

September, 2002



Southeast Maricopa / Northern Pinal County Area Transportation Study

DRAFT

**WORKING PAPER
REVIEW OF
OTHER STUDIES**

GILA-PINAL
COUNTIES



REGION V

 **MARICOPA
ASSOCIATION of
GOVERNMENTS**

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**Southeast Maricopa / Northern Pinal County
Area Transportation Study**

**Draft Working Paper
Review of Other Studies**

prepared for

**Maricopa Association of Governments
Central Arizona Association of Governments
Arizona Department of Transportation**

prepared by



October 2002

Working Paper: Review of Other Studies

1. Background

The Southeast Maricopa/Northern Pinal County Area Transportation Study (SEMNPTS) is a project jointly sponsored by the Maricopa Association of Governments (MAG), the Central Arizona Association of Governments (CAAG), and the Arizona Department of Transportation (ADOT).

The purposes of this study are to document the transportation relationships between Maricopa and Pinal Counties, examine the long-range transportation needs of the study area, and identify realistic projects to address the area needs. Ultimately, the projects identified in the study will be evaluated in a regional context in the MAG Regional Transportation Plan (RTP) process. Pinal County projects will be used by CAAG and Pinal County in their long range planning. Recommendations affecting current or potential future state facilities will be considered by ADOT.

The Southeast Maricopa/Northern Pinal County Area Transportation Study is separated into three phases.

1. Review existing conditions and trends; document future travel demand and issues.
2. Identify and evaluate transportation improvement options.
3. Develop a list of future transportation needs for the study area.

In order to accomplish these three phases, the project includes a number of work tasks, which describe specific elements of work. During the course of the project, Working Papers will be prepared to document the results of certain work tasks. These working papers are in draft form, subject to review and comment. These working papers will form the basis of the final report.

The working papers to be produced and the task they are associated with are summarized below.

Task 3: Working Paper - Review of Other Studies

Task 4: Working Paper - Socio-economic Data

Task 5: Working Paper - Transportation Conditions

Task 6: Working Paper - Transportation Issues

Task 7: Working Paper - Transportation Options and Evaluation

Task 8: Working Paper - Transportation Recommendations

This document presents *Working Paper - Review of Other Studies*.

2. Introduction

Transportation needs in Southeast Maricopa County and in Northern Pinal County have been studied in recent years. Various mode-specific and route-specific analyses have been done to assess the best way to address the rapid growth in the area. Each study reaches into the future to deal with the higher levels of development expected in each individual community. However, the SEMNPTS is the first formal attempt to evaluate transportation linkages between Maricopa and Pinal Counties. As both areas continue to grow, the amount of undeveloped land between them diminishes and the interaction between them increases. This trend is expected to continue.

The purpose of this working paper is to summarize previous related studies and identify the relevance of recommendations and/or policies developed in those previous studies to the SEMNPTS. For purposes of understanding, the various products have been grouped into four categories: general, highways, transit, and bicycle/pedestrian.

Table 1 on the next page provides a listing of all the documents reviewed, and indicates which transportation mode(s) are emphasized in that document.

Following the table is an analysis of the overall relevance, by mode, of the previous studies to the SEMNPTS.

Individual summaries of each document reviewed are included after the analysis section.

Table 1: Documents Reviewed

Document	Modal Emphasis			
	General	Highways	Transit	Bike/Ped
Apache Junction General Plan	●	●	●	●
Casa Grande Transportation Study		●		
Central Arizona Transit Development Plan			●	
Chandler General Plan	●	●	●	●
Chandler Transit Plan Update			●	
Chandler Transportation Study		●		
Florence General Plan	●	●	●	●
Gilbert General Plan	●	●		
MAG Bottleneck Study		●		
MAG Desert Spaces Plan	●			
MAG Fixed Guideway System Study			●	
MAG FY 2002-2006 Transportation Improvement Program		●	●	●
MAG ITS Strategic Plan Update		●		
MAG Intermodal Management Plan		●	●	●
MAG Long Range Transportation Plan 2001 Update		●	●	●
MAG Park And Ride Study			●	
MAG Pedestrian Area Policies & Design Guidelines				●
MAG Pedestrian Plan 2000 Final report				●
MAG Phoenix External Travel Survey		●		
MAG Regional Congestion Study		●		
MAG Regional Off-Street System (ROSS) Plan				●
MAG Roads of Regional Significance		●		
Maricopa County Bicycle Transportation System Plan				●
Maricopa County Comprehensive Land Use Plan	●			
Maricopa County Rural Transit Development Plan			●	
Maricopa County Transportation System Plan		●	●	●
Mesa 2025 General Plan	●	●	●	●
Mesa Transportation Study	●	●	●	●
Pinal County Comprehensive Plan 2001	●			
Pinal County Transportation Plan		●	●	
RTPA Long-Range Transit Plan			●	
Town of Queen Creek General Plan 2002	●	●		
Williams Area Transportation Plan		●	●	

3. Analysis

General

A number of the studies cover a multimodal and/or non-transportation subject matter. Among the studies in this category are the cities' General Plans, the Desert Spaces

Study, MAG's Transportation Improvement Program (TIP) and Long Range Transportation Plan (LRTP), and the Comprehensive Land Use Plan developed by Maricopa County.

The cities' General Plans address growth areas and planned land use and relate those elements to the transportation element. Typically, the transportation element includes a functional class map, which defines the planned function of each street in the system. This is often linked to the number of lanes planned. Transportation elements can also include strategies and plans for other modes like public transportation and bicycle. Growth and the rapid pace of development are significant issues affecting several communities in the SEMNPTS area

The MAG TIP and LRTP represent the MAG regions' current five-year transportation program and long-range plan while the Pinal County Transportation Plan presents the long-range plan for Pinal County. These studies are multi-modal.

Highways

Existing documents relating to highway issues include the cities' General Plans, area transportation plans, and regional studies like the Roads of Regional Significance, ITS Plan, the Regional Congestion Study, and the External Travel Survey.

Many of these studies include agency plans for the street system to accommodate planned growth. These plans will provide the base street system for alternatives evaluation. The Regional Congestion Study was a detailed look at existing congestion at major intersections throughout the MAG region. The external travel survey provides MAG external travel pattern data that is used in the continual updating of the travel-forecasting model. The Roads of Regional Significance plan identifies major arterial streets that cross between jurisdictional boundaries and form the backbone of the regions arterial street system.

Transit

There is some transit service in the Southeast Maricopa/Northern Pinal County area. Cities recognize the need for alternative transportation as they grow, but funding has not yet followed that realization. Most transit operations are supported by federal funding and the City of Mesa uses a portion of what is known as the quality of life tax to support transit.

Many agencies have completed transit plans or have incorporated transit in their transportation plans including Mesa and Chandler. Maricopa County and CAAG both have prepared transit development plans for their regions. Gilbert is in the process of developing a transit plan, taking a "utilization" approach to defining future transit needs by identifying significant trip generators and attractors and linking them to provide needed transportation services.

With few exceptions, most of the communities within the study area are at the stage where developing and maintaining adequate roadways is still the highest priority. As the

communities grow, developing alternative transportation modes will become a higher priority. In fact, many of the communities' General Plans identify current or projected transit needs and multimodal opportunities.

Two other studies currently underway – the RPTA Regional Transit Systems Study and The MAG High Capacity Transit Plan – will also be relevant to the SEMNPTS.

The Regional Transit Systems Study will:

- Assess the effectiveness of existing transit service;
- Develop recommendations to improve existing service and a performance-based structure for achieving goals and objectives; and
- Develop a financially constrained 20-year plan for future improvements.

The High Capacity Transit Plan will:

- Determine the feasibility of commuter rail along existing rail corridors;
- Identify other high capacity alternatives for existing rail corridors where commuter rail is not feasible;
- Identify new high capacity transit corridors in areas without existing rail corridors;
- Create a regional high capacity transit system plan; and
- Develop an action/implementation plan to identify roles and responsibilities.

The results of these studies will form the basis of the regional transit system element in Maricopa County for the SEMNPTS.

Bicycle/ Pedestrian

In most communities, providing bicycle/pedestrian facilities as a transportation mode has lagged behind development of the street system. However, most communities are now including on-street bicycle facilities as well as separate paths as part of their transportation planning. Many communities are examining the use of canal banks for multi-use recreational paths for bicyclists and pedestrians.

The Maricopa County Bicycle Transportation System Plan states that the County recognizes bicycling as a viable transportation mode and actively works toward improving the transportation network to increase access to the system for bicyclist. It establishes street cross sections with bicycle lanes as the County standard and identifies a 473-mile network of on-road bicycle facilities. The County is developing a regional trail network that will provide non-motorized connections for the County regional park system.

MAG's 2000 Pedestrian Plan, updating the 1993 Plan, outlines programs and actions to promote better pedestrian accommodation throughout the region's transportation network. The plan includes flexible design tools, specifically roadside design performance guidelines.

4. Individual Document Summaries

One-page summaries of each of the documents reviewed, along with their respective relevance to the Southeast Maricopa / Northern Pinal County area (i.e., “Regional Context”), are provided on the following pages.

Apache Junction General Plan

Published:
1999

Summary:

The Apache Junction general plan identifies the general location and extent of existing roadways and expressways, arterials, and collectors. Public transportation and other non-vehicular circulation facilities are also discussed and proposed.

Regional Context:

The plan identifies the two major corridors in the area. They are the Historic Apache Trail and the Old West Highway. It denotes ten intersections with high vehicle counts among its network of a predominantly grid street system. In addition, Apache Junction has U.S. 60 traversing through the southern section of the city.

The report identifies several recommendations that need to be addressed in regards to the transportation system:

- Create Master Street Plan to respond to their unique traffic needs.

- Improve internal circulation by using traffic calming techniques, conserving right of way for future

roadways widening without causing congestion.

Add transportation connections with new interchanges on U.S. 60, traffic monitoring of recreational vehicles, regional transit linkages, and park-n-rides.

Extend comprehensive trails and pathway systems.

Recommended Goals:

The plan identifies goals and objectives to lessen the impacts on the transportation system.

Goal 1: Improve circulation within the City

- Redesign Apache Trail to slow traffic.

- Provide alternative transportation opportunities.

- Design transportation infrastructure that can “grow” with the community.

- Design and implement aesthetically pleasing “streetscape” requirements.

Goal 2: Plan for regional transportation

- Seek bus service connections.

- Plan for future “eco-safe” mass transit.

Casa Grande Transportation Study

Agencies:

City of Casa Grande

the six-legged intersections are further built out.

Published:

April 2001

The report identified some major challenges for the transportation system:

Summary:

The Casa Grande transportation study identifies the general location and extent of existing and proposed roadways and expressways, arterials, collectors, and bikeways. Street classifications, design options, and multimodal transportation options are identified. Public transportation and other non-vehicular circulation facilities are also discussed and proposed.

Future traffic growth on I-10 could cause congestion on the freeway and on approach roadways.

The need for new interchanges on I-10 and I-8 to serve rapidly developing areas.

Completing the arterial east-west and north-south grid by filling in gaps in the network.

Paving unpaved roads for PM10 purposes.

Access management as traffic increases.

Regional Context:

According to the report the major roadways in the area include the Maricopa-Casa Grande Highway, Jimmie Kerr Boulevard, Trekell Road, Florence Boulevard (SR 287), Val Vista Boulevard, McCartney Road, Kortsen Road, Gila Bend Highway (SR 84), and Pinal Avenue (SR 387). In addition, Casa Grande is situated at the intersection of I-10 and I-8, major interstate highways. The existing local roadway network consists primarily of a mile grid network of arterial streets. Existing traffic volumes range from 2,000 to 22,000 vehicles per day.

Recommended Goals:

The plan identifies many goals and objectives to increase capacity and reduce congestion on local as well as regional roadways. In addition, the plan recommends that the City support appropriate multi-jurisdictional planning among the City of Casa Grande, Pinal County, Central Arizona Association of Governments, Gila River Indian Community, and the Arizona Department of Transportation that share common transportation facilities.

In addition, the UP line could cause congestion if train traffic increases and

Central Arizona Transit Development Plan

Agency:

Arizona Department of Transportation

Published:

September 1995

Summary:

The report identifies existing public transit services and the future public transit potential in the Central Arizona Association of Government’s jurisdiction, including Pinal County, Florence, Coolidge, and Casa Grande. The report quantifies the transit demand for local, intercity, and regional transit services in the region, and uses the 1994 Pinal County Transportation Plan Transit Element for defining and evaluating potential transit alternatives.

Regional Context:

The report recommends a transit expansion to serve the most basic mobility needs for individuals in Pinal County. Table 1 shows the recommended public transit expenditures in Pinal County:

Table 1: Recommended Rural Transit Expenditures in Pinal County

Agency/Project	Total Annual Cost
CAAG Regional Council on Aging	Unknown
Coolidge Existing Services (Cotton Express)	\$48,000
Coolidge Service Expansion (Cotton Express)	\$64,000
New Apache Junction Service	\$103,000
Regional Service Expansion	\$111,900
Brokerage Demonstration Project in Casa Grande	\$75,000
Total	\$401,900

The study found that there are significant pockets of transit dependent in Pinal County, particularly in Apache Junction and Coolidge. Overall, 14% of Pinal County population is over age 65, 22% live below the poverty line, and 46% of all households have one or no automobiles available.

Based on the TRCP Rural Transit Demand model, the study calculated the latent public transit demand in Pinal County at 481,210 annual passenger trips. Table 2 breaks down the transit demand in the study area:

Table 2: Identified Transit Demand in Select Pinal County Jurisdictions

Jurisdiction	Elderly and Mobility Limited Demand	General Public	Total
Apache Junction (Pinal Part)	88,580	30,940	119,520
Coolidge	22,430	25,950	48,380
Florence	15,870	6,000	21,870
Eloy	12,960	27,330	40,290
Unincorporated Pinal County	68,850	67,270	136,120
Total	208,690	157,490	366,180

The study reported the majority of transit demand as coming from the elderly and mobility limited population.

Recommendations:

Establish intercity services in the US 60 corridor, the Mesa-Apache Junction-Florence corridor, and the I-10 corridor from Casa Grande to Phoenix.

Establish new start public transit services in Apache Junction and Casa Grande.

Provide expanded inter-city transit services with an emphasis on coordination.

Establish daily inter-city transit service along the SR 177 corridor.

Operate a daily commuter service between Superior and Phoenix via Apache Junction and Mesa.

Establish a daily commuter route between Apache Junction and Casa Grande, using the SR 287 corridor.

Chandler General Plan

Published:

Final Draft, August 31, 2001

Summary:

The Chandler General Plan is a strategic document expressing long-term community intentions regarding the future development and physical form of the City of Chandler. The General Plan is presented in four sections, which reflect the city's priorities: 1) Communities and Neighborhoods, 2) Resources, 3) Mobility, and 4) Facilities and Services. Area Plans have been developed to address unique characteristics of individual neighborhoods within Chandler. Recommendations in each Area Plan have been designed to refine the broad goals and objectives contained within the General Plan.

Regional Context:

The General Plan presents Chandler's existing land uses and zoning, as well as its setting as part of the metropolitan Phoenix's southeast valley. Approximately 60% of Chandler's 71.5 square mile planning area is developed, while over half of the developed land uses are residential. As of the 2000 census, Chandler included 176,581 residents and is projected to have 239,459 by 2010, an increase of 35%.

New housing, employment and retail are specified as required components to support Chandler. Development associated with the Santan Freeway, the Price Freeway, and potential light rail, as well as the Gila River Indian Community provides economic opportunities both within Chandler and through neighboring communities.

Recommended Goals:

Land Use

- Balance land use decisions with economic development and quality of life objectives.
- Encourage development appropriate to the character of the community.
- Cooperate in a regional basis to encourage land use decisions that benefit the city.
- Continue to acknowledge the differences of each part of the city and implement strategies that best fit their planning needs.
- Continue to promote the involvement of Chandler residents in the future of their community.
- Recognize the difference between immediate and long-term needs.
- Provide for quality infill development in developed areas of the city.
- Integrate parks and open space into neighborhoods and communities through a series of interconnected greenbelts.

Conservation, Rehabilitation and Redevelopment

- Promote the revitalization of downtown Chandler and surrounding neighborhoods.
- Develop downtown Chandler as the community's cultural, civic, business and activity center.
- Maintain stable, viable neighborhoods in the residential areas of the downtown.
- Create and maintain a strong identity for the downtown that reflects the city's historical, cultural and architectural influences.

The city, in cooperation with other community groups, should continue its commitment to a sustainable and consistent redevelopment effort.

Growth Area

Encourage land uses that are planned for the efficient and cost effective use of public infrastructure and services.

Transportation

Develop an integrated citywide multi-modal transportation system.

Ensure that the transportation plan achieves an effective balance

between land use and transportation needs.

Coordinate effective transportation linkages between adjoining cities.

Achieve and maintain a transportation system that is cost effective, environmentally sensitive and technologically sound.

Bicycling

Develop a citywide system of on and off-road bicycle facilities that create maximum safety, convenience and comfort for bicyclists of all ages and skill levels.

Chandler Transit Plan Update

Agency:
City of Chandler

Published:
July 2002

Summary:
The Chandler Transit Plan Update was completed in an effort to confirm existing transit conditions within the community, and to plan for transit improvements within the City of Chandler over a period of five years. This particular effort specifically involved an overview of identified capital improvements, and plans for their implementation over time. The study assessed existing conditions within the community; considered proposed service improvements to express routes, local services, non-stop connectors, neighborhood circulators, and community dial-a-ride services; and also proposed a number of necessary capital improvements. The Chandler Transit Plan Update proposed a number of transit improvements for buses, stop amenities (sidewalks, route information, shelters/shade), transit centers and transfer points, operational improvements, and storage and maintenance facilities. The study also included an evaluation of the proposed service and capital improvements, and assessed a variety of cost estimates. The document culminates in the provision of a recommended improvement program, and provided guidelines for implementing the study over time.

Regional Context:
The Chandler Transit Plan Update is specific to assessing and improving transit services and facility improvements within the City of Chandler. The need for the study was due to explosive population growth,

which has placed a number of serious demands on the city's transportation infrastructure. According to the plan, the primary goals of the study were proposed in an effort to guide the development of service improvements and supporting capital facilities in the community, which include the following:

- Address travel demands and patterns.
- Enhance local access and mobility.
- Serve and connect major activity centers and public amenities such as schools, parks, and libraries.
- Improve access to major retail and employment centers.
- Serve transit dependent populations.
- Attract new and choice riders.
- Improve mobility of youth, students, seniors, and persons with disabilities.
- Improve transit on Chandler's most heavily traveled corridors.

Recommendations:
The Chandler Transit Plan Update recommended a three-phased transit improvement program, which was based on a phased in improvement schedule. The total operating expenditures for all three priorities was estimated to cost approximately \$2.3 million; whereas all capital equipment and facilities expenditures were estimated to cost approximately \$3.8 million. In accordance with the plan, the scheduled improvements are as follows:

First Priority Projects

Service Improvements

Additional express bus service trips to existing Routes 540 and 541.

Extend local service times on existing Routes 72 and 81, to include locations such as the Chandler Fashion Center. Also extend weekday and weekend services to existing Route 156. Addition of neighborhood circulators.

Capital Equipment and Facilities

Purchase of 2 express buses, 6 local buses and 2 spares, and 14 circulator buses and 2 spares.

Stop amenities to include sidewalk and route information improvements, and the addition of 10 shelters.

Development of a Downtown Chandler transit center, Chandler Fashion center expansion, park and ride lots, transfer points, and bicycle lockers and racks.

Second Priority Projects

Service Improvements

Reverse Commute service and new service for local Routes 540, 542 and 543.

Extension and/or increased service times for Routes 65, 96, 104, 108 and 112.

Provision of Non-stop connectors for activity centers. Addition of neighborhood circulators.

Capital Equipment and Facilities

Purchase of 10 express buses and 2 spares, 3 local buses and a spare, and 18 circulator/connector buses and 2 spares.

Stop amenities to include sidewalk and route information improvements, and the addition of 10 shelters.

Development of park and ride lots, transfer points, and bicycle lockers and racks.

Bus pullouts, the construction of an alternative fuel facility and storage facilities.

Third Priority Projects

Service Improvements

Reverse Commute service for Route 543.

Extension and/or increased service times for Routes 104 and 112.

New service for Ray Road.

Addition of neighborhood non-stop connectors.

Capital Equipment and Facilities

Purchase of 2 express buses and a spare, 5 local buses and a spare, and 2 circulator buses.

Stop amenities to include sidewalk and route information improvements, and the addition of 10 shelters.

Development of a park and ride lot, transfer points, and bicycle lockers and racks.

Chandler Transportation Study

Agency: City of Chandler

planning processes; assessed currently adopted plans by the city; and also addressed an extensive public involvement process that was utilized in order to complete the plan.

Published: May 2002

Summary:

The City of Chandler Transportation Study represents a comprehensive overview intended to address high rates of growth and the increased levels of demand that have been placed upon the city’s transportation infrastructure. The study establishes a number of principal goals and objectives for the city’s transportation system, and presents an in-depth analysis of base socioeconomic and transportation conditions. The study assesses future conditions with respect to planned regional facilities; programmed city improvements; future population and employment; travel forecasts; and also considers levels of service on the existing transportation network. The planning process resulted in an overview of the future recommended system for the city, and considered the integration of the road network with other transportation modes. The Chandler Transportation Study is concluded by an implementation chapter, which specified how to effectively accomplish the elements of the plan over time.

Recommendations:

As specified within the study, the transportation implementation program for the City of Chandler is based upon the following primary goals:

- Develop a system of streets that provides for the safe and efficient movement of people and goods throughout the city.
- Develop an integrated, multi-modal transportation system that facilitates the use of alternative modes of travel for certain types of trips.
- Adopt policies and implement programs and procedures that will protect the public investment in, and insure the long-term viability of the city’s transportation infrastructure.
- Adopt policies and implement programs and procedures that will facilitate the integration and coordination of transportation and land use planning.
- Develop policies and programs that support the expansion and maintenance of regional transportation system infrastructure and services.
- Develop policies and programs that protect residential neighborhoods (and other sensitive land uses) from adverse traffic impacts and enhance the quality of life in the community.
- Establish fiscal policies that provide for system capacity improvements needed to

Regional Context:

The Chandler Transportation Study analyzed transportation infrastructure within the municipal boundaries, and is based upon projected population and employment projections utilized in the Maricopa Association of Government’s (MAG) travel forecasting model. The study utilizes a population projection of 257,915 people for 2020, and a target population of 304,967 people in the year 2040. The study also considered the relationship of other local, state and federal plans to the city’s ongoing

accommodate new development. Identify transportation system opportunities to conserve energy, reduce air pollution, protect water quality, and recycle materials when expanding/improving transportation infrastructure.

Apply new and emerging technologies that may reduce vehicle miles traveled, reduce vehicle emissions, and improve the operational efficiencies of the existing transportation infrastructure. Improve public information and encourage citizen input in transportation decision-making.

Florence General Plan

Published:
2000

Bike routes/trails
Equestrian trails
Transit

Summary:

The Florence general plan identifies that the volume of vehicles using arterial streets have increased due to the increase of population, which will reach 10,000 residents in ten years. The plan explains the extent of existing roadways and arterials, and collectors. Street classifications and multimodal transportation options are identified. Public transportation and other non-vehicular circulation facilities are also discussed and proposed.

Regional Context:

According to the report, the town connects two major roadways: State Route 287 and State Route 79. Most of the traffic in the town uses either of these two roadways. The Town of Florence connects with Interstate 10 (via State Route 287), where access is provided to the metropolitan areas of Phoenix and Tucson.

The Major Collector system is comprised of three roadways: Hunt Highway, Main Street/Butte Avenue, and Kenilworth/Cactus Forest Road. The Minor Collector system is comprised of eight roadways within the area. The designation between these two collectors is the amount of traffic that is carried over the roadways.

The report identified a few facilities that are not implemented in the area:

Recommended Goals:

The plan identifies the following three goals with supporting objectives to be the foundation for the future vision of the Town of Florence:

Goal 1: A safe, efficient and balanced vehicular transportation and public parking system.

Goal 2: A linked non-vehicular transportation network.

Goal 3: A regional transit system designed for the needs of residents, workers and visitors.

The plan identifies some proposed roadways to meet the future growth of the Town of Florence.

The plan provides the following topics for the transit needs of the town:

Mobility needs, within Florence, of those who cannot drive or do not have access to an automobile.

Regional access to social, governmental and health services. People may need to travel to Casa Grande or even Chandler for various medical services, depending on their medical coverage requirements.

Commuter travel into, or out of, the Florence area.

Gilbert General Plan

Published:

Community Review Draft, March 23, 2001

Summary:

The Gilbert General Plan is a land use policy statement intending to proactively direct the growth and development of the community. The General Plan includes the following elements: Community Vision; Land Use; Character Area; Circulation; Parks, Open Space and Trails; Environmental Planning; Public Services; Neighborhood, Economic Development; and Community Design.

Regional Context:

Between 1990 and 2000, according to Census data, Gilbert was the fastest growing community over 100,000 people in the United States. Gilbert grew from a population of approximately 29,000 people to approximately 110,000 over this period. Four specific growth areas outside of Gilbert's border, but within its planning boundary, have potential to be annexed by the Town: Heritage District, San Tan Freeway Corridor, Gateway and Morrison Ranch. The General Plan recommends that these areas be "planned for multi-modal transportation and infrastructure expansion, with improvements designed to support a planned concentration of uses."

Major planned transportation improvements include building and funding roadways adjacent to developed areas, as required. New developments, which have been proposed for the Town, will provide additional paved streets and pedestrian facilities as they occur.

Recommended Goals:

Provide a sustainable mix of land uses that maintain the quality of life elements that make Gilbert a

"Community of Excellence", promote economic development and redevelopment at appropriate locations. The major theme described in the Land Use element of the General Plan is for effective growth management to provide adequate infrastructure and services, as well as ensuring mixed land uses in compatible locations.

Provide a safe, efficient, and aesthetically pleasing circulation network that considers all modes of vehicular and non-vehicular movement, and does so in an environmentally sensitive manner. Elements of the circulation policies include providing standards and criteria for various transportation infrastructure, ensuring that the Santan Freeway does not create barriers to other modes of transportation, providing for regional public transportation, and integration of transportation and land uses.

Encourage development/redevelopment of under utilized employment areas, enhance job opportunities, enhance tax base and create a healthy economy. The General Plan specifies the Heritage District and other mature areas of Town as areas for redevelopment activities.

Encourage a variety of housing options that provide the opportunity for affordable housing, preservation of existing housing stock, revitalization of mature neighborhoods. A proactive approach working with private developers to develop mixed income housing is recommended.

MAG Freeway Bottleneck Study

Agency:

Maricopa Association of Governments

Published:

Study Ongoing

Summary:

In this study, freeway traffic data is being collected on the existing freeway system throughout the Valley. These data include traffic density, queue, and volumes. It will then be determined where bottlenecks are, how to improve them, the cost to improve them, etc. Future traffic on the freeways will be forecasted. Future bottlenecks will be identified, operational and other benefits of the freeway improvement projects will be calculated, and freeway improvement projects will be ranked based on the above analysis. In addition, the traffic data collected will be used by MAG member jurisdictions and private organizations for various other traffic studies.

Regional Context:

Freeway projects identified through the study process will be considered in preparing the Regional Transportation Plan and prioritized relative to other regional transportation needs.

Recommended Goals:

Study Ongoing

MAG Desert Spaces Plan

Agency:

Maricopa Association of Governments

Published:

April 1995

Summary:

This concept plan provides MAG jurisdictions and member agencies as well as the development community a framework of recommendations in their land use decisions. The plan identifies and outlines a series of coordinating policies for local governments and agencies to assist in decision-making and coordinating local and regional efforts to establish a viable open space system.

Regarding alternate modes, the policies within this Plan recommends incorporating a network of trails, bikeways and pathways to connect regional parks to origin points and major destinations.

Regional Context:

The preservation of view sheds is recommended, and alternate modes can play a role in that preservation.

Recommended Guidelines:

- 1) Urban Open Space: recognized need to connect Urban Open Space through the provision of access to the system to the widest segment of the regional population.
- 2) Trail Linkage: using multi-purpose trails to connect to open space is a common goal, such as connecting urban with natural areas, schools with neighborhoods, residential with employment areas. Linear systems were suggested such as utilizing washes, rights-of-way, canals, freeway corridors and public utility easements.
- 3) Bicycle Trail Development: Develop a bicycle trail system that provides access for recreational, commuter, and off-road bicyclists. Development of a network that connects major activity centers and provides connections between cities.

MAG Fixed Guideway System Study

Agency:

Maricopa Association of Governments

Published:

January 1999

Summary:

The MAG Fixed Guideway System Study addressed fixed guideway transit in heavily traveled corridors. Key considerations included corridor travel demands and levels of congestion, as well as underserved demand. A set of fixed guideway system options were identified and modeled based upon previously identified high demand travel corridors and feasible transit technologies, which included express bus; commuter rail; light rail; automated (Grade-separated) rail; light rail plus commuter rail; and light rail plus express bus. Each of the fixed guideline options was modeled using the MAG Regional Travel Demand Model to derive a transit ridership and performance data for the year 2020. The study itself was guided by four goals that were adopted and evaluated by the Regional Public Transit Authority (RPTA) and the MAG Transportation Review Committee (TRC). These evaluation items were focused on improving regional mobility, minimizing impacts to the environment, supporting community social and economic goals, and financial viability.

Regional Context:

The study was undertaken as part of the Valley Connections project as a cooperative effort between MAG and the Cities of Phoenix, Tempe, Scottsdale, Glendale and Mesa. The total system-wide capital and operating cost of the proposed fixed guideway transit concept

recommended for further study from 1998 to 2020 totals approximately \$7.2 billion in constant 1998 dollars. The plan proposed a variety of funding strategies, which includes a variation of funding from the following sources: Federal formula and discretionary funding; state discretionary transportation funds; county and local sales taxes; local discretionary funds and private sector contributions.

Recommendations:

The MAG Fixed Guideway System Study recommended a *Light Rail Plus Express Bus* option. As identified within the study, this option focused upon a proposed multimodal concept that consisted of the following items:

A 39-mile light rail transit system.

Expansion of express bus service to connect the outlying areas to central activity centers.

A tripling of local bus service.

A major expansion of downtown circulators, or shuttles, to expand the service areas of express bus and light rail services.

Commuter bus connections to outlying communities.

Improvements to bus stops, including shelters and bus pullouts.

A tripling of Dial a ride services to meet paratransit transportation needs.

MAG FY 2002-2006 Transportation Improvement Program

Agency:

Maricopa Association of Governments

program that will support preservation, management and expansion of transportation services including highways, arterials, transit demand management and alternative mode improvements in the MAG region.

Published:

Annually

Summary:

The MAG Transportation Improvement Program (TIP) encompasses projects taken from the MAG Long Range Transportation Plan, the Short Range Transit Plan and from individual member communities' and ADOT's own transportation capital improvement programs. The TIP covers five years of projects with identified funding.

Planning Factors:

Seven planning factors, along with other criteria, are considered in the preparation of the TIP. These factors include: (1) economic vitality, (2) safety and security of the transportation system, (3) accessibility and mobility options, (4) the environment, energy conservation and quality of life, (5) integration and connectivity of the transportation system, (6) efficient system management and operation, and (7) preservation of the existing transportation system.

Regional Context:

This annual program is prepared by MAG to serve as a five-year regional guide to the funding and implementation of a transportation capital improvement

MAG ITS Strategic Plan Update

Agency:

Maricopa Association of Governments

Published:

2000

Summary:

The Strategic Plan was undertaken to define the future structure, planning and programming needs and responsibilities for ITS in Maricopa County following the success of the FHWA Model Deployment Initiative (AzTech). The plan contains a comprehensive inventory and analysis of the MAG Region's existing and planned multimodal ITS infrastructure. ITS considerations were addressed for freeways and arterial streets, Sky Harbor International Airport, emergency management systems, commercial vehicle operations, transit and the private sector. MAG Regional ITS needs were matched with 31 ITS user services, which were adopted as part of a "National framework" for ITS by the U.S. Department of Transportation. Using guidelines from the National ITS "framework," or Architecture, a future architecture for the MAG Region was also developed.

Regional Context:

This recent MAG ITS plan represents an update of the original ITS plan, which was completed in 1995. Many of the projects within the 1995 plan that were identified as high priority have already been implemented. The updated MAG ITS is designed to assist communities in their efforts to build upon the existing system, and to plan for future transportation needs with regard to Intelligent Information Systems. The MAG ITS maintains a 20-year planning horizon, and serves as the basis for deploying ITS throughout the MAG region.

Recommendations:

The plan recommends: 1) specific architecture objectives to ensure compatibility among jurisdictions, 2) a telecommunications plan that would move away from leased lines in favor of a WAN for ITS, 3) establishing MAG ITS Committee as the guidance and regional champion and 4) lays out a series of implementation strategies to ensure inter-jurisdictional coordination and compatibility.

MAG Intermodal Management Plan

Agency:
Maricopa Association of Governments

Published:
April 1995

Summary:
This plan incorporates alternate modes so that people can select which mode or modes of travel would meet their individual goals.

These goals are to enhance the capability of transportation facilities, whether public or privately owned to provide for the most efficient cost-effective and least environmentally harmful means of traveling from place to place. In order to accomplish this, the intermodal system was defined as providing the greatest number of reasonable choices and enhancing the connectivity between modes as well as increasing the coordination between transportation-related decisions.

Regional Context:
The Plan’s regional context and how it applies to the SEMNPTS area is identified in the plan’s goals and recommendations. Those recommendations were identified as the following:

- 1) Increasing productivity in the context of achieving “social benefits” and

enhancing other aspects of the quality of life.

- 2) Social benefits must be considered with particular attention to external benefits of reduced pollution, reduced traffic congestion and other aspects of the quality of life.
- 3) Define actions that can be implemented by public agencies or private companies to support the variety of modes.

Recommendations:

- 1) Provide convenient and rapid transfers between modes.
 - a. Establish the provision of seamless connections between transportation modes by making it easier to connect from one mode of service to another.
 - b. Establish transit schedules to reduce waiting time especially at transfer centers.
- 2) Provide better access to intermodal transfer points.
 - a. Extend existing or provide new public transit routes.
 - b. Build or designate bike lanes and provide bike lockers.
 - c. Build or extend existing sidewalks.

MAG Long-Range Transportation Plan 2001 Update

Agency:

Maricopa Association of Governments

Published:

Annually

Summary:

The LRTP is updated once a year and is based on a 20-year or longer time horizon. The objective of the plan is to identify pertinent trends for regional growth and the associated need for transportation improvements. It includes all modes of transportation. In 2001, it includes a 66% increase in freeway/expressway miles, which includes completion of Loop 202, 45% increase in street lane miles, tripling bus service, quadrupling express and commuter bus service and a 39-mile light rail transit system. In addition, the plan shows potential light rail corridor extensions along I-10 south to Chandler Boulevard and along Arizona Avenue/Mesa Drive south to Chandler Boulevard.

The plan is fiscally constrained, based on a trend scenario of currently available revenue sources.

Regional Context:

The LRTP will be updated following the completion of the MAG Regional Transportation Plan (RTP), which is scheduled for 2003. The results of this and the other area and background studies currently in development for the RTP will provide a basis for the new RTP and LRTP.

Recommendations:

Future transportation needs in the following areas are covered in the LRTP: (1) airports, (2) bicycles, (3) freeways, (4) pedestrians, (5) streets, (6) transit, (7) demand management, (8) system management, (9) special transportation needs, and (10) safety. In addition, funding strategies are addressed.

MAG Park and Ride Study

Agencies:

Maricopa Association of Governments

Published:

January 2001

Summary:

This study identifies a regional system of park and ride lots to support the regional express bus system, carpooling and vanpooling. The recommended system identifies ten sites for near term (five year program) and ten sites for long-term development. The recommendations also includes design guideline criteria for lot development, a management and operations plan and programming and implementation strategies.

Target areas were designated within the recommended facility locations. These target areas were identified based upon specific criteria such as number of households, available land and proximity to freeways and major roadways to feed into the park and ride facility.

Regional Context:

The MAG Park and Ride Study identifies four (4) park and ride locations in the near term recommendations. These park and rides are designed to have 250 parking stalls. The recommended objectives are to acquire the necessary land for these park and ride lots as soon as possible and begin construction of the facilities. Additionally, the four near-term park and rides should have sufficient land to accommodate expansion of the facilities to meet the projected needs in 2020. Those study area locations with their respective target areas ranked priority are:

1. US 60 near Power Road at Superstition Springs Mall. Total capital cost \$3,272,000 for 250 stalls.

Projected increase to 800 stalls in 2020 for an additional \$4,950,000.

2. I-10 near Elliot Road at 50th Street, ¼ mile north of Chandler Boulevard. Total capital cost of \$4,243,000 for 250 stalls. Projected increase to 421 stalls in 2020 for an additional \$1,539,000.
3. US 60 near Val Vista at the intersection of Page and Ash. Total capital cost \$3,638,000 for 250 stalls. Projected increase to 500 stalls in 2020 for an additional \$2,250,000.
4. Loop 202 near Power/Gilbert. Total capital cost \$3,573,000 for 250 stalls. Projected increase to 433 stalls in 2020 for an additional \$1,647,000.

Recommendations:

Long-term park and ride facility recommendations for the region are for 4 additional facilities to be built. Their locations with 2010 and 2020 facility requirements are as follows:

1. I-10 and Warner Road. Total capital cost \$4,193,000 for 250 stalls. Projected increase to 377 stalls in 2020 for an additional \$1,143,000.
2. US 60 near Mesa/Javelina. Total capital cost \$4,013,000 for 250 stalls. Projected increase to 600 stalls in 2020 for an additional \$3,150,000.
3. Loop 202 near Frye and the Price Frontage Road. Total capital cost \$3,543,000 for 250 stalls. Projected increase to 398 stalls in 2020 for an additional \$1,332,000.
4. Loop 202 near Val Vista and Germann Roads. Total capital cost \$3,348,000 for 250 stalls. Projected demand is less than 250 stalls.

MAG Pedestrian Area Policies & Design Guidelines

Agencies:

MAG

Published:

October 1995

Summary:

This document specifies the MAG Pedestrian Area Policies and Design Guidelines to be implemented regarding pedestrian facilities within the MAG region. The plan includes design tools, specifically roadside design guidelines to enhance pedestrian facilities, and the pedestrian experience.

This plan specifically focuses on pedestrian facilities. The Design Guidelines specifically emphasize on improving pedestrian facilities with new road construction, and retrofitting existing facilities with landscape buffers, shade, walkway treatments and amenities to improve the pedestrian experience and encourage pedestrian activity. The plan has 18 general recommendations.

Regional Context:

The Pedestrian Area Policies and Design Guidelines provide a comprehensive approach to determine the best use of public and private funds in support of pedestrians. The policies include recommendations for action that will create the places for pedestrians.

Recommendations:

- 1) Appoint a Pedestrian Coordinator to represent the needs of the pedestrian in all planning and construction projects.
- 2) Use the MUTCD Pedestrian Warrant system to help determine time to cross streets.

- 3) Establish a "Preferred Route to School" and "Preferred Route to Work" program in each community.
- 4) Identify the inconsistencies within municipal and county ordinances and policies that are barriers to developing pedestrian areas and begin their systematic revision.
- 5) Establish a Crime Prevention Through Environmental Design (CPTED) program.
- 6) Assist in achieving air quality standards by reducing trips and cold starts through providing better and more functional pedestrian facilities, walkable routes to work and school and access to transit.
- 7) Require pedestrian circulation plans be submitted along with vehicular circulation plans as a part of reviewing new development proposals.
- 8) Take advantage of the Internet link between economic development and tourist accommodation.
- 9) Treat pedestrian areas as potential cores of a system that link other types of pedestrian areas such as parks and trail systems.
- 10) Begin to plan land use according to the 20-minute (1/2 mi./0.8 km) walk rule.
- 11) Establish a regular maintenance schedule for facilities adjacent to pedestrian areas.
- 12) Identify and preserve or enhance the character of the pedestrian area.
- 13) Provide walkways adjacent to roadways, but separate from them

the curb whenever possible; or provide a bike lane or on-street parking as a buffer.

- 14) Provide an identifiable and universally accessible surface and clearance for all pedestrian areas.
- 15) Promote the use of traffic calming techniques in pedestrian areas to make limiting the speed of vehicles self-enforcing.

16) When planning a pedestrian area, use a building height ratio between buildings as near to 1:1 as feasible.

17) Shade should be an integral component of all pedestrian routes and areas.

18) Use these policies and guidelines to prioritize capital improvement program investment.

MAG Pedestrian Plan 2000 Final Report

Agencies:

Maricopa Association of Governments

Published:

December 1999

Summary:

This is an update to the 1993 MAG Pedestrian Plan. The plan outlines programs and actions to promote better pedestrian accommodation throughout the region's transportation network. The plan includes flexible design tools, specifically roadside design performance guidelines.

This plan specifically focuses on pedestrian access and facilities. Roadway Performance Design Guidelines that specifically emphasize on improving pedestrian facilities with new road construction, and retrofitting existing facilities with landscape buffers, and meandering walkways to improve the pedestrian experience and encourage pedestrian activity.

Regional Context:

The Pedestrian Plan calls for the design guidelines to be incorporated into the MCDOT roadway design standards. This means that new roadway construction should defer to these specific guidelines to provide and improve pedestrian facilities.

Recommendations:

- 1) Promote and guide land use that is conducive to pedestrians and results in a mode shift away from automobiles and towards pedestrians.
- 2) Develop a variety of educational programs to promote the benefits of pedestrian-oriented design. Initiate demonstration projects to illustrate these benefits using potential pedestrian demand and pedestrian design techniques.
- 3) Provide funding for pedestrian facility development that results in walking as a key form of transportation in the region.
- 4) Develop, build and maintain a diversity of pedestrian facilities that recognize the region's character, variety, and intensity of land use patterns and are responsive to the region's diverse population.
- 5) Provide a regional pedestrian network that identifies and safely links on- and off-street transportation modes with pedestrian areas and destinations.

MAG Phoenix External Travel Survey

Agency:

Maricopa Association of Governments

I-10 south of Hunt Highway

SR 347/Maricopa Road south of Hunt Highway

Published:

February 2001

Summary:

This survey was performed as a part of the MPO responsibility to maintain the travel demand forecast model. The results of the survey were used as a vital component used in regional forecasts for the planning of transportation projects undertaken within the MAG region. Internal-External trips, meaning trips beginning within Maricopa County and terminating outside the county, were tabulated. External-External trips, those beginning and terminating outside of Maricopa County were also recorded for the survey.

Surveys were conducted in “platoons” of vehicles by surveyors at roadside survey stations. Surveyors asked a series of questions regarding trip purpose, origin and destination. Table 1 documents the percentage of trips coming across the survey locations that had at least one trip end in Maricopa County, and what the majority of those trip purposes were.

Additional findings for Maricopa County included the following:

46% of all trips were internal-external trips by Maricopa County residents.

Average automobile occupancy was 1.65 persons per auto (this is the lowest of any comparable metropolitan area in the U.S.).

Most truck Internal-External trips were concentrated along I-10, and the Grand Avenue Corridor.

Regional Context:

Surveys were conducted at seven survey stations at the border of the MAG South-east Valley region. Those stations were:

Ocotillo Road east of Meridian Road

Rittenhouse Road south of Hunt Highway

Hunt Highway 1.7 miles east of Ellsworth Road

Gilbert Road south of Hunt Highway

SR87 at SR 87/SR587 junction

Recommended Goals:

The study did not include recommendations, but focused on collecting and reporting data.

Table 1: Internal-External Trips and Documented Trip Purposes

	Interior-Exterior (IE) Auto Trips	Percentage of IE Auto Trips for HBWork	Percentage of IE Auto Trips for HBSchool	Percentage of IE Auto Trips for NHBWork	Percentage of IE Auto Trips for HBOther
Ocotillo Road east of Meridian Road (11)	100%	23%	10%	23%	38%
Rittenhouse Road south of the Hunt Highway (12)	100%	32%	6%	15%	45%
Hunt Highway 1.7 miles east of Ellsworth Road (13)	99%	21%	5%	29%	39%
SR87 at SR 87/SR587 junction (15)	100%	39%	3%	17%	30%
I-10 south of Hunt Highway (16)	86%	30%	1%	20%	32%
SR 347/Maricopa Road south of Hunt Highway (17)	100%	29%	1%	24%	33%

MAG Regional Congestion Study

Agency:

Maricopa Association of Governments

80,000 vehicles to 182,000 vehicles between Power Road and Loop 101.

Published:

September 2000

Summary:

The study was conducted as an update of the 1989 study to provide MAG with current traffic data for the regional planning process. This data is used to ensure that the travel demand forecast models used by MAG continue to provide a reasonable representation of the existing and future traffic conditions, provide input to the regional transportation studies and also information needed for local traffic studies and roadway design projects.

Regional Context:

The study area generally includes the majority of the Phoenix metropolitan area. Specifically, in the Southeast study area, portions of Chandler, Mesa, and Gilbert were included in the study. The project included substantial data collection including machine counts, manual turning movement counts, aerial photos, and vehicle classification.

Study Findings:

The study findings for the Northwest Valley specifically detailed the following:

- Average 24-hour weekday traffic volumes on US 60 range from

- Vehicle Types-
Light vehicles, SUVs vans and pick-up trucks constitute 90% of the total vehicle types using arterial streets within the study area.
Proportionally there were more heavy trucks on arterial streets before noon, especially the A.M. peak travel period than any other time of the day.

- Level of Service

AM peak hour conditions: In the Southeast area, the AM peak hour begins between 7:00 and 7:15 AM. Level of Service E or F was shown at 21 intersections. At all but one location with level of service F, the duration was less than 60 minutes. There were 13 miles of US 60 operating at level of service D, E, or F.

PM peak hour conditions: In the Southeast area, the PM peak hour begins between 4:30 and 5:00 PM. Level of Service E or F was shown at 21 intersections. At all but two locations with level of service F, the duration was less than 60 minutes. There were 20 miles of US 60 operating at level of service D, E, or F.

MAG Regional Off-Street System (ROSS) Plan

Agency:

Maricopa Association of Governments

Published:

February 2001

Summary:

The Regional Off-Street System (ROSS) Plan was prepared as a compliment to the 1999 MAG Regional Bicycle Plan, and identifies existing off-street corridors which could be utilized for non-motorized transportation. The ROSS plan provides for a regional system of off-street paths/trails for individuals throughout the MAG Region that walk or bicycle. A number of opportunities for trails and bikes as proposed within the plan are located adjacent to riverbeds, canal banks, utility line easements and flood control channels. The document provides an overview of the methodology that was employed as part of the planning process; and also identifies a series of issues pertaining to access, safety, connectivity, user-friendly facilities, implementation, and a variety of other issues. The plan provided a vision statement, and included a series of goals and objectives.

Regional Context:

A series of corridors were addressed for possible inclusion into the plan. They focused on a number of areas throughout the region, and were proposed for locations along canals, desert washes and waterways, flood control structures and rights-of-way, highway and freeway rights-of-way, railway corridors, and utility easements.

The plan included general design guidelines for access to paths and trails, and accessibility in moving across and through various conceptual corridors.

Recommendations:

The recommendations in the ROSS plan address a wide-range of issues and needs. Some of the primary goals of the plan are as follows:

Access Goal: Provide sufficient, convenient access to the non-motorized transportation system which is highly visible to existing and potential users.

Safety Goal: Develop an off-street system of paths/trails that is safe for a variety of users.

Connectivity Goal: Connect origins and destinations with paths/trails, and link paths/trails to the existing on-street transportation system and other transportation modes.

User-Friendly Goal: Develop a system of paths/trails that considers the needs of users and potential users (“user-friendly”).

Implementation Goal: Achieve a truly regional system of off-street paths/trails by assisting MAG member agencies to develop portions of the off-street system under their jurisdiction.

MAG Roads of Regional Significance

Agency:

Maricopa Association of Governments

Published:

January 1996

Summary:

The evaluation examined all roadways within the MAG region classified as of regional significance. The purpose of the evaluation was to assess the feasibility of constructing a 542-mile network of arterial streets to a higher design standard than the typical arterial street in the MAG region.

The evaluation also includes an examination of upgrading bicycle facilities along the roadways designated as significant. Included in this examination were the identification of which roadways, the total miles required and the associated costs. A total of 436 centerline miles were identified throughout the MAG region.

Regional Context:

Roads of regional significance in the study area include:

- Elliot Road east to Arizona Avenue
- Warner Road from Arizona Avenue east
- Arizona Avenue from US 60 to the Hunt Highway
- Gilbert Road from US 60 to the Hunt Highway
- Chandler Drive/Queen Creek Road
- Riggs Road
- Power Road
- Ellsworth Road

Recommendations:

The plan recommends that the roads of regional significance system be developed and constructed by all member jurisdictions as a complement to the region's freeway system.

Maricopa County Bicycle Transportation System Plan

Agency:

Maricopa County Department of Transportation

Make roadway cross sections with bicycle lanes the roadway design standard.

Published:

Adopted May 19, 1999

Develop an Implementation Plan outlining specific steps, timelines, and processes towards complete implementation of this plan.

Summary:

The Bicycle Transportation System Plan is a strategic document that updates and expands the 1994 bicycle plan, and works towards implementing bicycle related recommendations adopted by the Maricopa county Board of Supervisors (BOS). The plan provides an overview of bicycling conditions in Maricopa County, outlines policy and program changes related to bicycle transportation, and strengthens the bicycle program while implementing recommendations.

Encourage and support existing bicycle safety and education programs operating in Maricopa County.

Integrate bicycle transportation needs into ongoing and future transportation, land use, and economic development plans.

These five goals were then incorporated into a general bicycle policy, three facility commitment policies and two organizational change policies. The Bicycle Transportation System Plan includes a discussion of roadway standards required for implementation of these bicycle policies, the cost associated with providing these facilities, challenges for building streets for modes other than automobile, and benefits in both hard dollar and quality of life results.

Regional Context:

Bicycle travel in Maricopa County is affected by a wide range of plans, programs, and policies adopted by multiple agencies. This includes transportation plans, land use plans, area studies, corridor studies, BIS adopted policies, and internal programs and initiatives. The Bicycle Transportation System Plan identifies all related plans and summarizes the recommendations from each. These plans are then incorporated into goals, objectives and policies recommended for adoption by the BOS and implementation into the County's bicycle network.

Benchmarks:

In order to measure the progress of meeting the Plan's goals and objectives, the following 10 implementation benchmarks have been established:

Double the miles of bike lanes on County roadways by 2002.

Recommendations:

Identify a connected bicycle network, which extends and compliments area bicycle plans and systems into and throughout the County.

Make all recommended changes and reissue the Roadway Design Manual and Pavement Marking Manual within 6 months of plan adoption.

Develop and institute a multi-modal review process within 6 months of plan adoption.

Update on a yearly basis, in conjunction with the CIP, the Bicycle Improvement Program.

Establish a dedicated funding mechanism for bicycle improvements within 3 years of plan adoption.

Implement the bicycle parking ordinance within 1 year of plan adoption.

Fully align all CIP projects with policies in this plan within 1 year of plan adoption.

Conduct or take part in a comprehensive transportation survey that includes bicycle elements within 2 years of plan adoption.

Host a bicycle planning workshop for MCDOT engineers within 6 months of plan adoption.

Conduct a comprehensive analysis of pavement, lane, and shoulder widths on the County road network within 5 years of plan adoption.

Maricopa County Comprehensive Land Use Plan

Agency:

Maricopa County

Published:

October 1997

Summary:

The Maricopa County Comprehensive Plan is a strategic document that will guide land use growth on County land within the study area. Although a large part of the study area is unincorporated County land, almost all of the study area is within the municipal planning areas of the cities of Mesa, Chandler, Gilbert, and Queen Creek. As a result, although these general plans often provide specific recommendations for land uses, the County zoning and future development approvals can influence the type of development that will happen in the study area. For the most part, the County has zoned lands within its jurisdiction at urban and suburban level densities for both commercial and residential properties.

Regional Context:

The plan confirms the eventual transition of the area from predominantly agriculture and low-density residential land uses to more intensive commercial, industrial, and residential land uses interspersed with master planned communities. It is expected that to a large extent the east valley municipalities will annex the

unincorporated areas eventually as residences, businesses, and industry moves in.

Recommended Goals:

- Promote infill development.
- Provide employment opportunities proximate to housing.
- Encourage innovative and varied approaches to development.
- Provide for the coexistence of urban and rural land uses.
- Promote master planned communities that provide a mix of housing types.
- Cluster development in appropriate patterns.
- Ensure the provision of adequate public facilities.
- Support innovative technological operations and facilities to encourage an appropriate balance of automobile use, and to encourage energy efficiency and the use of renewable resources.
- Integrate transportation planning with land use.
- Promote the balance of conservation and development.
- Promote an inter-connected open space system.

Maricopa County Rural Transit Development Plan

Agency:

Maricopa County Department Of Transportation

implement a more urban level of transit service as population and employment increase.

Published:

April 1997

Recommendations:

Sun Lakes

The study recommended establishing a route-deviation service, with limited demand response service. The area was considered marginal in terms of transit demand and paratransit services was deemed adequate for a while. The estimated cost of providing service ranged from \$351,000 to \$700,000.

Mesa/Apache Junction

Service daily connecting Apache Junction to existing Valley Metro service was recommended. This was also recommended in the Pinal portion of Apache Junction.

Summary:

The study focused on rural Maricopa County transit needs, particularly providing service from rural origins to destinations inside the metropolitan Phoenix area. Due to the largely developing and urbanizing focus of the Southeast Valley, the study largely concentrated on western Maricopa County. In the Southeast Valley, only southern Chandler and the Sun Lakes area was included in the analysis. The study notes that rural transit program funds (FTA Section 5311) cannot be used in the Southeast Valley and that only urbanized federal formula funds can be used.

Financial Options:

Apply for federal rural transit funds for use in rural corridors as a match for existing dollars such as LTAF, city funds, or County funds.

Encourage local unincorporated areas with urban level transportation needs to establish improvement districts or other local funding sources in order to fund local transportations services.

Regional Context:

The study identified unmet unincorporated County transit demand and forecasted these demands to the year 2015. Table 1 documents the travel demand identified.

For the most part the study ruled out a rural transit focus in the Southeast Valley; recommending instead that the East Valley jurisdictions plan and

Table 1: Identified Transit Demand

Area: Chandler Division	1995	2000	2005	2015
Sun Lakes	34,480	43,922	59,392	80,310
Remainder of Division	5,240	6,675	8,358	10,466
Chandler Rural Division Total	39,720	50,597	67,750	90,776

Maricopa County Transportation System Plan

Agency:

Maricopa County Department of Transportation

Published:

December 1997

Summary:

The MCDOT Transportation System Plan is a strategic document that establishes the transportation system goals and objectives of funding priorities. As stated in the report, the overall goal of the MCDOT Transportation System Plan is to provide an efficient, cost effective, integrated, accessible, environmentally sensitive and safe County-wide multi-modal system that addresses existing and future roadway networks as well as promotes transit, bikeways, and pedestrian travel. In order to implement this, the report categorizes roadways in Maricopa County into three types: primary system, secondary system, and local roads. The highest priorities for future funding are the primary system roadways.

Regional Context:

The report identified a series of multi-modal transportation system investments in the study area. The majority of improvements are in the surface street network. By reference the report included all the recommended roadway improvements in four small area studies the County had completed previously.

Roadways

Implementation of the strategic plan would modify the transportation priorities for future MCDOT investment dollars in the study area. Roadway projects for the Southeast Valley included widening existing arterial streets and constructing

new arterial streets. Identified north-south primary roadways included Ellsworth, Power, Gilbert, Maricopa, and Arizona Avenue. East-west primary roadways included Riggs, Queen Creek, Williams Field, and Warner.

Transit

Minor transit improvements were recommended in the Southeast Valley, including a local circulator in Sun Lakes and an extension of existing service along Alma School. A park-and-ride lot was also proposed for the intersection of Ellsworth and Ocotillo Road. The study did not recommend extensive bus facilities within the study area, but did recommend a high priority be placed on a potential commuter rail line.

Bikeways

On-street bike routes were recommended for Rittenhouse and Williams Field roads. Off-street bike routes were recommended adjacent to the Consolidated Canal, the Eastern Canal, and the Roosevelt Water Conservation District Canal.

Recommendations:

The recommended actions for the study area mostly focus on implementing the County's strategic transportation system plan. They include the following, which if implemented, would focus MCDOT's efforts on Ellsworth, Power, Gilbert, Maricopa, Arizona Avenue, Riggs, Queen Creek, Williams Field, and Warner:

Implement a hierarchical three-tiered order of roadways.

Plan for transportation management systems to help in measuring system performance.

Correlate transportation investments with land uses.

Mesa 2025 General Plan

Agency:

City of Mesa

success of Williams Gateway Airport, and 3) pending development in Pinal County.

Published:

Revised Draft, March 5, 2002

The General Plan for the Williams Gateway Subarea calls for a broad development of educational, business park, light industrial, and general industrial areas. The general thrust of the plan is clearly commercial, with nearby residential areas of moderate to high density. As specified in the plan, the residential potential is about 8,900 dwelling units with a corresponding population of about 26,265. The employment potential would provide approximately 146,750 jobs.

Summary:

The Mesa General Plan is a strategic document that sets the scale and pace of development in the study area for both 1) the actual jurisdiction of Mesa, and 2) the City’s municipal planning area, which includes large tracts of unincorporated land in the study area. Most of this summary will focus on the Williams Gateway Subarea of the General Plan, which consists of the entire Mesa municipal planning area south of Guadalupe Road.

At the airport itself, significant growth in activity is expected by the year 2020:

Regional Context:

The General Plan documents the existing land uses south of US60 and around the Airport. For the most part the existing land uses are industrial, commercial, and agricultural. Interspersed in small pockets are large lot developments. Today there is substantial vacant land in the study area.

20,000 students enrolled at the Williams Campus

One million air passengers by 2005, 2.45 million by 2015

More than 287,000 flights annually

The City’s stated vision is that the Williams Gateway Airport will anchor the “Santan Urban Economic Hub,” a location “well situated to provide a large international trade center...and a second urban center of the City, with a mixture of residential, commercial, employment, recreational, and public uses.”

The General Plan calls for an extension of the mile grid system of arterial streets, the construction of the San Tan freeway, and the construction of a parkway starting from the San Tan freeway that would serve both the Airport and the former GM proving grounds.

Recommended Goals:

Preserve and develop the Williams Gateway Airport area into a regional economic center that would surpass downtown Mesa in jobs, housing, recreational, educational, and cultural activities.

The General Plan reports that three major issues will influence development of the study area: 1) the construction of the San Tan Freeway, 2) the long-term

Mesa Transportation Plan

Agency: City of Mesa

Published: April 2002

Summary:

The City of Mesa Transportation Plan resulted as part of the city's *Mesa 2025 – A Shared Vision* planning process, which was guided by a local citizen's advisory committee. The Mesa Transportation Plan is a comprehensive process that assesses a variety of transportation issues that are relevant to the City of Mesa. The purpose behind the plan was to balance the growth and development of the city with an intermodal transportation system that promotes long-term, sustainable development throughout the community. The plan is guided through a series of planning goals, objectives and policies that represent the framework for the transportation plan. The plan provides an overview of the public involvement process, assesses future and current conditions, and focuses upon a series of plans pertaining to streets, transit, bicycling, pedestrian transportation, Travel Demand Management (TDM), Town Center transportation, transportation cost and revenue summaries, and implementation.

Regional Context:

The Mesa Transportation Plan represents the city's initial effort to create a comprehensive multi-modal plan, which encourages pedestrian and transit oriented development, while maintaining a viable street system. The planning area for the study is larger than

the city's incorporated boundaries, and considers the areas bounded by the Salt River on the north; Baseline Road to Power Road to Germann Road on the south; the Loop 101 Freeway on the west; and Meridian Road on the east.

Recommendations:

The Transportation Plan considers a variety of costs that are necessary to implement the plan over time, and also offers a number of potential revenue sources to pay for future improvements. The plan culminates in an implementation strategy for the community that considers which departments are responsible for implementing various segments of the plan; the financial impacts associated with each identified project; and the associated staff activity which is necessary in order to implement safety programs, revise engineering standards and procedures, conduct additional studies, and develop new or revised ordinances. The implementation schedule considers projects that are associated with the following plans as identified within the document:

- Street Plan
- Transit Plan
- Bicycle Plan
- Pedestrian Plan
- TDM Plan
- Town Center Transportation Plan
- Finance Plan
- Future Planning and Coordination

Pinal County Comprehensive Plan 2001

Agency:
Pinal County

Published:
December 2001

Summary:
The Pinal County Comprehensive Plan contains land use, natural environment, transportation, and water planning elements, which contain policies and goals that have been officially adopted by the County Board of Supervisors in an effort to guide growth and development throughout the county over time. The County's Transportation Element is concerned with providing for the safe and efficient movement of persons within and throughout Pinal County. As specified within the Pinal County Comprehensive Plan, the Transportation Element addresses a variety of issues for transportation planning; provides a number of guiding goals, objectives and policies; and addresses the county's surface transportation system, with regard to freeways, rail, alternative modes of transportation, pedestrians, bicycles, intermodalism, telecommuting, park and ride facilities, and Intelligent Transportation Systems (ITS).

Regional Context:
The Transportation Element is a significant component of Pinal County's overall Comprehensive Plan. The Transportation Element considers existing transportation plans that are relevant to Pinal County, and also addresses ongoing, integrated regional planning efforts with the Central Arizona

Association of Governments (CAAG). The element addresses existing transit planning, the CAAG Regional Transportation Plan, and the Pinal County Five Year Transportation plan, which defines a roadway system within Pinal County that consists of principal arterial, minor arterial, major collector, and minor collector roadways.

Recommendations:
The Pinal County Comprehensive Plan's Transportation Element provides an overall goal, and a number of objectives (and numerous policies) that were prepared as a guide for the overall development of the Pinal County transportation network.

GOAL:
Provide an efficient, cost effective system for existing and future roadways while promoting transit and multi-use trails.

Objectives:
Accommodate existing and projected transportation demand in Pinal County.
Promote the use of design standards for road construction which promote vehicular safety and economy of construction.
Reduce particulate emissions caused by vehicular traffic.
Provide a balanced circulation system with opportunities for public transportation, pedestrian and bicycle circulation, equestrian trails and other alternatives to automobile travel.

Pinal County Transportation Plan

Agency:

Pinal County

Published:

September 2000

Summary:

The report states that the transportation system in Pinal County works very well today. The only capacity issue that appears throughout the evaluation is I-10, portions of which operate at LOS C. All other roadways in the County operate at LOS B or better.

From 1990 to 1999 Pinal County grew from a population of 116,309 to a population of 168,564, representing an increase of 45%. The most recent DES projection is that Pinal County will grow from 169,000 in 1999 to 239,00 by the year 2020. However, the study team felt that project was very low, given two facts: 1) table 4-1 reports that 110,195 dwelling units have already been approved in Pinal County, and 2) the 2013 population projections used by the 1994 study were already surpassed in the year 2000. As a result, the population projections used in the plan were not based on years but rather population levels: 220,000 (base case), 320,000, and 520,000 (buildout of approved existing development master plans).

The major developments in Pinal County are clustered in the study area adjacent to the Hunt Highway corridor and the surrounding arterial street network. The study also assumes that Pinal County will transition from an overall rural composition to a more urban structure.

Regional Context:

Roadway Element

The Pinal County roadway network consists of 2 interstates, 1 US route, 12 state routes, and many Indian reservation roads, county roads, and municipal streets. Many of these roads, especially the main thoroughfares, are north-south aligned. The concentration of east-west aligned roads connects the larger communities such as Casa Grande, Coolidge, and Florence. Average daily traffic volumes in 1999 were 2,400 on the Hunt Highway, 18,100 on US 60, 5,100 on Maricopa Road, and 45,800 on I-10. Current functional classifications of roadways that connect to Maricopa County are identified in Table 1, while their future classifications are listed in Table 2.

Table 1: 1999 Functional Classifications of Roadways Connecting to Maricopa County

1999 Functional Classifications	Study Area Roadways
Interstates	I-10
Principal Arterials	US 60, Maricopa Road (SR 347)
Minor Arterials	SR 87 (Arizona Ave), SR 287, SR 79, and Apache Trail
Major Collectors	Hunt Highway, Vineyard Road

Table 2: Future Functional Classifications of Roadways Connecting to Maricopa County

Future Functional Classifications	Study Area Roadways
Interstates	I-10
Principal Arterials	Maricopa Road (SR 347), Hunt Highway, Vineyard Road, SR 87 (Arizona Ave), SR 287, SR 79, and Apache Trail

As evaluated, without significant transportation improvements Pinal County’s transportation system will degrade as population and employment increase. While the system LOS begins to degrade at a population level of 220,000, it noticeably declines at the 320,000 and falls apart at a population of 520,000. In order to improve the traffic network, all roadways were recoded as 4-lane divided highways, and I-10 was recoded with 6 lanes.

To mitigate future population growth, the plan recommends \$178.4 million in Pinal County transportation improvements be made, starting with the widening of Hunt Highway from Arizona Farms Road to SR 287. In addition, the plan recommends that ADOT invest an additional \$182.3 million in roadway widening. The plan includes upgrading I-10 to 6 lanes from SR 387 to the Maricopa County line, but does not identify a cost for this improvement.

As a basic rule, Pinal County will build a rural section (without curb and gutter) unless the subject section is a continuation of a roadway with curb and gutter or a municipality is planning to annex the roadway and pays for the

upgrading of the roadway to an urban section.

Public Transit Element

The report notes that there are significant local, regional, and intercity transit needs throughout Pinal County. With the exception of the Cotton Express in Coolidge and private taxi and limited private intercity bus service, there are no alternatives to the private automobile. The report does not recommend a specific transit service plan; rather, the report discusses how to develop a new start transit system through a series of planning and implementation steps.

Air Quality

The report notes that the Area A was expanded greatly into Pinal County in 1998, and it is likely to be further expanded in Pinal County as Maricopa County continues to grow.

Recommendations:

Conduct a series of roadway widening projects totaling \$360.7 million dollars over the next twenty years.

Adopt roadway design standards and cross sections that match Maricopa County, so as to provide a seamless transition for drivers crossing the County Line.

Access management practices should be adopted in Pinal County that limits driveways on corners and intersections.

Set up a public transit task force to further study a possible implementation of a new start transit system in Pinal County.

RPTA Long-Range Transit Plan

Agency: Regional Public Transportation Authority

Published: June 1999

Summary:

The Regional Public Transportation Authority's (RPTA) Long Range Transit Plan was developed to plan for future public transportation activities throughout the Greater Phoenix Metropolitan Area. The Long Range Transit Plan is based upon a twenty year planning horizon, and was prepared under the direction of the Maricopa Association of Governments (MAG). The plan specifically addressed a variety of transportation issues for the region, which include fixed route bus service; commuter express bus service; community circulator bus service; paratransit services; fixed guideway transit (light rail); transit capital facilities; transit development standards and public policies; intermodal connectivity; transportation demand management;

transit marketing and promotion; transit financing and implementation; regional planning efforts and Intelligent Transportation Systems (ITS). The plan also included a comprehensive analysis of planned operating improvements by jurisdiction, for municipal transit providers and communities located within Maricopa County.

Regional Context:

The RPTA Long Range Transit Plan was developed in an effort to provide an overall vision for the future of public transportation in the Phoenix urbanized area. As part of this process, RPTA has assessed local transit planning efforts and incorporated local plans and planning processes into the plan. The RPTA Long Range Transit Plan represents a twenty year long range transit modal plan, which essentially represents a composite overview of local and regional transit planning activities for the region.

Recommendations:

Long Range Plan Projected Service Provided, Riders and Costs

TYPE OF SERVICE	1998	2020
REGIONAL FIXED ROUTE		
Annual Miles of Revenue Service	13,000,000	38,700,000
Annual Operating Costs	\$46,600,000	\$138,800,000
FIXED GUIDEWAY		
Annual Miles of Revenue Service	0	4,700,000
Annual Operating Costs	0	\$21,100,000
EXPRESS SERVICE		
Annual Miles of Revenue Service	1,000,000	3,900,000
Annual Operating Costs	\$4,900,000	\$19,700,000
COMMUNITY CIRCULATORS		
Annual Miles of Revenue Service	100,000	1,000,000
Annual Operating Costs	\$500,000	\$3,700,000
DIAL-A-RIDE		
Annual Miles of Revenue Service	5,500,000	13,400,000
Annual Operating Costs	\$9,700,000	\$23,500,000

Town of Queen Creek General Plan 2002

Published:

February 2002

Summary:

The Queen Creek general plan identifies the general location and extent of existing and proposed roadways and expressways, arterials, and collectors. Street classifications, design options, and multimodal transportation options are identified. Public transportation, multi-use paths, and other non-vehicular circulation facilities are discussed and proposed.

Regional Context:

According to the report the major roadways in the area includes Riggs Road, Germann Road, Power Road, Ellsworth Road, Vineyard Road, and Rittenhouse Road that runs parallel with the Union Pacific Railroad tracks. The existing local roadway network consists primarily of a mile grid network of arterial streets.

The report identified some major issues and transportation needs:

- Provide excellent transportation connections with adjacent communities and the metro area.
- Develop transportation lines throughout the community that link to regional area and the light rail system.
- Ensure that the community has transportation lines throughout the community.
- Provide good transportation into the Town Center.
- Establish better road maintenance.
- Transportation plan/impact fees.
- Complete arterial road construction prior to new area being developed.

- Regulate hours of truck traffic delivery.
- Restrict truck access to downtown.
- Develop a by-pass for truck traffic.
- Address traffic and traffic patterns and commercial/residential conflicts.
- Develop traffic calming measures.
- Ensure planned commuter traffic routes.
- Maintain neighborhood/local traffic.
- Limit use of motorized recreational vehicles.
- Establish multi-use trails.
- Consider public transportation (e.g., train stop, park-and-ride, and trolley).

Recommended Goals:

The plan identifies seven goals that will help mitigate these issues:

- Goal 1: Adopt arterial, collector, and local roadway design standards to accurately reflect travel function and anticipated travel volumes based upon development density and intensity.
- Goal 2: Provide non-motorized modes of transportation through the use of bicycle and pedestrian pathways, and equestrian trails.
- Goal 3: Promote a multimodal transportation system of arterial, collector, local streets, and non-motorized facilities capable of accommodating the anticipated travel demands of the Land Use Element of the General Plan.
- Goal 4: Support appropriate multi-jurisdictional planning among the Town of Queen Creek, Maricopa County, Pinal County, and surrounding jurisdictions that share common transportation facilities.

Goal 5: Establish guidelines regarding safety and appropriate access control to and from arterial streets and adjacent properties.

Goal 6: Establish uniform guidelines for preparing Traffic Impact Analysis (TIA)

for new developments or additions to existing developments.

Goal 7: Provide or facilitate the provision of local and regional public transportation service in areas or markets where unmet transportation needs exist.

Williams Area Transportation Plan

Agencies:

Williams Gateway Airport Authority
Maricopa County Department of
Transportation

Published:

March 1997

Summary:

The Williams Area Transportation Plan studied the transportation needs of the unincorporated areas of the county south and east of Chandler, Gilbert, and Mesa, including the Town of Queen Creek. The major growth node in the study area was the 4,052 acre former Williams Air Force Base, which officially closed in 1993. The Williams Gateway Airport is currently functioning as a reliever airport and an aerospace center accommodating general aviation, cargo, aerospace manufacturing, and aircraft maintenance and modification. Also included at the airport is the Williams Campus, anchored by Arizona State University East. The airport and the adjacent GM Proving Grounds are considered the major economic development engines in the area.

In 1996, most of the arterial street network consisted of 2 lane roadways with an average roadway width of 28 feet. Traffic volumes ranged from 1,000 cars per day to 11,000 cars per day and almost all the roadways operated at Level of Service A. Many of the east-west roadways in the study area are not continuous, and several will require building structures and bridges to cross the man canals and washes in the area, including the Roosevelt Water Conservation Canal, the Queen Creek wash, and the Powerline Floodway.

The study found that the area is expected to develop significantly over the next twenty years, and that a comprehensive transportation improvement program was needed for the area.

Regional Context:

The jurisdictions of Chandler, Mesa, Gilbert, Queen Creek, and Maricopa County all have an important stake in the future of the study area. The study area encompasses 146 square miles. Both population and employment in the area are expected to increase substantially, with population expected to rise to 203,040 in 2015.

Current roadway plans by jurisdictions in the study area show a fully networked system of arterial roadways, supplemented by the San Tan Freeway and principal arterials (including roads of regional significance) on Power, Ellsworth, Higley, Gilbert, Riggs, Germann, Williams Field, Queen Creek and the Hunt Highway. The plans confirm that most of the network will be increased from 2 lane county highways to 4- or 6-lane divided urban arterial sections.

The existing and programmed arterial street network was modeled to determine future transportation needs in the study area. For modeling purposes, 100% of the traffic generated by housing development in Pinal County east of Maricopa County was assigned to the study area, and 50% of the traffic generated by Johnson Ranch in Pinal County was assigned to the study area. The model results indicate large increases in average daily traffic across the 10 screen lines selected for the study, ranging from 100% to 2,000% increases in traffic.

For the most part, the report identifies a series of roadway widening projects to accommodate future traffic and maintain LOS D on the arterial roadway network. These improvements over the first five years of the plan (1995 to 2000) total \$29,105,000; over the next five years (2000 to 2005) an additional \$20,000,000 would be needed. Over the next 20 years (1995-2015) approximately \$102,200,000 would be needed to build out the arterial street system and maintain LOS D.

Recommendations:

Roadway Element

Conduct a series of roadway widening projects to maintain LOS D on the study area's regional arterial street network. Together the study identified \$151,305,000 in needed roadway improvements.

Speed construction of the San Tan freeway.

Establish a standard 130 right-of-way for all major and minor arterials in the area, which will allow a standard seven lane cross section with bicycles and sidewalks to be built when demand warrants.

Reclassify Rittenhouse Road as a collector or local street to eliminate a future "Grand Avenue" scenario.

Construct a Hawes Road traffic interchange on the San Tan freeway.

Transit Element

Preserve the option for commuter rail transit service along the UP tracks.

Establish a 2-mile bus route grid in the study area in the more heavily populated portions of the study area.

Provide peak hour express service on major corridors.

Build park-and-ride lots at Ellsworth/Ocotillo, Sossaman/Germann, Higley/San Tan, and the Val Vista and San Tan intersections.

Provide circulator bus service within the Williams Gateway Airport.

The annual costs associated with implementing transit services in the study area average \$634,000 in the year 2000, \$1.4 million in 2005, and between \$4.3 and \$7.9 million in 2015.