Land Dept. BLM Dev. Community |
| Saddle Mountain Preservation | Form a local and regional committee to preserve areas including Saddle Mountain | Land Use Environment | Citizens MCP&DD MC Parks Dept. MCFCF State Land Dept. BLM Dev. Community |
| Update Area Plan | Begin Update process to update Tonopah/Arlington AP | All | All |



AMENDING THE PLAN

AMENDMENTS TO THE AREA PLAN

An amendment to this adopted plan may be filed with or without a rezoning request or Development Master Plan application. According to the Arizona Revised Statutes, §11-829(A), all applications for changes of zoning district boundaries must be in compliance with the County's Comprehensive Plan and/or adopted Area Plan.

Amendments to the plan should never be allowed to occur in a haphazard manner. Amendments should only occur after careful review of the request, an evaluation in support of the revision, and a public hearing. The statutory requirements which guided the adoption of the "Area Plan" will be followed for all amendments as they pertain to public hearings and notification. The term amendment will apply to both text and map revisions.

The proposed amendment will be evaluated based on the following:

1. Whether the amendment constitutes an overall improvement to the "Area Plan" and is not solely for the good or benefit of a particular landowner or owners at a particular point in time.
2. Whether the amendment will adversely impact all or a portion of the planning area by:
 - a) Altering acceptable land use patterns to the detriment of the plan.
 - b) Requiring public expenditures for larger and more expensive public improvements to roads, sewer, or water systems than are needed to support the planned land uses.
 - c) Adversely impacting existing uses because of increased traffic.
 - d) Affecting the livability of the area or the health and safety of present and future residents.
 - e) Adversely impacting the natural environment or scenic quality of the area in contradiction to the plan.
3. Whether the amendment is consistent with the overall intent of this "Area Plan."
4. The extent to which the amendment is consistent with the specific goals and policies contained within the plan.

Amendments to the area plan may be initiated by the County or may be requested by private individuals or agencies. It shall be the burden of the party requesting the amendment to prove that the change constitutes an improvement to the plan. Conversely, it shall not be the burden of the County to prove that an amendment should be denied.



Appendix

APPENDIX A – GLOSSARY OF TERMS

Alluvial: A general term for the sediments laid down in river beds, floodplains, lakes, fans at the foot of the mountain slopes, and estuaries during relatively recent geologic times.

Annexation: To incorporate an area/territory into a city, service district, etc.

Area Plan: Plans adopted by Maricopa County for specific subareas of the unincorporated County. These plans provide basic information on the natural features, resources and physical constraints that affect the development of the planning area. They also specific detailed land use designations which are used to review specific development proposals and plan services and facilities.

Arterial: A street providing traffic service for large areas. Access to adjacent property is incidental to serving major traffic movements.

Agriculture: Any use of land for the growing and harvesting of crops or animals for sale for profit, or uses which are directly ancillary to the growing and harvesting of crops or animals, which is the exclusive or primary use of the lot, plot, parcel, or tract of land; or processing crops to the generally recognizable level of marketability; or the open range grazing of livestock.

Aquifer: A saturated underground formation of permeable materials capable of storing water and transmitting it to wells, springs, or streams.

Buffer: A method of separating incompatible uses; examples include opaque fencing, vegetated berms, and dense landscaping.

Capital Improvement Program: A Board of Supervisors approved timetable or schedule of future capital improvements to be carried out during a specific period and listed in order of priority, together with cost estimates and the anticipated means of financing each project.

Character: Distinguishing quality or qualities that make an area unique.

Cluster Development: A development design that concentrates buildings in areas of the site to allow remaining land to be used for recreation, common open space and/or preservation of environmentally sensitive features.

Community: A group of individuals living in a common location sharing common interests.

Comprehensive Plan: A master or general plan containing guidelines for growth and development of the land within a jurisdiction, and coordinating policies affecting public services, benefits and regulations.



Critical Habitat: Key land areas used by wildlife for forage, reproduction or cover.

Developed Recreation Site: Distinctly defined area where facilities are provided for concentrated public use (e.g. campgrounds, picnic areas, boating sites, and interpretive facilities).

Density: A numeric average of families, individuals, dwelling units or housing structures per unit of land; usually refers to dwelling units per acre in the Comprehensive Plan.

Density Bonus: Permitting additional development on a parcel in exchange for items of public benefit such as affordable housing, recreation sites, infrastructure expansion, etc.

Developer: Any person or group of persons or legal entity which builds improvements on land, including buildings, streets, parking lots, drainage structures, and utilities to serve buildings.

Dwelling Unit: A room or group of rooms (including sleeping, eating, cooking, and sanitation facilities) that constitutes an independent housekeeping unit, occupied or intended for occupancy by one household on a long-term basis.

Easement: An interest held by one person, party, or entity, in land of another, whereby that person is accorded partial use of such land for a specific purpose, such as access or utility extensions.

Ecosystem: Community of different species interacting with one another and with the chemical and physical factors making up its nonliving environment.

Endangered Species: A species of animal or plant that is listed as endangered in accordance with the federal Endangered Species Act.

Environment: All the factors (physical, social, and economic), that affect a population.

Flood Hazard Areas: Areas in an identified floodplain.

Floodplain: The channel and the relatively flat area adjoining the channel of a natural stream or river which has been or may be covered by floodwater. Land immediately adjoining a stream which is inundated when the discharge exceeds the conveyance of the normal channel.

Goal: An ideal future end, condition or state related to the public health, safety or general welfare toward which planning and planning implementation measures are directed.

Groundwater: Water stored underground, beneath the earth's surface, in cracks and crevices of rocks and in the pores of geologic materials that make up the earth's crust.

Habitat: The sum of environmental conditions of a specific place that is occupied by an organism, a population or a community.

Household: The person or persons occupying a housing unit.



Housing Unit: A house, apartment, mobile home or trailer, group of rooms, or single room occupied as a separate living quarter or, if vacant, intended for occupancy as a separate living quarter. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.

Incorporated City: Area(s)/neighborhood(s) joined together for the purpose of self-government.

Infrastructure: Facilities and services needed to sustain any type of development—residential, commercial or industrial activities. Includes water and sewer lines, streets, electrical power, fire and police stations, etc.

Intermodal: A system of moving goods that integrates several different forms of transportation methods (e.g. truck to rail).

Jobs-Housing Balance: An attempt to balance the number and types of jobs with the amount and cost of housing.

Landfill: A disposal site which disposes of solid wastes on land. Wastes are deposited and compacted. At specific intervals, a layer of soil covers the waste and the process of deposit and compaction is repeated without creating nuisances or hazards to public health or safety. The purpose is to confine the wastes to the smallest practical area, to reduce them to the smallest practical volume.

Land Use: The occupation or use of land or water area for any human activity or any purpose defined in the Comprehensive Plan.

Manufactured Housing: A dwelling unit installed at the building site by connecting one or more segments which have been made in a manufacturing facility located off of the site. A manufactured home is built in compliance with the federal Manufactured Housing Construction and Safety Standards Act of 1974.

Mobile Home: A movable, factory-built home, built prior to the 1974 federal Manufactured Housing Construction and Safety Standards Act.

Multi-modal: Capable of accommodating a variety of transportation modes, such as buses, automobiles, rapid transit, rail, bicycles and pedestrians. A multi-modal transportation hub is a facility for the transfer of passengers and/or goods between different modes of transportation.

National Register of Historic Places: A listing maintained by the U.S. National Park Service of areas which have been designated as historically significant. The Register includes places of local and state significance, as well as those of value to the nation in general.

Natural Resources: Elements relating to land, water, air, plant and animal life, and the interrelationship of those elements. Natural resources include soils, geology, topography, floodplains, vegetation, wildlife, surface and groundwater, and aquifer recharge zones.



Neighborhood: An area of a community with characteristics that distinguish it from other community areas and which may include distinct ethnic or economic characteristics, schools, or social clubs, or boundaries defined by physical barriers such as major highways and railroads or natural features such as rivers.

Neighborhood Park: A recreation site developed for active and passive activities which is designed to serve one or a few neighborhoods within a short walking or driving distance to the park site. Typical equipment and facilities in a neighborhood park can include a mix of playground equipment, playing fields, picnic tables, landscaping, and on-site parking. Neighborhood parks are generally smaller than a community park, and they lack the variety of recreation experiences available in a larger park.

Non-attainment Area: Areas that do not meet the National Ambient Air Quality Standards (NAAQS) for one or more pollutants. The pollutants included in these standards include lead, oxides of nitrogen, sulfur dioxide, ozone, carbon monoxide, and PM₁₀.

Nonmotorized Recreation: Recreational opportunities provided without the use of any motorized vehicle. Participation in these activities travel by foot or horseback, etc. Bicycle riding is generally included under nonmotorized recreation, but some land management agencies may restrict their use.

Objective: A specific end, condition or state that is an intermediate step toward attaining a goal. An objective should be achievable and, when possible, measurable and time specific.

Open Space: Publicly or privately owned and maintained lands in their natural state and protected from development. Open Space lands are generally comprised of mountains and foothills, rivers and washes, canals, vegetation, wildlife habitat, parks, and preserves.

Park and Ride: A voluntary system where participants drive to a central location in order to carpool or gain access to public transportation to another location.

Particulates: Small particles suspended in the air and generally considered pollutants.

Permeability: Rate at which water runs through soil.

Planning: The establishment of goals, policies, and procedures for social, physical, and economic order.

Plat: A scaled drawing, developed from a survey performed by a surveyor, that contains a description of subdivided land with ties to permanent survey monuments.

PM₁₀: Airborne particulate matter of 10 microns or less in diameter. PM₁₀ is the result of agricultural and construction operation, suspended dust, tire abrasion from vehicles traveling on roads, and natural occurrences such as wind storms.

Policy: A specific statement that guides decision making. Policies are statements of intent for actions to be taken in pursuit of a given objective.



Population Density: The number of people in a given area. The number may be obtained by multiplying the number of dwellings per acre by the number of residents per dwelling.

Potable: Water suitable for drinking.

Protected Species: Any species or subspecies subject to excessive taking and with significant threats or declining populations making it illegal to take them under the auspices of a hunting or fishing license.

Regional Park: A recreation area of 200 or more acres offering passive recreation opportunities for activities such as hiking, camping, picnicking, and climbing, but has no facilities for organized active forms of recreation.

Response Time: The time interval between the receipt of a request for public service or assistance, and the arrival of the service provider. Typically, response time measures the ability to get emergency service to a specific location, with delays attributed to dispatch time, driving distance, traffic conditions, ability to find the specific location, and the backlog of service requests.

Rideshare: A techniques employed in traffic reduction programs which encourage commuters to carpool to work or other designations (e.g. shopping, medical visits, etc.).

Right-Of-Way: A strip of land occupied or intended to be occupied by certain transportation and public use facilities, such as roadways, railroads and utility lines.

Riparian Area: An ecosystem associated with bodies of water, such as streams, lakes, or wetlands, or is dependent upon the existence of perennial, intermittent, or ephemeral surface or sub-surface drainage.

Rural: When used in the context of this Plan, rural areas shall be those areas intended for residential development on no greater than one acre lots, with limited supporting nonresidential uses.

Rural Residential: Single family residence on a parcel of 1 or more acres; may include mixed residential and agricultural use.

Scenic Area: An area of outstanding or unique visual quality.

Scenic Corridor: A roadway with recognized high quality visual amenities that include background vistas of mountains, open country, or city.

Subdivider: Any person who offers for sale or lease six or more lots, parcels or fractional interests in a subdivision or who causes land to be subdivided into a subdivision for himself or for others, or who undertakes to develop a subdivision, but does not include a public agency or officer authorized by law to create subdivisions (as defined by A.R.S. §32-2101-49).

Subdivision: Improved or unimproved land or lands divided or proposed to be divided for the purpose of sale or lease, whether immediate or future, into six or more lots, parcels or fractional interests. Subdivision or subdivided lands include a stock cooperative



APPENDIX

and include lands divided or proposed to be divided as part of a common promotional plan (as defined by A.R.S.§32-2101-50).

Subsidence: The gradual, settling or sinking of the earth's surface with little or no horizontal motion. Subsidence is usually the result of water extraction from underground supplies and not the result of a landslide or slope failure.

Suburban: When used in the context of a Maricopa County Area Plan, suburban includes residential uses at generally two to three single family units per acre and supportive nonresidential and public development.

Threatened Species: Any species or subspecies which is likely to become endangered within the foreseeable future because serious threats have been identified and populations are (a) lower than they are historically or (b) extremely local and small.

Traffic Analysis Zones (TAZ): A small geographic area within a municipal planning area designated by the Maricopa Association of Governments for the purpose of estimating and projecting population.

Trip: A one-way vehicle movement that either begins or ends at the location being considered; thus, a vehicle which leaves a home and later returns to it would account for two trips under this designation.

Urban: When used in the context of a Maricopa County Area Plan, urban includes development of three or more residential units per acre and comparable nonresidential and public development.

Visual Resource: The composite of basic terrain, geologic features, water features, vegetative patterns, and land use effects that typify a land unit and influence the visual appeal the unit may have.

Wastewater: Includes sewage and all other liquid waste substances associated with human habitation, or of human or animal origin, or from any producing, manufacturing or processing operation of whatever nature.

Watershed: The entire area that contributes water to a drainage system or stream.

Zoning: The division of a jurisdiction into parcel specific categories with regulations governing the use, placement, spacing, and size of land and buildings corresponding to the categories.



APPENDIX B – GENERALIZED EXISTING ZONING

| ZONING DISTRICTS | DENSITY | PERMITTED USES |
|----------------------------------|-------------------------------|--|
| RURAL RESIDENTIAL | | |
| Rural-190 | 1 du/ 5ac (190,000 sq. ft.) | Residential, agricultural activities |
| Rural-70 | 1 du/ 1.6 ac (70,000 sq. ft.) | Residential, agricultural activities |
| Rural-43 | 1 du/ 1ac (43,560 sq. ft.) | Residential, agricultural activities |
| SINGLE FAMILY RESIDENTIAL | | |
| R1-35 | 1du / 35,000 sq. ft. | Residential |
| R1-18 | 1du / 18,000 sq. ft. | Residential |
| R1-10 | 1du / 10,000 sq. ft. | Residential |
| R1-8 | 1du / 8,000 sq. ft. | Residential |
| R1-7 | 1du / 7,000 sq. ft. | Residential |
| R1-6 | 1du / 6,000 sq. ft. | Residential |
| TWO FAMILY RESIDENTIAL | | |
| R-2 1du / 4,000 sq. ft. | Multi-family dwelling | |
| MULTI-FAMILY RESIDENTIAL | | |
| R-3 1du / 3,000 sq. ft. | Multi-family dwellings | |
| R-4 1du / 2,000 sq. ft. | Multi-family dwellings | |
| R-5 1du / 1,000 sq. ft. | Multi-family dwellings | |
| COMMERCIAL | | |
| Planned Shopping Center (C-S) | | Retail and service businesses w/ development site plan approved by the BOS |
| Commercial Office (C-O) | | Professional, semi-professional and business office |
| Neighborhood Commercial (C-1) | | Food markets, drugstores and personal service shops |
| Intermediate Commercial (C-2) | | Hotels and motels, travel trailer parks, restaurants, and some commercial recreation and cultural facilities |
| General Commercial (C-3) | | Retail and wholesale commerce and commercial entertainment |
| INDUSTRIAL | | |
| Planned Industrial (Ind-1) | | Business and manufacturing activities w/ development site plan approved by the BOS |
| Light Industrial (Ind-2) | | Light industrial activities w/ development site plan approved by the BOS |
| Heavy Industrial (Ind-3) | | Heavy industrial activities w/ development site plan approved by the BOS |



In addition to the Zoning Districts listed above, Overlay Zoning Districts, Special Uses, and Unit Plans of Development are also established to allow development that protects the environment, provides alternative housing types, and promotes age specific residential areas. These include:

1) HILLSIDE DEVELOPMENT STANDARDS (HD):

To allow the reasonable use and development of hillside areas while maintaining the character, identity, and image of the hillside area. This district applies to development on slopes of 15 percent and greater.

2) MANUFACTURED HOUSE RESIDENTIAL OVERLAY (MHR):

To provide for housing which is similar to conventional on-site-built housing in subdivisions or on individual lots where manufactured housing is appropriate.

3) SENIOR CITIZEN OVERLAY (SC):

To provide for planned residential development designed specifically for residency by persons of advanced age.

4) PLANNED DEVELOPMENT OVERLAY (PD):

To establish a basic set of conceptual parameters for the development of land and supporting infrastructure, which is to be carried out and implemented by precise plans at the time of actual development.

5) SPECIAL USES (SU)

To permit a class of uses that are otherwise prohibited by the Ordinance.

Nineteen Special Uses Permits have been issued in the New River planning area. The approved uses include; an amusement park, a religious and education institution, a dog kennel, and two guest ranches.

6) UNIT PLANS OF DEVELOPMENT (UPD)

To provide for large scale development where variations in lot size, dwelling type and open space is warranted due to topographic or other considerations.



APPENDIX C – ACRONYM LIST

| | |
|-------------------|---|
| ADHS | Arizona Department of Health Services |
| ADEQ | Arizona Department of Environmental Quality |
| ADOT | Arizona Department of Transportation |
| ADT | Average Daily Traffic |
| ADWR | Arizona Department of Water Resources |
| API | Arizona Preserve Initiative |
| APS | Arizona Public Service |
| A.R.S. | Arizona Revised Statutes |
| AWA | Arlington Wildlife Area |
| BLM | U. S. Bureau of Land Management |
| BOS | Board of Supervisors |
| CAP | Central Arizona Project |
| DMP | Development Master Plan |
| DOE | U. S. Department of Energy |
| EPA | U. S. Environmental Protection Agency |
| ESLO | Environmentally Sensitive Land Ordinance |
| FCDMC | Flood Control District of Maricopa County |
| GIS | Geographic Information System |
| MAG | Maricopa Association of Governments |
| MCCD | Maricopa County Community Development |
| MCDOT | Maricopa County Department of Transportation |
| MCESD | Maricopa County Environmental Services Department |
| MCP&DD | Maricopa County Planning and Development Department |
| NPL | Superfund National Priorities List |
| NRC | U. S. Nuclear Regulatory Commission |
| PVNGS | Palo Verde Nuclear Generating Station |
| RDA | Rural Development Area |
| ROW | Right of Way |
| RPTA | Regional Public Transportation Authority |
| RRS | Roads of Regional Significance |
| SHPO | State Historic Preservation Office |
| SLD | State Land Department |
| TIP | Transportation Improvement Program |
| TSP | Transportation System Plan |
| UST | Underground Storage Tanks |
| VMT | Vehicle Miles Traveled |
| VOC | Volatile Organic Compounds. |
| VPD | Vehicles per Day |



APPENDIX D - Comprehensive Plan Amendments and Development Master Plan

| Case Number | Project Name | Location | Acreage | Approved |
|-------------|--|---------------------------------------|---------|------------|
| CPA 200504 | Saddle Mountain Foothill Plan Amendment | 411th ave. & Thomas Road | 99 | 8/16/2006 |
| CPA 200606 | Hassayampa Village Plan Amendment | McDowell Road & 331th Ave. | 160 | 12/20/2006 |
| DMP 2005013 | Balterra Development Master Plan | 411th Ave. & I-10 | 1,110 | 12/20/2006 |
| DMP 2006003 | Desert Whisper Master Plan | Indian School Road & 371th Ave. | 960 | 12/20/2006 |
| DMP 2005007 | Hassayampa Ranch Master Plan Development | Indian School Road & Hassayampa River | 2,066 | 1/02/2007 |
| DMP 2005004 | Copper Leaf Development Master Plan | 395th Ave. & I-10 | 1,282 | 2/21/2007 |