



Southeast Maricopa/ Northern Pinal County Area Transportation Study



FINAL SUMMARY REPORT



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Final Summary Report

Prepared for

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

Prepared by



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Introduction

The Southeast Maricopa/Northern Pinal County Area Transportation Study (SEMNPTS) was 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 were to foster inter-county planning, document the transportation relationships between Maricopa and Pinal Counties, examine the long-range transportation needs of the study area, and identify projects to address the area needs.

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.

The growth scenarios and transportation modeling for the study extends out to the Year 2030. However, one of the major purposes of the study was to develop a long-term blueprint to coordinate development of transportation facilities in the study area. This being the case, the blue print is targeted not just to identify needs for a specific horizon year but also to provide the long-term concepts necessary for effective cooperative planning in the two-county area. As such, the

timing of the development of certain components of the blueprint may extend beyond 2030, depending on how the pattern and magnitude of future growth evolves.



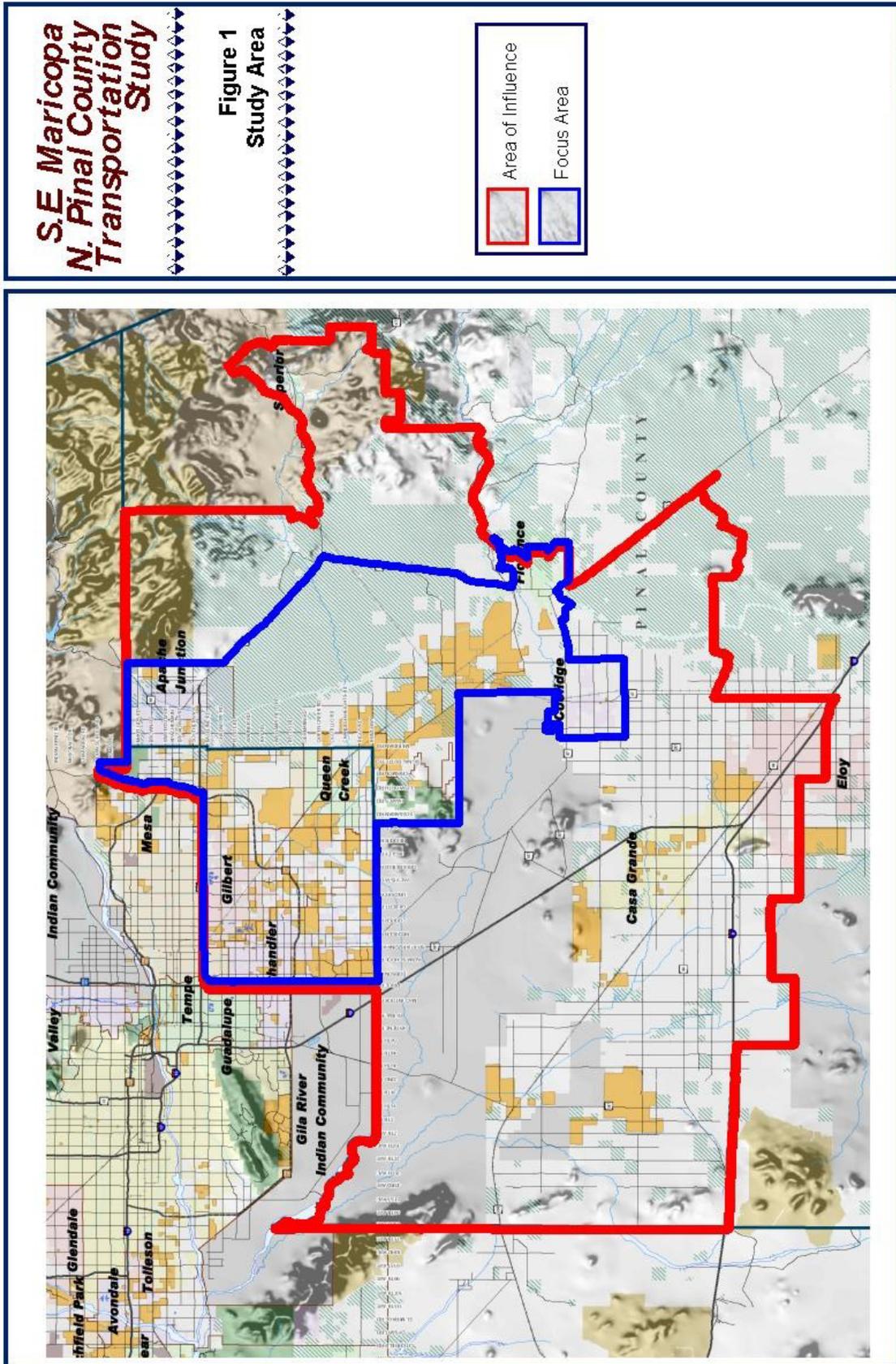
As the study name implies, the study includes southeastern Maricopa County and northern Pinal County. The study area is broadly defined as US 60/SR 79 on the east, Loop 101 and the Gila River Indian Community boundary on the west, US 60 on the north and Coolidge and Florence on the south. This is considered the “focus area” for the study. In addition, a larger area was defined for travel demand modeling purposes. The definition of a “model area” allows for incorporating the travel demand impacts of surrounding areas. In the study process, transportation improvements were identified just for the focus area.

The study area, outlining the focus and model areas, is shown in Figure 1. The analysis of growth and potential new corridors are considered for the model area in order to maintain continuity and provide a

comprehensive evaluation. However, statistical summaries and comparisons presented later in this summary generally are for the focus area only.

The jurisdictions included within the focus area are: Apache Junction, Chandler, Coolidge, Florence, Gilbert, Mesa, Queen Creek, Maricopa County, and Pinal County.

It should be noted that only a portion of Chandler and Mesa are within the study area. In addition, the effects of transportation issues in surrounding communities such as Casa Grande, Guadalupe, the Gila River Indian Community, Phoenix, Superior, and Tempe will be considered.



Growth Forecasts

MAG maintains a socioeconomic database of existing and future data that is used in conjunction with the travel forecasting and air quality models for the Phoenix metropolitan area. MAG is currently in the process of updating the data based on the 2000 census information and current general plans and has released a Draft 2 dataset. This dataset was the primary source of socioeconomic data for the SEMNPTS analysis. In addition, forecasts used in the 2000 Pinal County Transportation Study were updated and incorporated into the MAG travel-forecasting model.

Two different years, 2020 and 2030, were selected for analysis in this study. The two years represent different points in the growth of the region and allow a comparison of various performance measures. It should be noted that this analysis does not include projections for the State Land area east of Mesa and south of Apache Junction. Planning for this area has been initiated and MAG is working with Pinal County and CAAG to develop socioeconomic projections to be used in the preparation of the Regional Transportation Plan (RTP).

Population

Table 1 presents a comparison of the year 2000 population data for the Southeast Maricopa/Northern Pinal County study area with the Draft 2 2020 and 2030 forecasts. The current study area population within Maricopa County is 385,252 and within Pinal County is 148,902 for a total study area population of 534,154. The total population

for all of Maricopa County and Northern Pinal County is 3,135,944.

For 2020, the study area population within Maricopa County is 790,372 and within Pinal County is 295,894 for a total study area population of 1,086,266. This represents a doubling of population compared to 2000. Certain jurisdictions including Gilbert, Queen Creek, and Florence as well as unincorporated Pinal County in the focus



area are expected to experience higher growth rates. Compared to 2000, the Pinal County part of the study area experiences an increase of 99 percent, while the Maricopa County portion increases 105 percent. In terms of absolute numbers, the Pinal County area increases by 146,992 and the Maricopa County area by 405,120. The 2020 population is 5,525,548 for Maricopa County and Northern Pinal County.

For 2030, the study area population within Maricopa County is 834,113 and within Pinal County is 518,081 for a total study area population of 1,352,194. This represents a 153 percent increase compared to 2000 and a 24 percent increase over draft 2-2020. Compared to 2000, the Pinal County part of the study area experiences an increase of 248 percent, while the Maricopa County portion increases 117 percent. The 2030 population is 6,815,583 for Maricopa County and Northern Pinal County.

**TABLE 1
POPULATION-GROWTH¹**

MPA	2000	Draft 2-2020	Draft 2-2030
Chandler	146,156	243,612	246,069
Gilbert	119,157	276,790	287,296
Maricopa County	8,480	9,071	9,360
Mesa	102,512	185,275	197,861
Queen Creek	8,947	75,624	93,527
Apache Junction	40,461	56,424	63,155
Coolidge	8,470	11,512	13,295
Florence	15,652	29,601	34,189
Pinal County-Focus Area ²	7,562	62,587	174,647
Pinal County-Model Area ³	76,757	135,769	232,794
Subtotal Maricopa County	385,252	790,372	834,113
Subtotal Pinal County	148,902	295,894	518,081
TOTAL STUDY AREA	534,154	1,086,266	1,352,194
TOTAL REGION	3,135,944	5,525,548	6,815,583

¹ Population figures do not include seasonal and transient population. MPA totals cover only the portion within study area

² Covers unincorporated areas within Focus Area.

³ Covers the portion of Model Area not included in Focus Area. Includes Casa Grande, Superior, and portions of Eloy as well as unincorporated areas.

Employment

Table 2 presents a comparison of the year 2000 employment data for the Southeast Maricopa/Northern Pinal County study area with the Draft 2 2020 and 2030 forecasts. The study area employment within Maricopa County is 129,427 and within Pinal County is 58,776 for a total study area employment of 188,203. The total employment for all of Maricopa County and Northern Pinal County is 1,640,297.

For 2020, the study area employment within Maricopa County is 385,050 and within Pinal County is 100,881 for a total study area employment of 485,931. This represents a

158 percent increase compared to 2000. Gilbert and Queen Creek as well as unincorporated Pinal County areas show higher growth rates. The regional total employment for Maricopa County and Northern Pinal County is 2,918,881.

For 2030, the study area employment within Maricopa County is 441,026 and within Pinal County is 185,081 for a total study area employment of 626,107. This represents a 233 percent increase compared to 2000 and a 29 percent increase over the Draft 2-2020 data. The regional total employment in 2030 for Maricopa County and Northern Pinal County is 3,668,663.

**TABLE 2
EMPLOYMENT GROWTH¹**

MPA	2000	Draft 2-2020	Draft 2-2030
Chandler	48,726	103,316	111,591
Gilbert	34,996	124,073	143,428
Maricopa County	1,394	1,379	1,420
Mesa	41,632	126,965	147,277
Queen Creek	2,679	29,317	37,310
Apache Junction	13,280	15,151	23,872
Coolidge	5,104	4,135	6,839
Florence	3,502	9,787	16,188
Pinal County-Focus Area ²	2,019	8,275	28,049
Pinal County-Model Area ³	34,871	63,532	110,133
Subtotal Maricopa County	129,427	385,050	441,026
Subtotal Pinal County	58,776	100,881	185,081
TOTAL STUDY AREA	188,203	485,931	626,107
TOTAL REGION	1,640,297	2,918,881	3,668,663

¹ MPA totals cover only the portion within study area

² Covers unincorporated areas within Focus Area.

³ Covers the portion of Model Area not included in Focus Area. Includes Casa Grande, Superior, and portions of Eloy as well as unincorporated areas.

Existing Transportation System Characteristics

Roadways

The arterial streets in the northwest portion of the focus area are primarily four and six lane while in the southeast portion of Maricopa County and in Pinal County; the arterial streets are mostly two-lane. Figure 2 shows the existing number of through lanes for the arterial, highway, and freeway facilities in the focus area. A summary of the existing arterial street system characteristics in the focus area is presented in Tables 3 and 4. The Maricopa County portion of the study area has 491 centerline miles and

Pinal County has 176. The arterial system accounts for 92 percent of the total centerline miles. The average number of lanes per mile in Maricopa County is 3.4 and in Pinal County is 2.5.

The vehicle miles traveled for roadways in the focus area is listed in Tables 4 by facility type. It is interesting to note that even though arterial streets comprise 92 percent of the centerline miles, they only account for 62 percent of the VMT.

TABLE 3
YEAR 2002 CENTERLINE MILES AND LANE MILES BY FACILITY TYPE¹

FACILITY TYPE	CENTERLINE MILES	LANE MILES
Freeway & Expressway	53	263
Arterials	614	1859
TOTAL	667	2122

¹Data represents miles within focus area

TABLE 4
YEAR 2002 VEHICLE MILES OF TRAVEL BY TYPE OF ROADWAY¹

FACILITY TYPE	VMT
Freeways & Expressways	4,470,800
Arterials	7,407,900
TOTAL	11,878,700

¹Data represents miles within focus area

Transit

The majority of transit service in the Southeast Maricopa/Northern Pinal County Area Transportation Study area is provided under the Valley Metro umbrella by Mesa, Chandler, and Gilbert. Smaller, more specialty services are provided by Maricopa County, Coolidge, and employers such as the Arizona Department of Corrections.

For the most part, there is limited service in Northern Pinal County. There is a fixed route service in Coolidge (Cotton Express), a fixed route service that serves Coolidge, Casa Grande, and Eloy, and some scattered vanpool service.

Table 5 presents a summary of the current revenue miles of local bus service currently available in the study area.

**TABLE 5
CURRENT LOCAL TRANSIT SERVICE¹**

MPA	Revenue Miles
Apache Junction	0
Chandler	1,132
Gila River Indian Community	5
Gilbert	553
Mesa	5,831
Queen Creek	0
Pinal County	0

¹ As of July 2002

Source: Valley Metro Draft Regional Transit Study, December 16, 2002

Non-Motorized

Non-motorized transportation facilities occur on shared-streets, streets with bike lanes, streets marked as bike routes, sidewalks, pedestrian malls, multi-use paths (paved) and shared-use trails that are built on right-of-way separated from roadways.

In general, within the incorporated areas of the study area, all streets are open to cyclists and pedestrians, unless specifically designated and posted otherwise.

Therefore, the street grid always provides the basic access and connections for bicycle and pedestrian travel.

Outside of the incorporated areas, the study area is largely undeveloped and the number of miles of paved streets in the undeveloped areas are low; however, there is an extensive network of dirt/gravel roads, canal banks, and dry washes that can be used by pedestrians, equestrians, and bicyclists.

Transportation Issues

Based on the review of other related studies, preliminary transportation data, and interviews with study stakeholders, a number of key transportation issues have been identified in the Southeast Maricopa/ Northern Pinal County area. Many of these issues are similar to those facing other rapidly developing urban areas.

This discussion of issues has been categorized by mode as follows:

- Arterial and State Highway
- Freeway
- Transit
- Bicycle/Pedestrian
- Airport Access

Arterial and State Highway Issues

The primary component in the development of the Southeast Maricopa / Northern Pinal County transportation system has been the arterial street and state highway network. The area is served by a grid system that connects activity centers with a hierarchy of roadways ranging from local streets in neighborhoods to limited access freeways for regional travel. There are exceptions to the grid system including Rittenhouse Road, Hunt Highway in Pinal County, and the state highway system.

In addition, there are discontinuities in the arterial grid because of major developments (e.g., Sun Lakes, Williams Gateway Airport), physical features such as canals and major washes, or because development has yet to occur. In addition, the current process of requiring street improvements as part of individual development approvals has led to varying roadway widths, or scalloped streets, along a section of road. Also, the future

planned number of lanes is not always consistent across jurisdictional boundaries.

There is consensus among the study participants that the arterial grid is the backbone of the study area road system and is essential to the future growth of the area. Much of the growth in the study area is



occurring within the “focus area” and there is considerable interest in identifying additional opportunities for roadway capacity to accommodate the growth.

Some specific issues and needs that have been presented are outlined below.

- Complete the arterial street system as the GM property develops.
- SR 87 will need to be widened.
- Existing arterials at the Maricopa/Pinal County line need to be extended east and south.
- Extend Arizona Boulevard north to Hunt Highway from I-10.
- Treatment of Rittenhouse Road.
- Ellsworth Road realignment proposed near Pecos Road.

- Access to State Trust land needs to be considered. Extension of SR 88 to the south.
- SR 79 needs to be widened.
- Need US 60 bypass in Gold Canyon area.
- Need an additional crossing of the CAP in Apache Junction.
- Widen and extend Attaway Road.
- Future cross section of Ganzel Road (Vineyard) (six lanes).

Freeway Issues

As development activity continues to move outward, there is interest in defining and protecting the right-of-way for future facilities needed to accommodate such growth.

Several corridors have been suggested as potential new regional facilities including:

- Corridor from I-10 in Pinal County north to the East Valley area.
- Freeway facility from Loop 202 in Mesa east to Williams Gateway Airport and extending east into Pinal County.
- Corridor south from US 60 around Queen Creek and west toward Loop 101 and/or I-10.

New or improved interchanges to serve future growth and improve circulation have also been identified through stakeholder interviews and technical analysis. These include:

- A half-diamond interchange is needed at Meridian Road on US 60 for traffic traveling to/from the west. This would provide access to downtown Apache Junction.
- An interchange has been included on the Santan Freeway at Hawes Road. This

interchange should eventually be a freeway-to-freeway type. A freeway would extend from this location at the northeast corner of Williams Gateway to the east into Pinal County. The facility may be phased as development occurs.

- New interchanges on I-10 at Chandler Heights Road and in Casa Grande (Val Vista and Korsten Roads)
- Interchange modifications at various locations where additional turn lanes are needed on the crossroad.

Based on future traffic volume forecasts, freeways in the Southeast Maricopa and Northern Pinal County areas will likely require expansion to accommodate the planned growth.



The following improvements were considered.

- Widen US 60 in Pinal County.
- Widen Loop 202.
- Widen Loop 101.
- Add HOV lanes on Loop 101 and Loop 202.

Transit Issues

There is still relatively little transit service in the Southeast Maricopa/Northern Pinal County area. Only the City of Mesa, which uses a portion of its Quality of Life tax, has a

dedicated source of revenue for transit development and operation.

Most of the communities within this study area are at the stage where developing and maintaining adequate roadways is still the highest priority. However, many community General Plans identify current or projected transit needs and multimodal goals.

Some of the key questions to be considered are:

- What is the range of transit services required for the area?
- Are additional passenger amenities such as transit centers, shelters, and park and ride lots required?
- Are intermodal connections needed?
- What level of rural transit service is appropriate?
- To what degree should new development encourage the use of transit service?
- Are the needs of the low income and elderly being met?

Bus Service

Specific needs that have been identified include:

- Apache Junction will need to tie into metro transit system.



- Vanpools are currently provided for prison staff and similar service should be pursued for other transit users.
- Commuter service from Casa Grande to Phoenix via Greyhound.
- Local transit service between Pinal County communities.
- Basic grid bus system needs to be upgraded and expanded.
- Express bus and park and ride lot for commuters from Gold Canyon.
- Transit service would be beneficial between Apache Junction and Casa Grande.

Long Term Plans for High Capacity Transit Service

Options for high capacity transit are being studied to identify where such service might offer the potential of improved mobility in the region. Commuter rail is of interest in many of the communities that abut the Union Pacific Railroad right-of-way and it is a corridor that is being evaluated. Even outlying communities view commuter rail as an opportunity for their residents to access downtown destinations in the more urbanized areas of the Valley. Chandler is currently conducting a major investment study to identify high capacity transit options – which could include light rail, express bus, bus rapid transit, or commuter rail.

HOV Lanes on Freeways

There is consensus that HOV lanes need to continue to be added on the existing freeway system and be included in any new freeways. Freeway to freeway connections of HOV lanes will also be needed. Freeway to freeway direct connections are expected at US 60 and Loop 202 and Loop 202 and Loop 101.

Expansion of Light Rail

The City of Mesa is currently participating in the Valley Connections light rail project. Light rail will extend approximately one mile into Mesa, along Main Street from the Tempe border to Longmore. This project is expected to be complete by 2006. The Mesa Transportation Plan shows a light rail extension into its downtown to Mesa Drive. The exact alignment has yet to be determined. Other communities are also considering the possibilities of light rail. The current MAG LRTP shows a potential long-term LRT corridor along I-10 and Arizona Avenue/Mesa Drive.

Non-Motorized Issues

Bicycling and walking can be a solution to certain transportation problems. Family and personal business, which includes shopping and other types of errands, are the most common reasons for traveling. Also, national surveys show that approximately 40 percent of all trips are less than two miles in length. This distance can be easily traveled on a bicycle in 10 minutes or walked in approximately 30 minutes. Most cities now incorporate bicycle facilities in their street cross sections.



Most circulation elements of the municipal general plans in the study area show bicycle lanes on both arterial and collector streets. Some of the bicycle/pedestrian issues that have been identified include:

- Inclusion of bicycle lanes on new arterial and collector roadway cross-sections.
- Design practices to minimize barriers to bicycle travel from grade separations, bridges, canals, or other obstructions.
- Availability of bicycle parking facilities.
- Well-lighted sidewalks present along travel routes.
- Coordination to ensure that bicycle and pedestrian facilities connect across city boundaries.
- Multi-use pathways that connect street system bikeways and sidewalks with transit networks to provide linkages between trip origins and destinations.

Airport Access Issues

Williams Gateway Airport, a partnership of the City of Mesa, Town of Gilbert, Town of Queen Creek, and the Gila River Indian Community, has significant potential for future impact on the area's transportation systems. The passenger terminal is currently on the west side of the airport, but will be relocated to the east side in the future. Access will be from the Loop 202/Hawes Road Interchange and Ray Road.

The City of Mesa has included a new regional facility to serve the airport from the east in their Transportation Plan. Additional transportation infrastructure around the airport will encourage industrial development.

Arterial Improvements

As mentioned previously, the arterial street system forms the backbone of the area's transportation system. The expansion of the arterial street network is needed to support economic development, accommodate growth, and typically is provided with new development. As a result, these improvements follow the pattern of development.

In Maricopa County, the centerline miles of arterial street are expected to increase 22 percent while the number of lane miles nearly doubles. In Pinal County, the centerline miles increase by more than 200 percent, while the number of lane miles increases 500 percent.

The remainder of this section describes the improvements to the existing arterial system considered in this study. The improvements include widening existing streets, new arterial segments, intersection improvements, bridge replacement, and operational enhancements.

New Arterial Construction

The majority of the new arterial streets are in the eastern portion of Maricopa County and in Pinal County. In addition, there is some new arterial construction in the developed portion of Maricopa County to eliminate the discontinuities in the existing system.

The additions to the arterial street system increase the number of centerline miles of arterial street in Maricopa County from 455 to 554 miles and in Pinal County from 159 to 482 miles. The new arterial construction is shown in Figure 3.

The estimated cost in 2002 dollars for the new arterial streets in Maricopa County is

\$373 million. The cost for Pinal County is \$963 million.

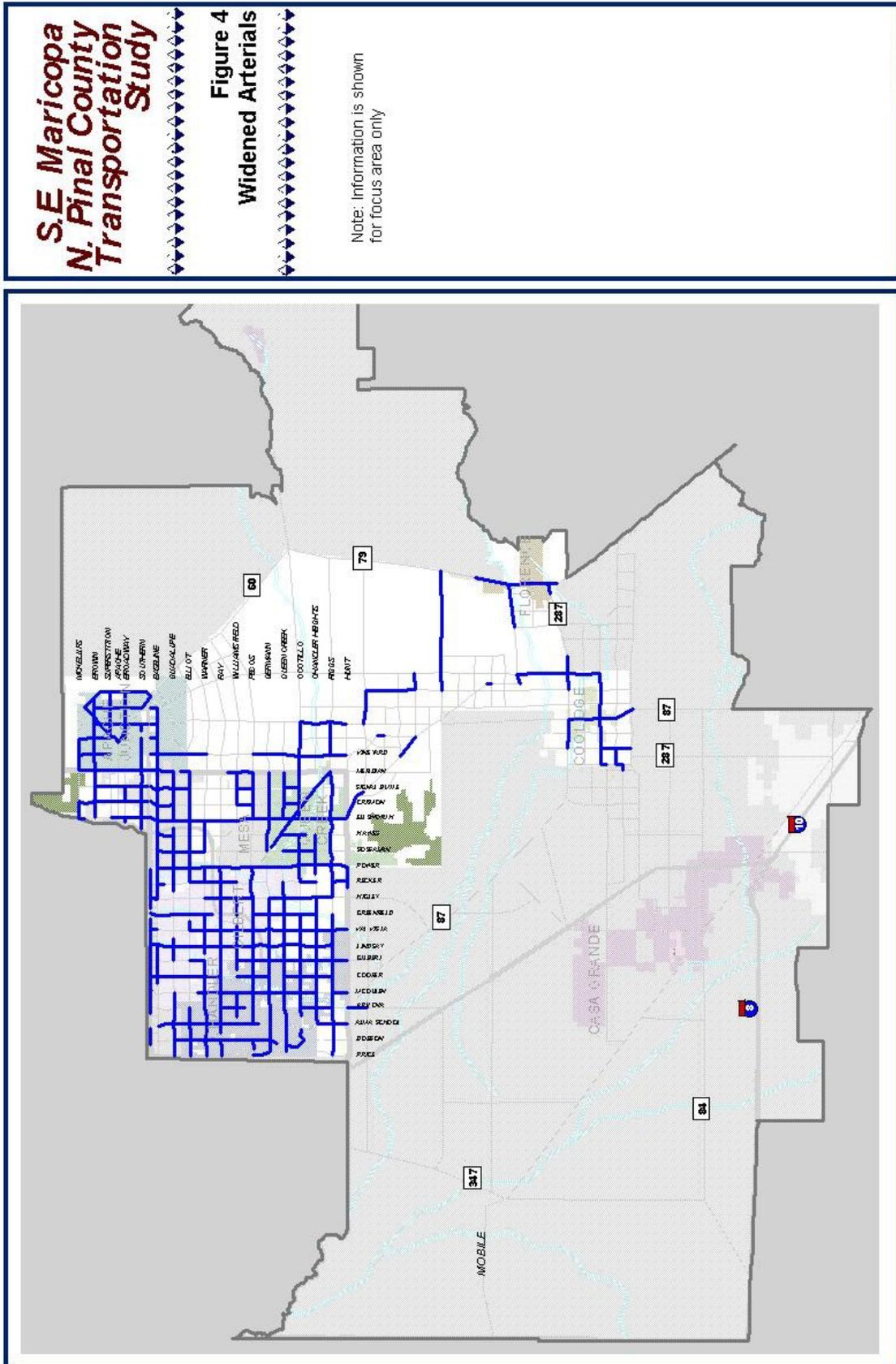
Arterial Street Widening

The future arterial street network also includes a substantial number of miles of widening. The majority of the street widening occurs in Maricopa County and Apache Junction. In certain instances, widening from 4 to 6 lanes may require additional right of way. For this analysis, it is assumed that the right of way will be acquired to complete the widening. The arterial street segments considered for widening are shown in Figure 4.

Some of the arterial street widening in the Maricopa County portion of the study area addresses the issue of scalloped streets. With the implementation of these improvements, all of the streets with reduced width would be eliminated and a consistent cross section would be provided. There are 423 miles of arterial streets to be widened including 289 miles in Maricopa County and 134 miles in Pinal County. The estimated cost for Maricopa County is \$1,213 million and for Pinal County is \$402 million.

Intersection Improvements

Arterial street/arterial street intersection improvements are intended to provide additional capacity at locations where the individual arterial streets will not be widened, but the intersections have unacceptable level of service. This can occur at locations where arterials have been built to a practical limit of six lanes or locations where a four lane arterial street cannot be widened because of development and/or right of way constraints.



On a four lane arterial street, the intersection widening would provide three through lanes, two left turn lanes, and one right turn lane. On a six lane arterial street, the intersection widening would provide two left turn lanes and one right turn lane.

It should be noted that the number of intersections at level of service E and F depends on the other system improvements described elsewhere. If the freeway widening and HOV improvements are implemented, then the number of intersections is less than if only the arterial street improvements are implemented. Similarly, if the new corridors are implemented, then the number of intersections is less than with the other transportation improvements. The number of LOS E and F intersections ranges from 61 to 76.

The estimated cost of an intersection improvement as a stand-alone project is \$2.5 million. If one or both of the intersecting streets are widened, then the cost of the intersection improvement is incidental to the street widening cost. For cost purposes, it is assumed that half of the LOS E or F intersections or an average of 36 would be separate projects. The estimated total cost is \$90 million.

Bridge Construction/ Reconstruction and Railroad Crossings

There are a number of features in the study area that can be impediments to the continuity of the arterial street system including canals, railroads, and rivers. If an existing arterial street to be widened or a new arterial crosses one or more of these features, then additional cost is included for the crossing.

A canal crossing is assumed to be four or six lanes wide, 50 feet long, and cost \$60 per square foot. It is estimated there are 12 new four-lane, 12 new six-lane and six-widen four to six lane canal crossings in Maricopa County. The estimated cost is \$7.4 million. It is estimated there are six new four-lane and one new six-lane canal crossings in Pinal County. The estimated cost is \$1.8 million.

A river crossing is assumed to be four or six lanes wide, 100 feet long, and cost \$90 per square foot. It is estimated there are eight new four-lane river crossings in Pinal County. The estimated cost is \$5.9 million.

At-grade railroad crossings are generally not considered a desirable feature in the arterial street system. Railroad companies typically will oppose new at-grade crossings and the Arizona Corporation Commission must approve each new crossing. It is estimated there are three potential expanded at-grade crossings in Maricopa County and 11 in Pinal County. An upgraded grade crossing is estimated to cost \$.15 million each. A railroad grade separated crossing is assumed to be four lanes wide, 50 feet long, and cost \$110 per square foot for an estimated cost of \$.5 million.



Arterial Improvement Program

There are several arterial streets in the study area that function as regional facilities because they are multi-jurisdiction, have good freeway connections and serve activity centers. These include, but are not limited to, the following.

- Arizona Avenue
- Gilbert Road
- Higley Road
- Power Road
- Ellsworth Road
- Ironwood Road
- Elliot Road
- Queen Creek Road
- Riggs Road



If one or more corridors are supported by the respective jurisdictions, then additional features could be considered to provide improved arterial operation. These features could include capacity improvements such as widening and intersection reconstruction, ITS such as variable message signs, cross jurisdiction signal coordination, bus priority, arterial HOV lanes, and expanded bus service. Policy issues to consider are intersection and signal spacing and number of access points.

Operational Enhancements

In 1996, a unique partnership known as AZTech was formed. The Phoenix area was one of four areas selected to receive model deployment initiative funding. The AZTech system provides motorists with traveler information real time traffic conditions, closures, and accidents. This information is provided using traffic camera, variable

message signs, and a substantial communication system.

Phase I and II of AZTech were successful in disseminating real-time information through websites, kiosks, TV, and radio. The next phase of AZTech will provide real time digital traveler information.

In addition to AZTech, the Cities of Mesa and Chandler and the Town of Gilbert have computerized traffic signal systems. Opportunities for cross-jurisdiction signal coordination should be explored.

Arterial Mitigation/Aesthetics

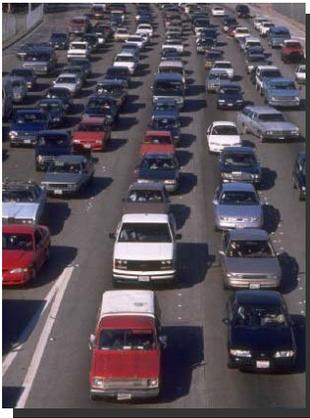
As arterial streets are built and widened to four and six lanes, it is important to address and mitigate potential negative impacts. The most common mitigation to address wider streets is to provide landscaping that is compatible with the adjacent neighborhoods. Generally, this is included in the cost of new or widened arterial streets. However, in established areas where street improvements are not planned, then landscape rehabilitation enhances the arterial and supports the neighborhood character.

In addition, noise concerns will need to be addressed primarily in those areas where arterial street widening is planned. Mitigation for noise impacts may require noise walls and/or rubberized asphalt.

Freeways and New Highway Corridors

High capacity highway corridors with controlled access are a vital element of the transportation system in the study area. In general, they carry the longer trips in the area and serve to connect the communities and major activity centers.

There are 40 centerline miles of existing freeway in the focus area. US 60 extends from Loop 101 in Tempe to Goldfield Road in Apache Junction. East of Goldfield Road, the US 60 freeway transitions to a highway



facility with at grade intersections. The study area portion of Loop 101 extends from US 60 in Tempe to its current southern terminus south of Chandler Blvd in Chandler.

Loop 202 is under construction in the study area and will extend from University Drive in Mesa to the south and west through Gilbert and Chandler connect to Loop 101. Loop 202 will add 22 miles of freeway and provide three lanes in each direction. The estimated cost of the construction of the 22 miles of Loop 202 is \$880 million.

Potential New Freeway and Highway Corridors

New freeway and highway corridors can provide a variety of benefits for communities in the East Valley. These facilities can provide congestion relief to adjacent parallel arterial streets especially during the peak hours of commuter travel. Properly planned facilities can provide mobility, access to developing areas, and support economic development. They can also provide the

infrastructure necessary to accommodate HOV lanes, express bus service, or BRT.

Five potential new corridors were analyzed for the study area. These potential corridors might include both general-purpose lanes and HOV lanes. These corridors are described in the following discussion. The five corridor concepts are presented in Figure 5. As shown in the figure, the new facilities intersect with each other or with an existing freeway. At the intersection of these facilities, a system level interchange could be required. The cost of these system interchanges is included in the new corridor cost.

If constructed, these new facilities could be built in phases rather than constructed for their entire length as one project. For example, each facility could be built in segments of five to seven miles in length. Another option for phasing the construction is to build less than the ultimate the number of lanes. If the facility is to be three lanes in each direction with grade separated interchanges, an initial phase could be two lanes in each direction with limited at-grade intersections. In addition, while these corridors were analyzed as freeway facilities, they could be developed as expressways or high-level arterials.

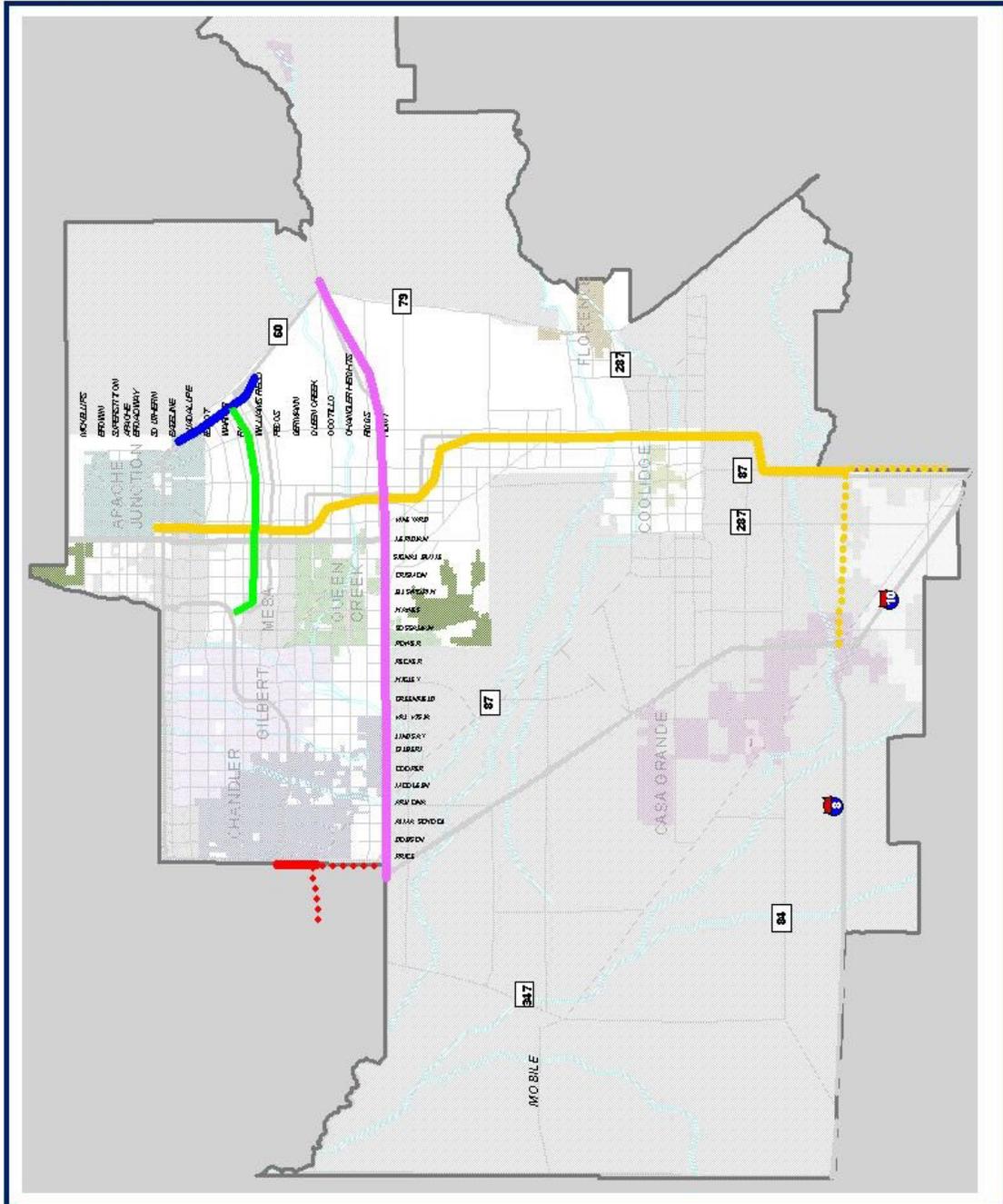
Williams Gateway Freeway (Loop 202 to US 60)

The Williams Gateway Freeway corridor is located in southeast Mesa near Williams Gateway Airport. The freeway would begin at Loop 202 near the Hawes Road interchange and extend southeasterly into Pinal County and connect to US 60.

The freeway would serve the Williams Gateway Airport and ancillary developments, the General Motors site (scheduled for re-development), and potential developments

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**Figure 5
New Corridor Concepts**



on State Land in Pinal County. The majority of the land in the corridor is currently vacant.

This freeway is included in the Mesa Transportation Plan as a facility that provides regional access to the planned employment hub in this part of this City.

The Williams Gateway Freeway would be approximately 15 miles in length with six miles in Maricopa County and nine miles in Pinal County. The alignment includes a crossing of the Central Arizona Project. This facility is expected to carry daily traffic volumes in the range of 60,000 to 100,000 vehicles in the Maricopa County area based on 2030 projections. It should be noted that revised population projections being prepared for the Northern Pinal County area covering the State Land property will likely result in higher traffic volume projections. The estimated construction cost of the Williams Gateway Freeway is \$750 million.

Price Freeway Connection (Loop 202 to I-10)

The Price Freeway Connection would extend from Loop 101 at its current terminus at Loop 202 in Chandler south toward I-10. The extension would continue as a three-lane facility in each direction. This facility could also provide improved access to Memorial Airfield on the Gila River Indian Community.

Two potential alignments have been reviewed for the extension and are shown as



dotted lines on the map. One would extend Loop 10 straight south and connect to I-10 in the vicinity of Hunt Highway. This location is on the boundary between Chandler and the Gila River Indian Community and, if constructed as a freeway, could be disruptive to existing residential and industrial developments.

The other alignment extends Loop 101 south from Loop 202 to Queen Creek Road. At this point, the facility would turn to the west and follow the existing Queen Creek Road alignment across the Gila River Indian Community to I-10. This alignment of the extension would reduce the potential impacts on existing development compared to the one which continues straight south.

With either alignment, the Price Freeway Extension would be approximately six miles in length and carry an estimated 96,000 to 140,000 vehicles daily, when modeled as a freeway. The construction cost is projected to be \$390 million and \$60 million as an expressway/controlled access arterial.

US 60 Freeway Extension (Baseline to Ray)

This potential freeway is an extension of the US 60 freeway from its current terminus at Goldfield Road/Baseline Road to the southeast. The facility would parallel the existing US 60 Highway alignment through the Gold Canyon Ranch area in Pinal County. The facility is currently under study by ADOT (US 60, Goldfield Road to Florence Junction Design Concept Study) and is referred to as the US 60 Bypass alignment.

The US 60 Freeway Extension would continue the freeway to the east on the south side of the existing US 60 Highway. The corridor identified in the study would be on new right of way, which is currently State Land. Environmental impacts identified in



the report include change in visual quality, Section 404 impacts, habitat fragmentation, and disturbance of suitable habitat for the pygmy-owl and the long-nosed bat.

According to the Design Concept Study, the facility would provide two lanes in each direction and be approximately seven miles long. The year 2025 daily traffic forecasts in the study range from 35,000 to 65,000 vehicles. The concept includes two interchanges, one east of Mountain View Road and one at Peralta Road. The study states that the estimated cost of the US 60 Bypass is \$117 million.

East Valley Corridor (I-10 to Florence Junction)

The East Valley Corridor extends in an east-west direction through the study area. The Corridor parallels or overlaps Hunt Highway along the southern boundary of Maricopa County and extends from I-10 eastward to US 60 near Florence Junction. There are two arterials that follow a portion of the corridor: Riggs Road and Hunt Highway. Both are arterial roadways that start at I-10 and extend to the east. If developed as an expressway/controlled access arterial, this facility could utilize portions of both the Riggs Road and Hunt Highway alignments. This corridor would provide an alternative for east-west travel for both counties.

The alignment on the west end of the corridor would have to consider existing land uses and minimize impacts to development. The land on the east end of the facility is currently vacant.

The facility would be approximately 31 miles long and carry 64,000 to 110,000 vehicles daily, when modeled as a freeway. The estimated cost of the facility is \$1,390 million as a freeway and \$310 million as an expressway/controlled access arterial.

Apache Junction/Coolidge Corridor (I-10 to US 60)

The longest of the corridors considered, the Apache Junction/Coolidge Corridor, extends approximately 36 miles in the north-south direction on the east side of the study area in Pinal County. The Corridor generally follows SR 87 south of Coolidge and continues north to US 60.

The concept is to provide a controlled access facility between US 60 in Apache Junction and I-10 in Casa Grande. Freeway traffic destined for the East Valley from Tucson currently uses I-10 and continues northwesterly to the US 60 interchange in Tempe. This corridor would reduce travel time for those travelers and relieve congestion on I-10. In addition, a controlled access facility in this part of the Valley would serve regional trips and provide an alternative for truck traffic to and from industrial developments.

The concept includes two alternatives for the southern terminus. One alternative follows the existing SR 87 alignment south to I-10 at Eloy. This routing follows the overall north-south direction of the facility. Another potential terminus would be at the interchange of I-10 and I-8. With this alternative, the corridor would turn and follow an east-west alignment toward Casa

Grande. The east-west portion of the alignment would be an extension of the existing I-8 facility.

The alignment includes a crossing of the Gila River and a crossing of the UPRR mainline tracks. This facility is expected to carry daily traffic volumes in the range of 46,000 to 110,000 vehicles based on 2030 projections, when modeled as a freeway. As noted

previously, revised population projections for northern Pinal County State Land area will likely increase projected traffic volumes. The estimated construction cost of the facility, as a freeway, is \$1,640 million.

Summary

Table 6 presents a summary of the miles and costs of the new freeway facilities.

**TABLE 6
NEW FREEWAYS SUMMARY**

	CENTERLINE MILES	CONSTRUCTION COST (in millions)*
Williams Gateway Freeway	15	\$750
Price Freeway Connection	6	\$390
US 60 Freeway Extension	7	\$117
East Valley Corridor	31	\$1,390
Apache Junction/Coolidge Corridor	36	\$1,640

*Cost reflects freeway construction

Freeway Widening

Widening was examined for several freeway facilities in the study area. The widening of a facility could include general-purpose lanes, HOV lanes, or both. In many instances, widening an existing freeway can be accomplished with minimal disruption to adjacent land uses and crossroads. It was assumed the freeways would be widened within the existing right of way and use the existing interchanges and cross road bridges.

The widening includes 42 miles of freeway widening and 38 miles of HOV lanes and is described in the following sections.

US 60 (Gilbert to Val Vista)

US 60 is currently five through lanes plus an HOV lane in each direction from Loop 101 at the edge of the study area to Gilbert Road.

East of Gilbert Road to Val Vista Drive, there are four general-purpose lanes and an HOV lane in each direction. This widening would provide an additional general-purpose lane eastbound and westbound to match the section to the west.

The widening extends for two miles. The estimated cost of the widening is \$16 million.

US 60 (Val Vista to Loop 202)

East of Val Vista to the future Loop 202 alignment (between Hawes and Ellsworth Roads), there are currently three general purpose lanes in each direction: The widening of this six-mile segment will provide five general purpose lanes and one HOV lane in each direction.

The provision of the HOV lanes will extend the overall HOV system and provide increased opportunities for carpooling and

express bus service on the east side of the metropolitan area.

The overall cost of this widening, including both the general-purpose lanes and the HOV lanes is \$132 million.

US 60 (Loop 202 to Signal Butte Road)

This section of US 60 currently has three lanes in each direction. The widening will provide four lanes in each direction with HOV lanes. Park and ride lots should be developed in the corridor to complement the HOV lane construction.

The overall cost of this widening, including both the general-purpose lanes and the HOV lanes is \$42 million.

US 60 (Signal Butte to Goldfield Road)

US 60 from Signal Butte to Goldfield Road is a four lane freeway. East of Goldfield Road, the freeway transitions to a four lane divided highway. This section of US 60 crosses the boundary of Maricopa and Pinal Counties at Meridian Road. The widening would provide three through lanes and an HOV lane in each direction. Park and ride lots should be developed in the corridor to complement the HOV lane construction.

The overall cost of this five-mile widening, including both the general-purpose lanes and the HOV lanes is \$70 million.

Loop 202 (Loop 101 to University Dr)

Loop 202 between Loop 101 and University Drive is being constructed as a six-lane facility with three general-purpose lanes in each direction. The widening of this facility will provide a fourth general-purpose lane and an HOV lane in each direction. The length of the widening is 22 miles and would include HOV connections between Loop 202 and Loop 101 at the west end and between Loop 202 and US 60 on the east end. The HOV lane improvements will provide a complete system on Loop 202 from I-10 in Phoenix through Tempe, Mesa, Gilbert, and Chandler.

The estimated cost of the widening is \$308 million.

Loop 101 (US 60 to Loop 202 (south))

Loop 101 has been constructed through the study area. The current facility has three lanes in each direction. This widening will provide an additional through lane and HOV lane in each direction between US 60 and Loop 202. The widening serves commuters traveling to and from Chandler.

The widening is seven miles in length and the estimated cost is \$98 million.

Summary

The freeway widenings are highlighted in Figure 6. Table 7 presents a summary of the miles and costs for the widened freeway facilities.

**TABLE 7
SUMMARY OF FREEWAY WIDENING**

	LENGTH (mi)	FREEWAY LANES ADDED	HOV LANES ADDED	CONSTRUCTION COST (\$millions)
US 60 <i>Gilbert to Val Vista</i>	2	2		\$16
US 60: <i>Val Vista to Loop 202</i>	6	4	2	\$132
US 60: <i>Loop 202 to Signal Butte</i>	3	2	2	\$42
US 60: <i>Signal Butte to Goldfield</i>	5	2	2	\$70
Loop 202: <i>(Loop 101 to University Dr)</i>	22	2	2	\$308
Loop 101: <i>US 60 to Loop 202 (south)</i>	7	2	2	\$98

New and Reconstructed Interchanges

The improvement to the freeway system includes new interchanges, modifications to existing interchanges, and an HOV direct connection. The locations are also shown on Figure 6.

There are two new interchanges proposed for US 60 at Lindsay Road in Mesa and at Meridian Road (half-interchange) in Apache Junction. The estimated cost is \$20 million. The Lindsay Road location would relieve congestion on adjacent interchanges. The Meridian Road interchange would provide an additional access point for Apache Junction traffic.

There are six interchanges that would be reconstructed on US 60 located at Greenfield Road, Higley Road, Power Road, Ellsworth Road, Crismon Road, and Signal Butte Road. The reconstruction is estimated to cost \$3 million per interchange for a total of \$18 million in interchange reconstruction.

Another future need for interchange improvements may occur along portions of the Red Mountain and San Tan Freeways

now under construction. There may be a need to construct additional turn lanes at some locations in the future. These new sections of freeway are designed and constructed with future widening considered. Assuming that half of the 24 planned interchanges need improvement at \$1.5 million each, then there would be an additional need for \$18 million.

An HOV direct connection would be provided between US 60 and Loop 202, and Loop 202 and Loop 101 at a cost of \$35 million each.

The total estimated cost of the interchange improvements is \$126 million.

Freeway Operational Improvements

The ADOT Freeway Management System (FMS) employs many of the Intelligent Transportation System (ITS) technologies. The system includes fiber optic communications, ramp metering, CCTV cameras, vehicle detectors, and variable message signs. There are 66 miles of freeway currently in operation region-wide. ADOT has made a commitment to ITS and maintaining the FMS and will continue to add ITS features to the existing system. New



sections of freeway will be designed and constructed with the ITS elements included. ADOT estimates the cost for these facilities on the freeway system to be \$1 million per mile. Applying this estimate, it would cost \$175 million to provide FMS/ITS features on the 175 miles of existing, potential, and programmed freeways within the study area.

Another freeway operational feature that is currently in use is the Freeway Service Patrol. It is a cooperative effort among DPS, AAA of Arizona, MAG, and ADOT. Trained personnel use specially equipped vehicles to assist stranded motorists and remove road hazards. The service is available 18 hours a day, seven days a week. ADOT has programmed this service through the year 2007. As freeway volumes grow and become more congested, it will be important to continue and expand this service.

Freeway Mitigation/Aesthetics

As freeways are built and widened, it is important to mitigate potential negative impacts and to provide positive aesthetic treatments. A major freeway mitigation issue

is noise. This can be addressed with the construction of noise walls or berms and with the use of rubberized-asphalt for the riding surface. These mitigation items are usually included in the cost of a new facility.

However, there are existing freeways in Maricopa County that are being retrofitted with rubberized asphalt. Also, land uses adjacent to freeways can change over time and as a result additional mitigation treatments may need to be added years after a facility is constructed.

In addition, aesthetics treatments are often included within the freeway right of way. Landscaping is a common treatment. The landscape elements vary depending on the facility design. Also, the landscape can be phased depending on available. Another aesthetic treatment that is being incorporated in to freeway design is the color and design of wall fascia. Adjacent communities are often involved in the design and cost of the walls.

Freeway Maintenance

In order to maintain the integrity of the freeway system, the facilities need to be maintained to acceptable service conditions. Freeway maintenance includes provide a satisfactory riding surface for the traveling public. The roadway surface should be kept relatively clean with minimal cracking and rutting. If the surface is maintained, the frequency of reconstruction can be minimized.

The term maintenance also includes litter control, service patrols, and landscape maintenance.

Other State Highway Improvements

There are a number of state highways in the focus area that serve regional travel. The majority of these facilities are two-lane roads. This chapter describes possible improvements to several of these state highways to accommodate future demand and improve mobility.

Highway Widening

A number of state highways were identified as candidates for widening. Each is described in the following sections.

US 60 (Ray Road to Florence Junction)

This section of US 60 begins at the east end of the proposed US 60 bypass and continues to Florence Junction (SR 79), a length of approximately eight miles. It is currently a four-lane divided highway with direct access and at-grade intersections. The concept would be to widen this section to three lanes in each direction to develop a controlled access corridor with future TI's.

This section of US 60 serves a rapidly developing area that has the potential to experience even more significant growth as a substantial amount of State Land to the south could be developed. Currently, the MAG travel-forecasting model shows a future volume of 36,000 vehicles per day in 2030.

The estimated cost is \$28 million.

SR 79 (Florence Junction to focus area boundary)

This section of SR 79 begins at Florence Junction (US 60) and continues south to the focus area boundary near SR 287, a length of approximately 17 miles. It is currently a two-lane highway with direct access and at-

grade intersections. The concept is to widen this section to two lanes in each direction.

This section of SR 79 is the primary highway connection between eastern Maricopa County and northern Pinal County.

Currently, the MAG travel forecasting model shows a future volume that ranges from 10,000 to 19,000 vehicles per day in 2030; however, this does not include potential development to the west on the State Land parcel.

The estimated cost is \$59.5 million.

SR 287 (SR 87 to SR 79)

This section of SR 287 begins at SR 87 (Arizona Boulevard) and continues east to SR 79 a length of approximately 10 miles. It is currently a two-lane highway with direct access and at-grade intersections. The concept is to widen this section to two lanes in each direction. This portion of SR 287 currently has a railroad overpass just east of SR 87, which would either have to be widened or require an additional bridge for the new two lanes.

Along with SR 87, this section of SR 287 is the primary highway connection between the Casa Grande area, Coolidge, and Florence. Currently, the MAG travel forecasting model shows a future volume that ranges from 2,000 to 16,000 vehicles per day in 2030.

The estimated cost for widening this portion of US 60 is \$36 million, which includes the additional railroad crossing.

SR 87 (SR 387 to SR 287)

This section of SR 87 begins at SR 387 and continues to SR 87/SR 287, a length of approximately eight miles. It is currently a

two-lane highway with direct access and at-grade intersections. The concept is to widen this section to two lanes in each direction.

This section of SR 87 is a continuation of SR 87 from Maricopa County and provides several connections to I-10. It is the primary highway corridor across the Gila River Indian Community. Currently, the MAG travel forecasting model shows a future volume that ranges from 14,000 to 24,000 vehicles per day in 2030.

The estimated cost for widening this portion of SR 87 is \$28 million.

Summary

The highway widening projects are depicted in Figure 7.

Highway Interchanges

There are highway locations where traffic interchanges may be considered at some

point in the future. The need to consider a grade separation at the intersection of two highways may be a result of volume, accident experience, or the need to maintain route continuity.

Potential locations are:

- SR 287 and Main Street – Florence
- SR 287 and SR 87
- SR 87 and SR 587
- US 60: Ray Road to Florence Jct. (5 locations)

It should be noted that a grade separation is already planned for US 60 and SR 79 (Florence Junction).

The estimated cost for these eight new interchanges is \$90 million.

The highway improvements are summarized in Table 8.

**TABLE 8
SUMMARY OF HIGHWAY IMPROVEMENTS**

	SEGMENT LENGTH (mi)	NUMBER OF LANES ADDED	COST (\$millions)
US 60 (Ray Road to Florence Jct.) & five new TI's	8	2	\$88
SR 79 (Florence Jct. To Focus Area Boundary)	17	2	\$60
SR 287 (SR 87 to SR 79) & two new TI's	10	2	\$56
SR 87 (SR 387 to SR 287) & one new TI	8	2	\$38
TOTAL	43		\$242

Transit Needs

A comprehensive transit system encourages mobility and independence. A range of transit services is needed to meet the mobility needs for different markets and communities.

There are currently two studies nearing completion that will help define the future transit system for the Phoenix area. One is the Regional Transit Study being conducted by the RPTA and the other is the High Capacity Transit Study being conducted by MAG. In addition, the City of Chandler and the Town of Gilbert are both completing transit studies.

The Chandler study is an MIS that is analyzing potential corridors for high capacity transit in the city. The Town of Gilbert study is to prepare a transit plan for the Town.

Bus Grid Network

Local transit includes fixed routes that operate on a regular schedule supplemented

by shuttles in busy activity centers and circulators to provide mobility within neighborhoods. Rural access transit provides connections from remote areas to the regional and local transit services.

A preliminary transit network for the focus area is shown in Figure 8. The preliminary results of the Regional Transit Study for the Southeast area are summarized in Table 9. The future revenue miles needed are based on projected unserved population. The revenue miles are shown for fixed route service, circulators, and rural transit access. The operating cost for a 20-year period is based on \$6.73 per revenue mile for 50 percent of the 2030 service level shown in Table 9. It should be noted that the revenue miles shown in Mesa and Chandler are the proportionate share for the study area.

In addition, the capital cost needed to provide this level of service has been estimated to be about one third of the operating cost.

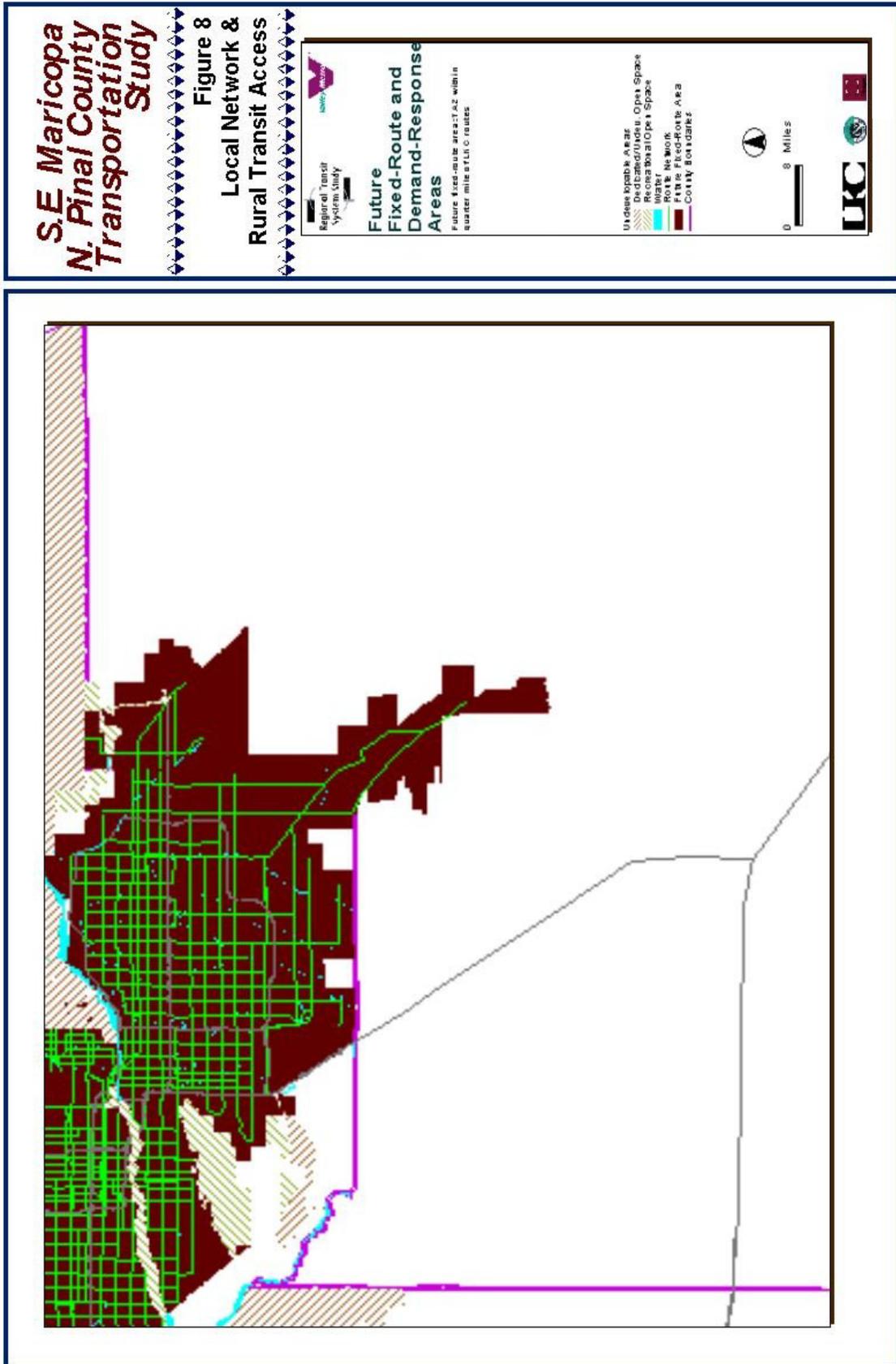
**TABLE 9
YEAR 2030 LOCAL FIXED ROUTE TRANSIT SERVICE NEED**

MPA	Revenue Miles per Day ¹			20 year	20 year
	Urban, Fixed-Route	Circulator	Rural Transit Access	Operating Cost (mil) ²	Capital Cost (mil) ²
Apache Junction	1,775	542	180	\$55	\$18
Chandler ³	7,705	513	0	\$180	\$60
Gilbert	8,909	350	0	\$203	\$68
Mesa ³	6,264	1,119	55	\$162	\$54
Queen Creek	2,085	731	235	\$67	\$22
Pinal County	291	8,768	8,862	\$392	\$131

¹Source: Valley Metro Draft Regional Transit Study, December 16, 2002

²Assume 50 percent of 2030 level for 20 years

³Includes only that portion in the study area



An important supplement to the basic bus grid network is provided by regional express bus service. This service enables transit riders to access key activity centers with less of a travel time commitment than by using the local bus grid. An 85-mile set of express bus routes for the study area would cost approximately \$106 million for a 20-year period. This includes \$80 million for operating costs and \$26 million for capital costs associated with the service.

High Capacity Transit

The MAG High Capacity Transit study identifies a network of new transit services designed to meet the growing demand in the region. The overall objective of the recommended high capacity transit network is the creation of an integrated system of high capacity transit corridors providing efficient and convenient travel throughout the region. An important part of these corridors fulfilling their objective is to ensure that there are connections between the corridors and

that these connections facilitate the movement of riders between systems no matter which transit technology is being operated.

The High Capacity Transit Study is designed to be the first step in developing and prioritizing the recommended network of high capacity transit services in the region. This prioritization will continue at a more detailed level during the development of the MAG Regional Transportation Plan (RTP).

The high capacity corridors under consideration in the Southeast Maricopa/ Northern Pinal County area are shown in Figure 9.

The potential cost of the high capacity corridors is summarized in Table 10. There is a range in cost because different technologies could ultimately be selected for the corridors.

**TABLE 10
PRELIMINARY HIGH CAPACITY CORRIDOR COST**

MPA	Operating Cost (mil)*	Capital Cost (mil)
UP Mainline Chandler	\$70 to \$104	\$226 to \$530
Chandler Boulevard	\$38 to \$97	\$306 to \$684
Main Street	\$54 to \$90	\$185 to \$374
Power Road	\$33 to \$83	\$237 to \$465
UP Southeast	\$160	\$567

*Assumes 50 percent of 2030 level for 20 years

Other Transit Needs

Paratransit is transit service designed to meet the goals of the American with Disabilities Act (ADA) for persons with disabilities and also provides optional service for seniors. All communities served by fixed route transit must also be served by ADA

complementary paratransit. The projected need of ADA and senior citizen paratransit is presented in Table 11.

The operating cost for a 20-year period is based on \$43.83 per hour for 50 percent of the 2030 service level shown in Table 11.

**TABLE 11
PARATRANSIT NEEDS**

MPA	Hours per Day ¹	20-Year Operating Cost (mil) ²	20 year Capital Cost (mil) ²
Apache Junction	55	\$8	\$2
Chandler	95	\$14	\$5
Gilbert	60	\$9	\$3
Mesa	496	\$71	\$24
Queen Creek	15	\$2	\$1
Pinal County	206	\$29	\$10

¹Source: Valley Metro Draft Regional Transit Study, December 16, 2002

²Assumes 50 percent of 2030 level for 20 years

Non-Motorized Improvements

One of the major goals of the non-motorized system improvements is to close the gaps that currently exist, implement the bicycle/pedestrian/trail plans of the respective jurisdictions, and provide continuity across municipal boundaries. Based on the existing conditions analysis, the gaps that were identified are shown in Figure 10.

In addition to gaps in the non-motorized system, it is important that other transportation facilities do not create unnecessary barriers in the non-motorized system. Freeways, railroads, canals, and wide arterial streets can be considered barriers to bicycle and pedestrian traffic. It is important that these facilities are developed with consideration of the non-motorized user.

The Maricopa County's Trail Commission has been working to form a regional trail system. The goals of the program are to connect the County park system, link recreational corridors around the

Valley, and help preserve open space in the community. This is an example of how a coordinated plan can support alternative modes of travel as part of a regional recreational / transportation element. The key to their contribution is in their implementation. Once they are in place, they can serve multiple uses. It also takes a

number of communities to agree on the treatment within their areas to raise and maintain support for the project.

Locally, the Town of Florence has designated a system of trails and paths in its General Plan; Pinal County has built 13 miles of the Arizona Trail and a portion of the Superstition Trail in conjunction with Apache Junction, and bike and equestrian trails are included in Queen Creek's General Plan. The City of Mesa has

identified a system of bike routes, lanes and shared use paths in its recently completed Transportation Plan.



Future Development of the Transportation System

This section presents an approach for the development of the transportation system in the study area. This was done by identifying three groups of actions/projects that represent key components in the future development of the system. The order of these groups is intended to convey the relative degree of emphasis that should be placed on their implementation, with Group I having the highest emphasis. The order of projects within the groups is not significant.

The groupings were based on public and agency input received at workshops and forums, as well as data and information compiled throughout the study process. This includes factors such as community issues and concerns, facility utilization and system continuity and connectivity.

It should be noted that the timing of individual project implementation steps might vary. For example, actions such as right-of-way protection may need to occur early, even though a project may not have a high overall priority. Table 12 provides a summary of project costs by group.

Group I

Group I includes the projects and programs listed below. A further description of these elements follows the initial listing.

- MAG/CAAG/State lands coordination
- Future Transportation Funding
- Arterial improvements
- Local bus expansion
- Freeway and highway widening
- William Gateway Freeway
- Superstition Freeway Extension (US 60 Bypass)

MAG/CAAG/State Lands Coordination

The primary purpose of the Southeast Maricopa/Northern Pinal County Area Transportation Study (SEMNPTS) has been to initiate closer coordination of transportation planning and implementation functions in the two-county area. Along with the jurisdictions in MAG and CAAG, another key actor in this area is the State Land Department, which has major land holdings. The manner in which these holdings are developed will have a major influence on the nature and magnitude of future transportation needs in the area. Of particular importance is the need to preserve right-of-way for key future transportation corridors.

The cooperative effort established among the agencies as part of the SEMNPTS process needs to continue to ensure that effective planning for future growth occurs.

Some of the specific steps in this regard include:

- Integration of MAG and CAAG transportation plans into State Land develop plans.
- Continued joint transportation planning studies by MAG and CAAG for the SEMNPTS study area.
- Continued joint population and travel forecasting efforts by MAG and CAAG for the SEMNPTS study area.

Future Transportation Funding

As noted in the study, significant improvements and expansion of all modes of transportation will be needed. A particular concern in this regard is funding required for development and upgrades of the arterial grid network. This system serves not only

traffic within the study area but also plays a vital regional role. Funding for the arterial grid from regional, as well as local and developer, sources should be pursued. A parallel concern is present for the bus grid. This system plays a dual role similar to the arterial network and is appropriate for regional funding participation.

The study has also clearly identified the close transportation ties that exist between southeast Maricopa and northern Pinal County. Funding for meeting the common transportation needs of this area should be approached through joint efforts by MAG, CAAG and ADOT, seeking funding for critical transportation projects within both southeast Maricopa and northern Pinal County.

Arterial Improvements

This is the arterial street widening presented in Figure 4. The arterial grid is the backbone of the transportation system and the investment needs to be protected. The arterial street widening results in a consistent cross section and provides a logical number of lanes.



Local Bus Expansion

There is still relatively little transit service in the Southeast Maricopa/Northern Pinal County area. Fixed route service currently exists on some of the arterial streets in the northwest portion of the study area.

For the most part, there is limited service in Northern Pinal county, with the exception of

Coolidge and some scattered vanpool service. The communities of Casa Grande, Florence, and Apache Junction do not have organized city-sponsored transit services.

Like the arterial street system, the fixed route transit system would be expanded to serve growth in existing service areas as well as new development. Service improvements and additions would coincide with the arterial street system improvements and residential and commercial development.

Freeway and Highway Widening

This includes the freeway, highway and interchange improvements presented in Figures 6 and 7. These widenings result in significant reductions in travel delay and congested intersections.

Enhancements to existing freeway facilities are considered to be a high priority. Significant investments have already been made in these facilities and it is important to maintain their operational integrity.

The enhancements to the freeway facilities described in this study include the provision of HOV lanes and general-purpose lanes. The HOV lanes encourage carpooling and have the added advantage of providing infrastructure for express bus service.

Other components of this package are new interchanges and improvements to existing interchanges and widening of state highway. These improvements are needed to maintain accessibility to the freeway system and continue to serve the increasing demand. This should also include allowances to ensure that funding is available for future interchange enhancements not yet specified but that will inevitably be needed as the SEMNPTS area develops more fully.

Williams Gateway Freeway

This is one of the new corridors. The Williams Gateway Freeway would serve the Williams Gateway Airport and ancillary developments, the General Motors site (scheduled for re-development), and potential developments on State Land in Pinal County. The majority of the land in the corridor is currently vacant. The freeway would serve as a link between the emerging development area at the county boundaries and the rest of the regional freeway network. This freeway is included in the Mesa Transportation Plan as a facility that provides regional access to the planned employment hub in this part of this City. The Williams Gateway Freeway is expected to reduce traffic volumes on adjacent arterial streets including Ray Road, Williams Field Road, and Germann Road.

Superstition Freeway Extension

This is one of the new corridors. The US 60 Freeway Extension would continue the existing freeway portion of US 60 southeasterly towards Florence Junction. The freeway would provide access to additional land area in Pinal County and enhance the opportunity for arterial street extensions into Pinal County. It would provide a critical bypass for U. S. 60 in the developing areas of Northern Pinal County and be a key link in the freeway system structure as the State Lands develop.

Group II

Group II includes the projects and programs listed below. A further description of those elements follows the initial listing.

- East Valley Corridor
- Price Freeway Extension
- BRT/Express Bus Expansion
- Rural Bus Service
- Apache Junction/Coolidge Corridor
- Non-motorized System

East Valley Corridor

This is one of the new corridors. The East Valley Corridor extends from I-10 eastward to US 60 near Florence Junction. This corridor would provide an alternative to US 60 for regional east-west travel. There is existing development along the west end of the corridor, which could be impacted. The land on the east end of the facility is currently vacant. Between Power Road and I-10, the corridor is located along the border between Maricopa County and the Gila River Indian Community. The Santan Mountain Park would have to be avoided near the mid-point of the route.

Price Freeway Connection

This is one of the new corridors. The Price Freeway Connection provides a direct north-south connection from areas to the south of Loop 202. This connection would improve access to Memorial Airfield on the Gila River Indian Community and provide alternative access to the freeway system for the East Valley. There are existing residential and industrial developments along the corridor that would be subject to disruption by a new facility.

Express Bus Expansion

Enhancements to the regional transit system would also be an important element of the transportation network in the study area. The freeway widening which includes HOV lanes provides the opportunity for additional express bus service. Additional features including park and ride lots, transit centers, and express service along selected arterial streets are all a high priority for the transit system.

Rural Bus Service

In the study area, Greyhound operates intercity bus routes on US 60 that connect Apache Junction with Phoenix and with

Globe. Other cities served along the eastern route are Superior and Florence Junction. Gilbert and Mesa lie on the western route. Apache Junction has a Greyhound Ticket Center. Other intercity Greyhound routes connect Chandler with Phoenix and with Tucson. Maintaining and increasing intercity service will be important in the future, especially to provide alternatives for access between communities in Pinal County.

Apache Junction/Coolidge Corridor

This is one of the new corridors. The Apache Junction/Coolidge Corridor extends in a north-south direction on the east side of the study area completely within Pinal County. The concept is to provide a freeway facility between US 60 in Apache Junction and I-10 in Casa Grande to provide more direct north-south regional access. A new facility would reduce travel time between the East Valley and Tucson or I-8. This facility would reduce demand on I-10 between Casa Grande and US 60 and provide an alternative for truck traffic to and from industrial developments in Pinal County and the East Valley. Much of the land along the corridor is vacant except in those areas adjacent to the cities of Florence and Coolidge.

Non-motorized System

This element would address issues and conditions on the non-motorized system discussed previously in this document. Non-motorized projects include on-street facilities, off-street facilities, other corridors, and connections to other modes. On-street facilities should be built as the street is built to save construction costs and minimize disruption to adjacent properties. On-street facilities are addressed as part of the arterial improvements in Group I. Crossing of barriers is also a high priority for non-motorized travel.

Group III

Group III includes the projects and programs listed below. A further description of these elements follows the initial listing.

- High Capacity Transit
- New Arterial Links

High Capacity Transit

The High Capacity Corridor Study (MAG, 2003) evaluated a number of potential BRT/LRT and commuter rail corridors. A number of these corridors fall within the study area and have the long-range potential to provide key regional transit access to activity centers as they develop.

New Arterial Links

The arterial network will include construction of new arterials to accommodate expected future growth. The construction of new arterials is expected to be development driven. Most agencies in the study area require developers to provide right of way and some portion of the arterial street along their frontage as part of the development approval process.



**TABLE 12
FOCUS AREA IMPROVEMENT SUMMARY (2002 cost in millions)**

Improvement	Description	Maricopa Area Cost (mil)	Pinal Area Cost (mil)	Total Cost (mil)
GROUP I				
Arterial Improvements	Various widening 2-4, 2-6, and 4-6	\$1,213	\$402	\$1,615
Intersection Improvements	Various locations	\$90	\$0	\$90
US 60 <i>Gilbert to Val Vista</i>	Widen to five general purpose + one HOV lane	\$16	\$0	\$16
US 60: <i>Val Vista to Loop 202</i>	Widen to five general purpose + one HOV lane	\$132	\$0	\$132
US 60: <i>Loop 202 to Signal Butte</i>	Widen to four general purpose + one HOV lane	\$42	\$0	\$42
US 60: <i>Signal Butte to Goldfield</i>	Widen to three general purpose + one HOV lane	\$28	\$42	\$70
Loop 202: <i>(Loop 101 to University Dr)</i>	Widen to four general purpose + one HOV lane	\$308	\$0	\$308
Loop 101: <i>US 60 to Loop 202 (south)</i>	Widen to four general purpose + one HOV lane	\$98	\$0	\$98
Freeway-New/Improved Interchanges	US 60 at Lindsay (new)	\$13	\$0	\$13
	US 60 at Meridian (new)	\$0	\$7	\$7
	US 60 at Greenfield	\$3	\$0	\$3
	US 60 at Higley	\$3	\$0	\$3
	US 60 at Power	\$3	\$0	\$3
	US 60 at Ellsworth	\$3	\$0	\$3
	US 60 at Crismon	\$3	\$0	\$3
	US 60 at Signal Butte	\$3	\$0	\$3
	Various locations-Loop 101 & Loop 202	\$18	\$0	\$18
US 60 (Ray Road to Florence Jct.)	Widen to three lanes in each direction	\$0	\$28	\$28
	Develop access controlled corridor Add five traffic interchanges	\$0	\$60	\$60

TABLE 12 (CONTINUED)
FOCUS AREA IMPROVEMENT SUMMARY (2002 cost in millions)

Improvement	Description	Maricopa Area Cost (mil)	Pinal Area Cost (mil)	Total Cost (mil)
GROUP I (continued)				
SR 79 (Florence Jct. To Focus Area Boundary)	Widen to two lanes in each direction	\$0	\$60	\$60
SR 287 (SR 87 to SR 79)	Widen to two lanes in each direction	\$0	\$36	\$36
SR 87 (SR 387 to SR 287)	Widen to two lanes in each direction	\$0	\$28	\$28
Canal Bridges	Various locations	\$8	\$2	\$10
River Crossing	Various locations	\$0	\$6	\$6
Railroad Crossing	Various locations	\$2	\$6	\$8
Highway Interchanges	SR 87 & Main Street (Florence)	\$0	\$10	\$10
	SR 87 & SR 287	\$0	\$10	\$10
	SR 87 & SR 587	\$0	\$10	\$10
New HOV Interchange Ramps	US60/202 & 101/202	\$70	\$0	\$70
Freeway Operational Improvements	All freeway miles	\$94	\$81	\$175
Williams Gateway Freeway ¹	New six-lane freeway	\$300	\$450	\$750
US 60 Freeway Extension ¹	New four-lane freeway	\$0	\$117	\$117
Local Bus Expansion-Capital ²	Various locations	\$201	\$83	\$284
Local Bus Expansion-Operating ²	Various locations	\$606	\$249	\$855
Paratransit-Capital	Various locations	\$63	\$24	\$87
Paratransit-Operating	Various locations	\$189	\$75	\$264
Subtotal		\$3,509	\$1,786	\$5,295

¹ Cost reflects freeway construction

² Includes urban fixed-route and circulator

TABLE 12 (CONTINUED)
FOCUS AREA IMPROVEMENT SUMMARY (2002 cost in millions)

Improvement	Description	Maricopa Area Cost (mil)	Pinal Area Cost (mil)	Total Cost (mil)
GROUP II				
Apache Junction-Coolidge Corridor ¹	New roadway corridor	\$0	\$1,640	\$1,640
Price Freeway Connection ¹	New roadway corridor	\$390	\$0	\$390
East Valley Corridor ¹	New six-lane freeway	\$860	\$530	\$1,390
Express Bus Expansion-Capital	Various locations	\$26	\$0	\$26
Express Bus Expansion-Operating	Various locations	\$80	\$0	\$80
Rural Access Service-Capital	Various locations	\$3	\$66	\$69
Rural Access Service-Operating	Various locations	\$6	\$198	\$204
Non-Motorized	Various locations	\$10	\$5	\$15
Subtotal		\$1,375	\$2,439	\$3,814
GROUP III				
New Arterials	Various locations	\$373	\$963	\$1,336
UP Mainline Chandler-Capital	New High Capacity Transit Corridor	\$226-\$530	\$0	\$226-\$530
UP Mainline Chandler-Operating	New High Capacity Transit Corridor	\$70-\$104	\$0	\$70-\$104
Chandler Boulevard-Capital	New High Capacity Transit Corridor	\$306-\$684	\$0	\$306-\$684
Chandler Boulevard-Operating	New High Capacity Transit Corridor	\$38-\$97	\$0	\$38-\$97
Main Street-Capital	New High Capacity Transit Corridor	\$185-\$374	\$0	\$185-\$374
Main Street-Operating	New High Capacity Transit Corridor	\$54-\$90	\$0	\$54-\$90
Power Road-Capital	New High Capacity Transit Corridor	\$237-\$465	\$0	\$237-\$465
Power Road-Operating	New High Capacity Transit Corridor	\$33-\$83	\$0	\$33-\$83
UP Southeast-Capital	New High Capacity Transit Corridor	\$567	\$0	\$567
UP Southeast-Operating	New High Capacity Transit Corridor	\$160	\$0	\$160
Subtotal		\$2,249-\$3,527	\$963	\$3,212-\$4,490
TOTAL		\$7,133-\$8,411	\$5,188	\$12,321-\$13,599

¹ Cost reflects freeway construction