

4.0 Infrastructure Element

The Infrastructure Element of the Santan Freeway Corridor Area Plan is presented in the following sections:

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4.1 Introduction

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

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

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

- Identify the utility improvements necessary to promote and maintain sustainable development within Santan Study Area.
- Identify implementation measures that will facilitate utility development and improvement.
- Identify a prioritized timeframe for infrastructure project implementation.

4.2 Existing Setting

As a result of expanding growth to the southeast within the City of Chandler, the City and private utility companies has been forced to expand their service network at a very rapid pace. The City has been very successful at anticipating the needs of new development and has been able to maintain the viability of the infrastructure system. Pecos, the primary east-west utility corridor within the Study Area, contains many of the trunk lines that support existing development.

Because of the City's success at anticipating demand for infrastructure services, and developing those services, the Study Area will require only a limited amount of future infrastructure investment in the near-term. Issues concerning the realignment of utilities through the Santan Freeway alignment are currently being evaluated.

A full spectrum of municipal and private utilities are currently available to Study Area residents. Water, wastewater, reclaimed water (limited), natural gas, electric, phone (telecommunications) and cable are available to a large proportion of the Study Area residents, particularly in the urbanized areas. This network will continue to be enhanced as development warrants these services. A majority of new utility segments will be developer sponsored with little to no contribution from the City.

Public Facilities

The Santan Study Area contains a number of public facilities that enhance the quality of life for area residents. These facilities range in scope from infrastructure support to government and recreational facilities.

The Study Area contains a number of parks and recreational areas including Pecos Ranch Park, Winn Park, Elgin Park and San Marcos Park. The Paseo System, a linear park that utilizes the existing Consolidated Canal right-of-way, is in the process of developing a network of multi-use pathways for pedestrians, cyclists and equestrian users. The ultimate intent of the Paseo will be to link neighborhoods and other recreational facilities adjacent to the consolidated canal.

The Chandler Water Treatment Facility, located south of Pecos Road between McQueen and Cooper Roads, will enhance the capacity of the municipal water supply and provide potable water for new development in the southern portions of the City. The facility was commissioned in 1989 and currently purchases water from the Salt River Project (SRP) for municipal water supply after a stringent treatment process. The site currently operates at the daily treatment capacity of approximately 45 million gallons per day (mgd).

The City of Chandler has completed an expansion of their sanitary sewer processing infrastructure to include a new sewage treatment plant as of May 1999. This facility is located at the southwest corner of Queen Creek and McQueen Roads.

The existing municipal landfill site, located on the northwest corner of McQueen and Ocotillo Roads south of the Study Area, is currently in use until about 2005 and undergoing a phased closure process. The site processed approximately 277 tons of non-reusable refuse per day and does not accept hazardous and industrial wastes. The City has budgeted nearly \$1.2 million over the next two years to prepare the landfill for closure. After closure, the site is expected to develop as an open space area after meeting all environmental mediation criteria for landfill closure.

Both the Salt River Project and Arizona Public Service provide electrical service to the Study Area. A majority of the area's electrical service enters the Santan Area through an existing above-ground high-voltage power line. This line runs north to south along the Southern Pacific Railroad corridor.

Southwestern Gas Corporation provides natural gas service within the Study Area. Below-grade infrastructure is currently in place for a majority of the Santan Area, with rights-of-way running parallel along major arterial roads.

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

4.3 Infrastructure Plan Vision, Goals, Objectives, and Policies

Vision Statement

Evaluate future infrastructure needs within the Santan Study Area through analysis of proposed land uses and population/employment projections.

Goal

To assess near-term and long-term public facility and infrastructure needs, and identify potential property acquisitions within the Santan Freeway Corridor Study Area.

Objective 4.3

To assess the level of public and private contributions necessary to provide residents and employment areas with adequate services and infrastructure.

- Policy 4.3.1 The City shall establish a periodic review process with the local school district to conduct due diligence in the investigation of school construction needs.
- Policy 4.3.2 The City should consider potential impacts to City residents as a result of freeway construction impacts with respect to the integrity of existing utility network.
- Policy 4.3.3 The City shall promote the use of reclaimed water for the irrigation of all public and private recreation areas where non-potable water sources can be accessed.
- Policy 4.3.4 The City shall require developers to fund all on-site infrastructure improvements and share the cost of off-site improvements as deemed appropriate by City Staff.

4.4 Infrastructure Plan

The Infrastructure Plan details the improvements currently planned by the City of Chandler for the Santan Study Area and any improvements adjacent to the area that would impact the infrastructure of the Study Area. Projects identified within the Capital Improvement Program (CIP) are programmed for funding between fiscal year 1998 to 2003, and are outlined in detail in the CIP document.

Telecommunications

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

Parks and Trails

The City has earmarked \$4,340,000 for the development of neighborhood parks throughout the City. Two park sites within the Study Area that have been identified for improvements include Winn Park and Pecos Ranch Park. A needs assessment for park facilities will be conducted at each park site and will include items such as playgrounds, lighting, landscaping, shade ramadas, sidewalks and various sport facilities. The newest significant recreational component in the City, the Paseo System will receive \$1.2 million in funding for the preliminary construction of six miles of the multi-use trailway, including the linear segment that passes through the Santan Study Area. Additional pedestrian corridors and linkages between existing recreational facilities in neighborhood areas should be investigated.

Public Safety

The City of Chandler has identified the Municipal Property and Evidence Building at the corner of Pecos Road and Hartford Street as a candidate for facility expansion. The expansion project will enlarge the current facility by 12,000 square feet at a cost of \$1,415,000. The City of Chandler is also investigating the relocation of Fire Station #6. The proposed 9,000 square foot facility will be located in the area of Frye Road between Price and Dobson Roads. The existing facility will experience reduced access as a result of Price Freeway construction and the new location will offer enhanced access to the local area.

Solid Waste

Chandler is in the process of closing the municipal landfill site currently in use until 2005, located on the northwest corner of Ocotillo and McQueen Roads. The landfill will undergo a phased closure program that will allow the site to comply with EPA subtitle "D" regulations. The closure is expected to be complete by FY 2005. The impact of the site closure on the solid waste disposal system is being offset by the construction of a new waste transfer site on the southwest corner of Queen Creek Road and McQueen Road at a cost of \$4.48 million.

Reclaimed Water

Chandler is expanding its existing reclaimed water infrastructure in an attempt to reduce potable water consumption. Reclaimed water has been identified as a safe and viable option for many of the irrigation and groundwater recharge demands existing throughout the City. Through development of the reclaimed water infrastructure, the City is projected to observe dramatic cost savings in its municipal water system due to reductions in import costs and purification costs.

The 1998 Reclaimed Water System Master Plan has identified a number of capital improvement program projects within the Study Area through the year 2014. The 5-year reclaimed water system summary has identified the need for two effluent pipe crossings within the Study Area within the Dobson and McQueen Road alignments. The projected cost of the program is estimated at \$180,000 with construction to start in 2000-2001. The 10-year Capital Improvement Program has identified the installation of two transmission mains within the Study Area. The first segment parallels the Santan Freeway through the City from Interstate-10 in the west to Gilbert Road to the east. The second segment will carry reclaimed water along the McQueen Road alignment from Ryan Road up to the Santan Freeway.

Water

As the City of Chandler continues to grow, water demands will increase accordingly. Citywide, the projected water demand by residents is projected to exceed 90 million gallons per day by 2020. Due to the high intensities of land use within the Study Area, demand will be proportionately high in comparison to residentially dominated areas of the City. Land use demand factor assesses water consumption need based on standardized water use per acre of land. Multi-family, retail and office uses have been identified as the highest water use per acre users of all land use types.

The City of Chandler will continue to meet water demands by utilizing multiple water sources. These sources include the Salt River Project, the Central Arizona Project and groundwater supplies. Planned improvements to the existing water system include the installation of three 30-inch transmission mains. The first will run in Cooper Road from Pecos to Germann across the Santan Freeway alignment. This line is programmed for fiscal year 2001-2002 at an estimated cost of \$987,000. The second line is planned to run down Germann Road from Cooper Road to 132nd Street. The 5-year CIP has identified this project for funding in fiscal year 2002-2003 at a projected cost of \$513,000. The third segment will establish a transmission main in Pecos Road from the Surface Water Treatment Plant at the corner of Pecos and McQueen Roads to Cooper Road. This project is programmed for FY 2001-2002 at a projected cost of \$679,000. Additional water system improvements programmed for construction within the Study Area include a 24-inch transmission main in Dobson Road from Pecos Road to Ocotillo Road. This line, identified in the 10-year CIP, will convey water from existing wells in the northern portions of the City to the southern areas across the Santan Freeway alignment.

In addition to the installation of water transmission lines, the City will also expand the Water Treatment Plant facility at a cost of \$702,000. A sedimentation basin located at the Water Treatment Plant will be improved at a cost of \$610,000. In addition to upgrading the Water Treatment Plant, a \$1.57 million program will be implemented to inspect water reservoir and storage tanks to ensure compliance with Maricopa County Health Standards. The City will also spend \$1.83 million to acquire land for additional storage tank and reservoir sites.

Wastewater

The wastewater collection system within the Study Area will continue to use the Ocotillo Water Reclamation Plant (WRP) and Airport WRP for treatment purposes. These facilities will be able to expand their treatment capacities as development densities increase within the Study Area. The Ocotillo facility, at buildout, will have a influent treatment capacity of 10 million gallons per day with the Airport WRP eventually operating at a buildout capacity of 20 MGD.

Planned collection system enhancements to the wastewater infrastructure within the Study Area as identified by the 1998 Wastewater System Master Plan, include the relocation of the Pecos Ranch sewer main to the west to avoid a crossing at the Santan Freeway alignment at Dobson Road. A second relocation within the corridor will occur at the McQueen Road/Santan Freeway crossing. A new 12-inch line will run south from the Santan alignment to the Airport WRP. A new transmission line segment is planned for Germann Road from the Arizona Avenue intersection and will run west to an existing line at the Alma School Road intersection. Expansion of the Airport WRP is included in the 5-year Water Reclamation Plant Expansion CIP Summary, with a budgeted cost of \$18,600,000 between 2000 and 2002.

Electric

The Salt River Project and Arizona Public Service provide power to the Study Area and provides improvements to existing infrastructure as development warrants. SRP has no near-term plans to enhance the existing network infrastructure in the Santan Study Area.

4.5 Infrastructure Implementation Program

A series of implementation measures have been established for the infrastructure within the Study Area, as shown on Table 4.1, *Infrastructure Implementation Program*. These measures will serve as a tool in the recommendation of improvements to existing public services. These recommendations will provide the City Council with public utility improvement priorities as defined here and within the Capital Improvements Program for fiscal years 1998 through 2003.

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

Definitions

Implementation Measure - Lists the action necessary to carry out the Infrastructure Element of the Santan Area Plan.

Purpose - Identifies the intent of accomplishing that particular action

Timeframe - Establishes the target 5-year priority within the 20-year planning horizon for implementation of the action.

Key Participants - Assigns the elected or appointed public body, agency, group, individuals or volunteers principally responsible to initiate the implementation action.

Resources - Lists the potential funding, City staff, volunteer or other community resources necessary to carry out the implementation action.

**Table 4.1
Infrastructure Implementation Program**

Implementation Measure	Timeframe (Years)				Key Participants	Resources
	1-2	3-5	5-10	10-20		
Mitigate freeway lighting impacts on adjacent housing through implementation of appropriate screening methods	*	*	*	*	City Planning Staff, ADOT	Amend Zoning Ordinance, ADOT
Update the Capital Improvement Program (CIP) to include utility alignment modification and costs incurred through Freeway construction	*				City Planning Staff, Public Works	Staff Resources
Encourage pedestrian linkages between parks & other municipal facilities	*	*			City Planning Staff,	Heritage Funds, Developer Contributions
Promote the use of reclaimed water	*	*			Development Services	Adopt policies encouraging reclamation
Encourage all service providers to coordinate their plans & programs	*	*			Development Services, SRP, Southwestern Gas, etc.	Staff Resources
Encourage developers to fund on-site & off-site improvements related to their development	*	*			City Planning Staff; Development Services, City Council	Developer Fees

Source: BRW, Inc., 1999.