

PINAL COUNTY SMALL AREA TRANSPORTATION STUDY

FINAL Transit Element Report



PREPARED FOR:
PINAL COUNTY

AUGUST 2006



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PREPARED FOR:
PINAL COUNTY DEVELOPMENT SERVICES
DEPARTMENT OF PUBLIC WORKS

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1. EXISTING TRANSIT CONDITIONS

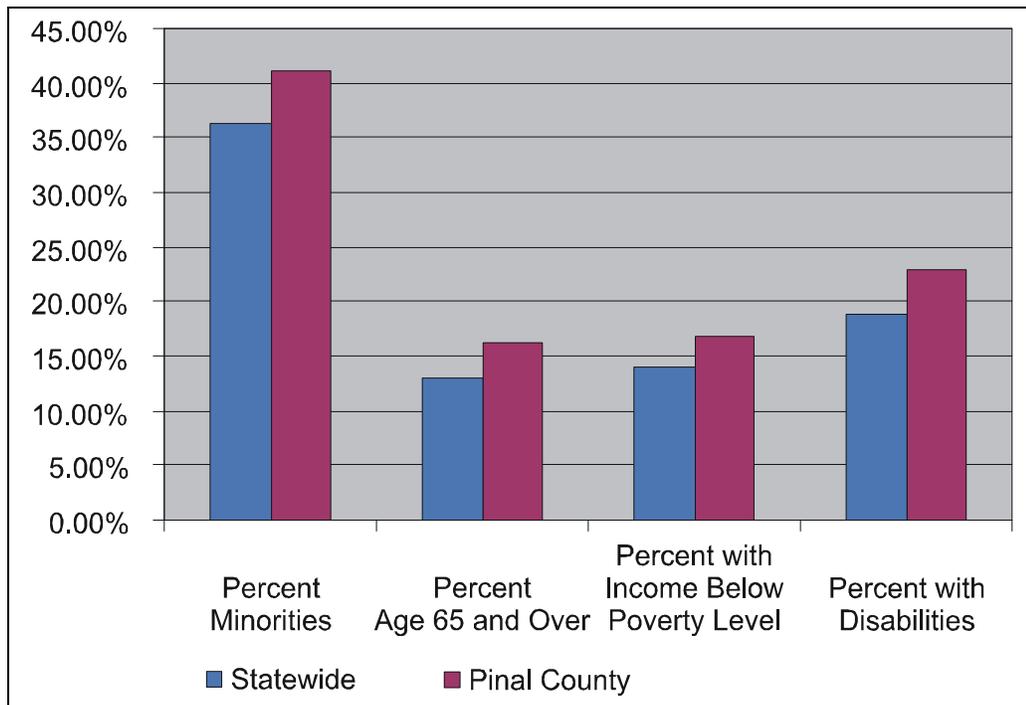
This section describes existing transit service conditions in Pinal County. First, the existing transit characteristics are presented including the current demographic conditions and statistics on the current mode to work. Next, existing transit service in the County is described. Previous studies and plans that have addressed transit issues in the County are then briefly summarized. Specific strategies for addressing unmet transit needs in Pinal County, as well as mode choice, funding, and equipment issues, will be described in future working papers.

1.1 EXISTING TRANSIT CHARACTERISTICS

1.1.1 Demographics

Although Pinal County is rapidly urbanizing, the County is predominantly rural with a 2004 estimated countywide population of approximately 220,000. Figure 1 illustrates the percentages of Pinal County's 2000 population that are more likely to be transit dependent: minorities, seniors, persons living below poverty, and mobility-limited persons. As shown in the figure, these transit dependent percentages are above the statewide average.

Figure 1: Statewide and Pinal County Percentages of Population More Likely To Be Transit-Dependent

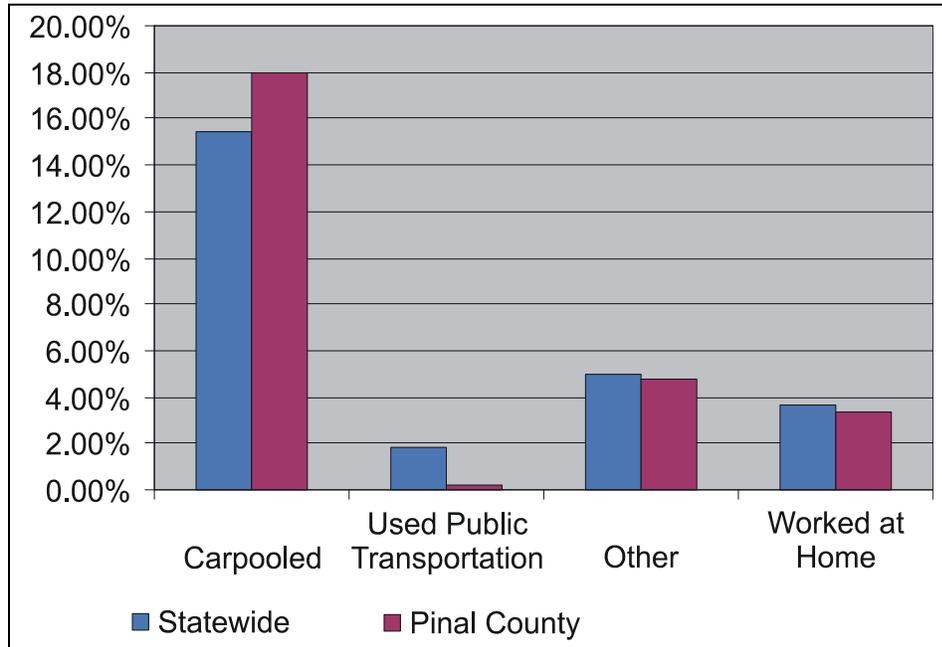


As the population of Pinal County grows, the demographics of the County will probably shift to more closely resemble those of the state as a whole as younger and more affluent persons move into the area. Many of the developments attracting these new County residents are “bedroom communities” in which many of the homes most likely will be purchased by persons planning to commute to work in the metropolitan Phoenix or Tucson areas.

1.1.2 Current Mode to Work

Although the County currently has a high percentage of transit dependent persons, the percentage of persons in the County who use public transit to commute to work is below the statewide average (see Figure 2). This is due to the current limited transit service in the County—the City of Coolidge operates the only existing system likely to be used for any commute trips.

**Figure 2: Means of Transportation To Work
By Persons Not Driving Alone**



Nearly 75 percent of workers aged 16 and over drive alone to work both statewide and in Pinal County. The percentage of persons using public transportation in Pinal County is well below that of the statewide average of approximately two percent. However, the percentage of persons in the County who carpool to work is above the statewide average. The increased carpooling in Pinal County may be an indicator of a latent demand for transit services.

1.2 EXISTING TRANSIT SERVICES

Existing transit services in Pinal County include one deviated fixed route service and one dial-a-ride service, both of which are operated by the City of Coolidge, intercity services provided by Greyhound and Amtrak, and a number of services operated for special-needs persons such as seniors or those traveling for medical reasons. These services are described in this section.

1.2.1 Coolidge Cotton Express

The Cotton Express operated by the City of Coolidge provides both deviated fixed route and dial-a-ride services. The deviated fixed route operates Monday through Friday between 7:30 a.m. and 5:30 p.m., and makes a total of 46 scheduled stops. The stops are strategically placed throughout the City; all stops receive service at least once an hour and

major businesses are served twice hourly. The route includes East and West Loops and is designed to pass within two blocks of most homes within the City. However, the bus will deviate from the route to pick up or drop off dial-a-ride eligible passengers.

The dial-a-ride provides curb-to-curb service Monday through Friday between 9:00 a.m. and 4:00 p.m. Dial-a-ride eligible passengers include persons over the age of 55 as well as persons having a disability that precludes their walking more than two blocks to a bus stop. The City encourages dial-a-ride passengers to call at least one-hour ahead of any scheduled appointments.

Fares for the deviated fixed route are \$1.25 per ride for adults, \$.75 for children aged 3 through 11, and free for children aged 2 and under. Dial-a-ride fares are \$1.50 per ride for all. The service is funded in part by matching funds obtained from the Federal Transit Administration (FTA) Section 5311 program for rural and small urban area transit. This program is administered in Arizona by ADOT.

In fiscal 2005—from September 2004 through August of 2005—the Cotton Express carried over 23,000 passengers. The previous year 21,600 persons were carried. The system operates a fleet of five vehicles, one of which is needed to protect the deviated fixed route service and one of which is used for the dial-a-ride pick-ups. The other three are used as back-ups. Schools in Coolidge do not operate school buses, and students comprise 50 percent of the Cotton Express ridership. Four vehicles are needed during the afternoon “after-school” rush between 2:30 pm and 4:00 pm.

The Cotton Express is the only existing transit operation in Pinal County that receives FTA Section 5311 funds. During the course of this study, the feasibility of using Section 5311 funding to support the operation of additional systems within the County, possibly in conjunction with LTAF II funds for which both the County and local jurisdictions are eligible, will be examined.

1.2.2 Inter-city Bus Service

Greyhound provides fixed-route bus service through Pinal County along Interstate 10, operating schedules between Phoenix and Tucson. Since 2000, however, the amount of intercity bus service the County receives has been sharply reduced. In 2000, Greyhound operated four northbound trips and three southbound trips per day that served Casa Grande; three trips in each direction also served Eloy.

As of February 21, 2006, Greyhound operates two trips each way per day that serve Casa Grande only. Service to Eloy was eliminated in 2005. Currently, the one-way fare for travel between Casa Grande and Phoenix is \$15.00; the round trip fare is \$30.00. The fare for a one-way trip between Casa Grande and Tucson is \$16.00; the round trip fare is \$32.00. Discount one-way fares are available for seniors and children.

In addition to Greyhound, several bus lines catering to the Hispanic communities in Phoenix and Tucson operate between those cities along I-10. However, none of these operators make stops in Pinal County.

Another intercity service is the Douglas Shuttle, which operates six trips daily in each direction between Douglas, Phoenix, and Tucson, that will stop in Casa Grande to pick-up or drop off passengers if arrangements have been made in advance.

1.2.3 Special Needs Transit Services

Agencies and commercial operators of special needs transit serving Pinal County are summarized in Table 1. Included in this category are services provided to seniors, services provided to persons who are physically or mentally impaired, and services to mobility-limited persons requiring periodic medical treatment such as dialysis. Sources of funding include the FTA Section 5310 funds for special needs services, the Arizona Department of Economic Security (DES), the Arizona Health Care Cost Containment System (AHCCCS), and private health insurance providers.

1.2.4 Amtrak Passenger Rail Service

Amtrak's Orlando-Las Angeles *Sunset Limited* has a scheduled stop in Pinal County in the City of Maricopa. The Amtrak station is in the center of Maricopa, located just east of the grade crossing of SR 347 and the UPRR tracks. Maricopa—in addition to local population growth—is the closest Amtrak stop to Phoenix and is experiencing a growing volume of arriving and departing Amtrak passengers. Amtrak operations in Maricopa are impacted by the length and location of the station platform, which is only 300 feet long and begins just east of the SR 347 crossing. Amtrak trains include locomotives, chair cars, sleeping cars, a lounge car, and a dining car, and are frequently 900 or more feet in length.

Hence, the train frequently must make two or three “stops” during each arrival to load and unload everyone, all the while blocking the SR 347 crossing for ten to fifteen minutes. It is awkward for a passenger to board a car other than the one in which space for the passenger's trip is reserved.

Amtrak does not keep the Maricopa Station open extended hours. Because the eastbound train arrives late at night and the westbound train arrives early in the morning, the station is open overnight only. These hours make it inconvenient for persons to purchase tickets or make reservations in person—although Amtrak maintains both an “800” number and a Web site for those purposes.

The *Sunset Limited* route to Orlando passes through New Orleans and along the Gulf coast and the rail trackage and roadbed in the area were heavily damaged by Hurricane Katrina on August 29, 2005. Hence, *Sunset Limited* service east of New Orleans has been suspended indefinitely. Service through Pinal County remains unchanged.

Table 1: Special Needs Providers Summary

Provider	Description of Service	Funding Sources	Interest in Coordination
Non-Profit FTA Section 5310 Participants			
Palm Villa Adult Day Health	Serves seniors and persons with disabilities in Coolidge area Monday through Thursday from 7:00 a.m. to 9:00 a.m. and from 3:00 p.m. to 5:00 p.m.	<ul style="list-style-type: none"> FTA Section 5310 	<ul style="list-style-type: none"> Joining together with another agency to consolidate the operation and purchase of transportation services, and transportation operations Participate in an organized countywide transportation marketing program Coordinate procurement, training vehicle maintenance, and public information Participate in an organized countywide marketing program
Pinal-Gila Council for Senior Citizens	Provides a variety of services to seniors in Gila and Pinal Counties	<ul style="list-style-type: none"> FTA Section 5310 	NA
Dorothy Powell Senior Adult Center	Serves seniors and persons with disabilities of any age in Casa Grande Monday through Friday from 8:00 a.m. to 2:00 p.m.	<ul style="list-style-type: none"> FTA Section 5310 	<ul style="list-style-type: none"> Join together with another agency to consolidate the operation of transportation services and transportation operations Adjust hours or frequency of service Coordinate activities such as procurement, training, vehicle maintenance, and public information with other providers
Hayden Senior Center	Serves seniors and persons with disabilities in the communities of Silver Creek, Kearney, Hayden, Winkelman, Dudleyville, Mammoth, San Manuel, and Oracle. Operates Monday through Friday, 10:30 a.m. to 2:30 p.m.	<ul style="list-style-type: none"> FTA Section 5310 	<ul style="list-style-type: none"> Join together with another agency to consolidate the operation and purchase of transportation services, and transportation operations Highlight connections to other service on schedules Adjust hours or frequency of service Coordinate procurement, training, vehicle maintenance, and public information
Superior Senior Center	Serves seniors in Superior Monday through Friday from 8:00 a.m. to 3:00 p.m.	<ul style="list-style-type: none"> FTA Section 5310 	<ul style="list-style-type: none"> Coordinate procurement, training, vehicle maintenance, and public information
Apache Junction Senior Center	Serves seniors and persons with disabilities over the age of 18 in Apache Junction Monday-Friday 9:00 a.m. to 4:00 p.m.	<ul style="list-style-type: none"> Older American Act LTAF* C/Apache Junction Fares FTA Section 5310 	<ul style="list-style-type: none"> None
Town of Florence (Dorothy Nolan Senior Center)	Serves seniors in Florence and Coolidge Monday-Friday 8:00 a.m. to 4:00 p.m.	<ul style="list-style-type: none"> Town of Florence FTA Section 5310 	<ul style="list-style-type: none"> Provide transportation under contract to another agency Coordinate schedules and vehicle operation with other providers Join together with another agency to consolidate the operation and purchase of transportation services, and transportation operations Highlight connections to other service on schedules Adjust hours or frequency of service Participate in an organized countywide transportation marketing program Coordinate procurement, training, vehicle maintenance, and public information Modifying routes to serve major employers or other activity centers
Horizon Human Services	Serves psychiatric and/or developmentally disabled, some of whom are seniors, within a 45 mile radius of Casa Grande Monday-Friday 7:00 a.m. to 5:00 p.m.	<ul style="list-style-type: none"> Arizona Department of Health Services Pinal-Gila Behavioral Health Association Arizona DES Rehab. Services Administration AZ Long Term Care AHCCCS* FTA Section 5310 Admin. Ofc. of Court 	<ul style="list-style-type: none"> Coordinate activities such as procurement, training, vehicle maintenance, and public information with other providers

*LTAF = Local Transportation Assistance Fund; AHCCCS = Arizona Health Care Cost Containment System

Table 1: Special Needs Providers Summary (continued)

Provider	Description of Service	Funding Sources	Interest in Coordination
Other Non-Profit Providers			
Catholic Community Services	Serves seniors in Eloy/Toltec, Coolidge, Casa Grande, Arizona City Eleven Mile Corner, Valley Farms, Twilight Trails, Florence, and Randolph. Operates Monday-Friday, 9:00 a.m. to 1:00 or 2:00 p.m.	<ul style="list-style-type: none"> Pinal-Gila Council for Senior Citizens 	<ul style="list-style-type: none"> Coordinate activities such as procurement, training, vehicle maintenance, and public information with other providers Participate in an organized countywide transportation marketing program
Garnet of Casa Grande Retirement and Assisted Living Community	Serves seniors who are assisted living eligible within a 15 mile radius of Casa Grande Monday-Friday 8:00 a.m. to 4:30 p.m. and Sunday 8:00 a.m. to 1:00 p.m.	<ul style="list-style-type: none"> Residential fees 	<ul style="list-style-type: none"> Highlight connections to other service on schedules Modify routes to serve major employers or other activity centers
Central Arizona Council on Developmental Disabilities	Serves seniors and persons with disabilities Monday-Sunday 6:00 a.m. to 10:00 p.m.	NA	NA
Portable Practical Educational Preparation (Project PPEP)	Serves developmentally and/or physically disabled adults on the Tohono O’Odham Nation reservation and in the Casa Grande area Monday-Friday 6:30 a.m. to 6:00 p.m.	NA	NA
Superstition Mountain Mental Health Center	Serves families and individuals requiring mental health services in Pinal County, including Apache Junction, Queen Creek, Kearney, Superior, Mammoth and Oracle Monday-Friday 7:00 a.m. to 8:30 p.m. and week-end 9:00 a.m. to 6:00 p.m.	<ul style="list-style-type: none"> Various state and federal funding sources disbursed through the PGBHA* FTA Section 5310 	<ul style="list-style-type: none"> Purchase transportation from another organization Join together with another agency to consolidate purchase of transportation services Highlight connections to other service on schedules
Community Alliance Against Family Abuse (CAAFA)	Provides emergency transportation 24/7 to victims of family abuse within a 40 mile radius of Apache Junction.	<ul style="list-style-type: none"> Arizona Department of Social Services 	<ul style="list-style-type: none"> Join together with another agency to consolidate purchase of transportation services Highlight connections to other service on schedules Join together with another agency to consolidate operations Coordinate activities such as procurement, training, vehicle maintenance, and public information with other providers Participate in an organized countywide transportation marketing program Coordinate procurement, training, vehicle maintenance, and public information
Casa Grande Community Hospital	Transports hospital patients within a 25-30 miles radius of Casa Grande Monday-Friday 8:00 a.m. to 4:30 p.m., Saturday 8:00 a.m. to noon, and Sunday as needed	NA	<ul style="list-style-type: none"> Coordinate procurement, training, vehicle maintenance, and public information
Central Arizona College	Provides demand-response service for students and seniors Statewide mostly evening and weekends for athletic events and field trips	<ul style="list-style-type: none"> Fare revenue 	<ul style="list-style-type: none"> Participate in an organized countywide transportation marketing program
Apache Bravo Young Marines	Provides demand-response service for high school students considering future Marine Corps careers Monday and Wednesday 4:30 to 5:30 p.m., and weekends as needed. Destinations include the Marine Corps Air Station in Yuma for training and Apache Junction for community service.	<ul style="list-style-type: none"> Young Marines organization 	<ul style="list-style-type: none"> None
Pinal County Schools	Students Countywide Monday-Friday		
Commercial Transportation Operators			
Safe Ride Services	provides non-emergency medical transportation services Countywide Monday-Sunday	<ul style="list-style-type: none"> AHCCCS, other health insurance providers, patients 	NA
Statewide Express	Provides non-emergency medical transportation for AHCCCS or private health maintenance plan clients Countywide Monday-Sunday	<ul style="list-style-type: none"> AHCCCS, other health insurance providers, patients 	NA
J&M Shuttle	Provides countywide taxi service, shuttle service to Phoenix Sky Harbor Airport, and non-emergency medical services to AHCCCS clients Monday-Sunday	<ul style="list-style-type: none"> Fare revenue, AHCCCS 	NA
Pinal Connections	Provides countywide shuttle service to Phoenix Sky Harbor Airport, and non-emergency medical services to AHCCCS clients Monday-Sunday	<ul style="list-style-type: none"> Fare revenue, AHCCCS 	NA
On the Go Express	Countywide Monday-Sunday	NA	NA
Long Term Care	Countywide Monday-Sunday	NA	NA

*PGBHA = Pinal-Gila Behavioral Health Association
Sources: RAE Consultants, Lima & Associates, and AHCCCS

1.2.5 Regional Airport Shuttle

Arizona Shuttle operates 18 schedules daily in each direction between Tucson and Phoenix Sky Harbor Airport. The shuttles operate through Pinal County along I-10, but make no stops in the County. Fares for all passengers are \$29.00 one way and \$56 round trip. Discount fares of \$25.00 one way and \$50 round trip are offered to active military personnel as well as seniors aged 65 and older. Reservations must be made a minimum of 24 hours in advance of travel. Same-day fares are \$38.00 one way and \$65 round trip for everyone.

1.2.6 Pinal County Transportation Coordination Demonstration Project

A Pinal County Transportation Coordination Demonstration Project, “Pinal Rides”, sponsored by the Arizona Department of Transportation (ADOT) was conducted to identify ways in which the operations of public transit and specialized transportation service providers in the area can be coordinated to achieve higher levels of service to users. The project was completed in December 2005. Central Pinal County was selected for its rapid growth in a predominantly rural area and for its diverse service provides. The project included development of a pilot model that could be transferred to other areas in Arizona. The project study committee is proceeding with implementation steps, using ADOT technical assistance.

1.2.7 Previous Studies and Plans

Table 2 briefly summarizes the findings of 22 studies and plans that addressed transit issues in Pinal County or within local jurisdictions located in the County. Key transit-related findings and recommendations of these studies and plans follow:

Table 2: Summary of Previous Studies and Plans

Title and Source of Plan	Date	Summary of Transit-related Findings and Recommendations
ADOT		
Intercity Bus Analysis	June 1995	Evaluates intercity bus (ICB) services and needs throughout the state and provides a summary of the needs and recommendations for the intercity bus mode in Arizona.
SR 77 Corridor Profile Study	September 2005	Recommends that transit components of the Corridor need to be planned for and implemented over time, with a system in place by Year 2030. Near-term, mid-term, and long-term concepts for transit improvements are presented.
Phoenix-Tucson High Speed Rail Study	March 1998	Evaluated concepts for passenger rail service including one or more Pinal County stops.
Pinal County		
Pinal County Transportation Coordination Demonstration Project	On-going	The project was completed in December 2005 and the project study committee is proceeding with implementation steps, using ADOT technical assistance.
Pinal County Comprehensive Plan	December 2001	The Plan’s transportation element addresses all modes of travel, proposing a balanced circulation system with opportunities for public transportation and other alternatives to automobile travel.

Table 2: Summary of Previous Studies and Plans (continued)

Title and Source of Plan	Date	Summary of Transit-related Findings and Recommendations
Pinal County		
Pinal County Transportation Plan	September 2000	The Plan acknowledges limited transit services throughout the County. Recommended implementation methodology for transit service includes the establishment of a Task Force to lead future transit decisions and implementations.
Pinal County Incorporated Cities and Towns		
Apache Junction Transit Feasibility Study	January 2005	Examines various modes of public transportation, and develops demographic thresholds. Recommends the designation of a city transportation coordinator and implementation of a deviated fixed route service in an initial transit service area.
Casa Grande Multimodal Transportation Study	August 2000	Recommends the establishment of a task force to develop and maintain partnerships among human service providers, major employers, and municipalities.
Casa Grande Transit Feasibility Study	August 2001	Recommends the designation of a public transportation coordinator to work with existing transit service providers and work with Community Transportation to develop additional transit services within the Casa Grande area.
City of Apache Junction Small Area Transportation Study	May 2004	Documents existing transit services and recommends transit service alternatives, such as fixed route and paratransit services. A public starter system extending the current Valley Metro services is suggested by 2007.
City of Apache Junction, General Plan	November 1999	Presents Circulation Element goals and objectives, such as circulation improvement within the City and planning for regional transportation, including bus service connections and “eco-safe” mass transit.
City of Casa Grande General Plan 2010	2002	The Transportation/Circulation element presents public transportation issues and goals. The main objective is to promote convenient and efficient public transportation as an alternative to the automobile.
City of Coolidge General Plan Update	November 2003	Set goal of improved circulation network for all modes of transportation including mass transit. Recommended the expansion of the Cotton Express system.
City of Eloy Small Area Transportation Study	June 1998	The Study identifies transit-dependent population and a need for transit services in Eloy. Strategies for implementing public transportation services are provided such as requesting Section 5313(b) planning funds.
City of Maricopa Small Area Transportation Study	July 2005	The Study presents qualitative and quantitative transit conditions, including existing modes of service, evaluation of deficiencies and needs, and transit characteristics of peer Arizona communities. Demographic transit service thresholds are suggested.

Table 2: Summary of Previous Studies and Plans (continued)

Title and Source of Plan	Date	Summary of Transit-related Findings and Recommendations
Pinal County Incorporated Cities and Towns		
City of Maricopa General Plan Draft	September 2005	Adopted SATS recommendations. Issues identified during the planning process included Improved transit to job centers in greater Phoenix and other areas, including the long-term development of a commuter rail corridor. Plan calls for enhancing transit service and studying commuter rail connecting Phoenix and Casa Grande, as well as retaining Amtrak service.
Florence Area General Plan Update	April 2003	Identifies mobility needs of transit-dependent within Florence; need for regional access to social, governmental, and health services; and need for commuter service to and from Florence area. Proposes network of regional bus and rail services.
Regional Government Agencies		
Central Arizona Transit Development Plan, CAAG	September 1995	The recommended transit program identifies the level of regional and local transit services desired in the area. Apache Junction, Casa Grande, and the central Pinal County region have the greatest need for service.
Central Arizona Transportation Policy Plan	1998	Proposes goals, objectives, and policies that address five transit issues: The development of a transportation system; economic development through transportation investments; transportation and land use integration; regional coordination; and transportation finance.
High Capacity Transit Study, MAG	June 2003	Recommends a future network of new transit services. The main objective is the creation of an integrated system of high capacity transit corridors providing efficient and convenient travel throughout the region. The Apache Junction area of Pinal County was included in the study area.
Regional Transportation Plan, MAG	November 2003	Provides a policy framework for regional transportation investments over a 20-year horizon. The transit element presents qualitative and quantitative conditions including planned new facilities and service improvements and costs, and phasing of regionally funded facilities and services. The Apache Junction area of Pinal County was included in the study area.
Southeast Maricopa / Northern Pinal County Area Transportation Study, MAG	September 2003	Describes existing transit services in northern Pinal County. Identified transit needs include park and ride lots, transit centers, expanded fixed route services, and an express/commuter inter-city service.

2. EXISTING CONDITIONS SUMMARY

This section details the needs and recommended actions desired based on current transit conditions.

2.1 TRANSIT NEEDS

- Unmet needs for transit service within local jurisdictions in Pinal County, as well as regional service throughout the County, exist due to the large numbers of potentially transit-dependent persons living in the area and the high number of persons who carpool to work.
- A future unmet need for commuter bus and/or rail service between Pinal County communities and Phoenix and Tucson may exist, and such service has already been identified in several area general plans including the Town of Florence, the City of Maricopa, and the Town of Queen Creek.
- As the populations of the local jurisdictions themselves increase, cities such as Apache Junction and Maricopa may choose to follow Coolidge's lead and provide local circulator service.
- A coordinated effort is needed to address transit needs identified in previous studies.
- Existing local fixed route transit services are needed. Of all the local jurisdictions within the County, only the City of Coolidge operates a scheduled transit service. Transit feasibility studies for the City of Apache Junction and City of Casa Grande indicated a need to implement local public transit service in the two communities.
- Additional regional and intercity transit services are needed. Existing carriers such as Greyhound have cut back services to County communities, and no new carriers have entered the market.
- Existing Amtrak service through the County is infrequent and seldom runs on schedule.

2.2 ACTIONS RECOMMENDED BY PREVIOUS STUDIES AND PLANS

- Consider transit and multimodal needs when developing cross-sections for County arterials and reserving future arterial rights-of-way.
- The County, and local jurisdictions within the County, should designate persons to function as transit service coordinators to oversee the addition, expansion, or coordination of transit services.
- The County and local jurisdictions should consider the construction of one or more transit centers to serve as transfer points among the various providers and to facilitate the entry of additional operators.
- The County and local jurisdictions should consider the construction of park-and-ride lots.
- Explore the extension of Phoenix's Valley Metro routes to Pinal County communities such as Apache Junction and Maricopa.
- Encourage the development of public transportation as an alternative to automobile travel.
- Establish a consistent policy and funding mechanism for transit in rural areas of Arizona.
- Plan for regional transit service within the County.
- Plan for future commuter bus and rail service between County communities and the Phoenix and Tucson area.

3. FUTURE CONDITIONS SUMMARY

This chapter discusses potential transit services and facilities in the County and evaluates future deficiencies and needs.

3.1 SUMMARY OF FINDINGS

- Within the next twenty years, due to population growth both within Pinal County itself and the Phoenix metropolitan area, the County will likely need both transportation demand management and several forms of public transportation
- Opportunities in the County include the potential for using senior-oriented programs for initial transit services, the development of a ride-sharing program, and the development of multimodal transit centers
- Constraints include auto-oriented developments and the uncertain futures of existing carriers such as Greyhound and Amtrak
- Portions of County urban areas will meet or exceed accepted demographic thresholds for implementing bus service by 2025
- Sunbelt counties with populations and demographics resembling those forecasted for Pinal County in 2025 offer a wide variety of transit services including local, regional, and express bus services, and commuter rail service.
- Proactively plan for the introduction of future transit services.
- A variety of federal, state, and local programs exist for funding transit improvements

3.2 FUTURE TRANSIT DEFICIENCIES, NEEDS, AND SERVICE THRESHOLDS

This section summarizes the future needs of transit-dependent persons in Pinal County and discusses appropriate ways of addressing these needs. Demographic thresholds for implementing various types of transit service are explained.

3.2.1 Opportunities and Constraints

The County is growing so rapidly that the needs of its transit-dependent citizens are also changing quickly. A response identified as appropriate mitigation for current unmet needs may well be out-of-date by the time it is implemented. One way to meet this challenge would be to implement services flexible enough to evolve as the County and its local jurisdictions grow.

Senior Center-Based and Other Special Needs Services

As documented in a previous working paper, approximately two dozen providers of special needs transit services already exist in Pinal County. These providers include senior centers, mental health agencies, and medical transportation contractors. The first local transit service in emerging Pinal County communities not currently served by transit may be provided as part of the establishment of a local Senior Center or similar agency. These agencies typically obtain Federal Transit Administration (FTA) Section 5310 funding for the purchase of one or more vehicles used to transport seniors to the center and also provide “meals on wheels”

services for those who are homebound. Section 5310 funds are for capital purchases such as vehicle acquisition and may not be used to subsidize operations. The local jurisdiction where the center is located would appropriate matching funds. If Local Transportation Assistance Fund (LTAF) II funding is available, they can be used for this purpose. Nine special needs providers based in Pinal County currently receive Section 5310 funds.

Ride-sharing Program

One way to address the demand for travel by transit-dependent persons—other than medical emergency or senior travel—would be to establish a community ride-sharing program. Such a program could include both carpools and vanpools. As vanpool ridership between County urban areas and specific destinations or areas in metropolitan Phoenix or Tucson increases, some vanpools could evolve into commuter bus service.

Regional Connector Services

The potential exists for the future implementation of regional connector services between one or more Pinal County communities and the Phoenix or Tucson areas. The ADOT Public Transportation Division has established a pilot program under which assistance is provided for the operation of several regional connectors. Such connector services now operate between Ajo, Gila Bend, and Phoenix, between Kachina Village and Flagstaff, between Wellton and Yuma, and between Green Valley, Sahuarita, and Tucson.

Community Transit Centers

Local jurisdictions within the County should consider setting aside appropriate spaces for community transit centers. The centers should be located strategically on one of the regional arterials serving the area such as:

- Adjacent to the Amtrak Station or along SR 347 in the City of Maricopa
- On SR 287 (Florence Boulevard) near I-10 or along SR 387 (North Pinal Road) in the City of Casa Grande
- On SR 88 (Idaho Road) or on Ironwood Road near US 60 in the City of Apache Junction
- Adjacent to the Union Pacific Railroad in Queen Creek, near the intersection of Ellsworth and Ocotillo Roads
- In the Johnson Ranch area near a regional arterial or new freeway

Locating a center adjacent to the Union Pacific Railroad, such as the Town of Gilbert in Maricopa County, would enable the use of the center as a future regional or commuter rail station. Possible elements of these transit centers could include transfer terminals for use by future intercity bus, shuttle, and rail services and future local area circulators and park-and-ride facilities for transit passengers and car pool and van pool participants.

Such transit centers could also be part of larger community gateway facilities that also include:

- Tourist and Newcomer information centers staffed by local volunteers or Chamber of Commerce staff
- Economic development satellite offices
- Full service truck and RV stops

- Secure long-term parking for Intercity bus and rail patrons
- Bicycle rental

Provision of such terminal facilities is a major stumbling block for private sector transit operators, many of whom are under capitalized and have committed available capital to the purchase of the vehicles themselves. Conceivably, the provision of such centers could be a catalyst for the entry of new private sector transit providers into the market place.

Auto-oriented Developments

Many residential developments within Pinal County are essentially automobile-oriented in design. Some developments are designed as discrete communities having internal circulations of loop roads or spines with cul-de-sac branches not designed to facilitate efficient pedestrian or bicycle travel between adjacent developments or between a residence within a development and an external commercial area. In these developments, the internal roadway system is linked to the external network by one or more “gateway” entrances from arterials.

The success of a transit system depends to a large extent on the likelihood that bus stops along the routes can be accessed by pedestrians without having to walk more than a quarter of a mile from their points of origin to a stop. Some existing developments, within Pinal County, are inadvertently designed to discourage transit usage. The lack of contiguous collector streets between the developments would result in higher walking distances from residences to bus stops than would otherwise be the case. Multi-use pathways through the developments with exits to adjacent arterial streets would facilitate access to transit services. The logical sites for bus stops for a fixed route service accommodating developments designed in this manner would be bus stops located just downstream from the developments’ “gateway” entrances. However, given the few alternatives available to motorists driving to or from development residences, these gateways will have significant traffic and turning movements and the presence of a stopped bus might represent unacceptable sight-distance issues. Note that the use of properly placed bus pull-outs could mitigate some of the sight-distance concerns. On the other hand, the lack of connectivity between the internal circulation networks of adjacent developments might preclude the efficient operation of neighborhood circulator or dial-a-ride services.

Rather than allowing auto-oriented developments to be dealt with “after the fact” as areas containing them are incorporated in new towns or annexed by existing adjacent local jurisdictions, the County should stipulate through new or amended ordinances the inclusion of more transit-friendly elements in new developments. Such elements could include:

- Requiring that some parking spaces provided in a commercial development be placed on the side or in back of the building, reducing the acreage of asphalt that pedestrians and transit users must cross to reach the establishments
- Requiring residential developments to have sufficient entrances—preferably aligned with existing or future arterial or collector roadways—to facilitate inclusion of the roadways inside the development within the greater community roadway network. Note that this provision would also facilitate efficient postal delivery, waste management, and timely police and fire response.
- Requiring provision of adequate easements on major arterials—particularly those

deemed to be of regional significance—for the future addition of diamond lanes or transit corridors.

- Requiring provision of adequate easements on collector streets for bicycle lanes and/or multi-use paths set-back from the curb enough to encourage pedestrian and bicycle usage.

Other amenities such as shade and landscaping along sidewalks and multi-use paths, as opposed to bare block or stucco walls that simply radiate more heat at pedestrians and bicyclists, together with bus benches and shelters in areas to be served by local circulators should be considered.

Uncertain Futures for Amtrak and Greyhound

As outlined in the previous working paper, Amtrak's Sunset Limited currently stops in Maricopa, having been re-routed from the line through Phoenix in 1996. Recently, the Union Pacific received authority from the FRA and the Surface Transportation Board to re-open the Phoenix route as a through line. Such an action will require repairing several bridges between Phoenix and Wellton, and the timing for reopening the line is uncertain.

Re-routing Amtrak to the Phoenix line would restore service to Phoenix itself, as well as Tempe, and would also create the possibility of serving developing areas along that line such as Coolidge, Queen Creek, Gilbert, Avondale, and Buckeye. Note that neither Amtrak nor Union Pacific has announced that the Sunset Limited will be re-routed once the Phoenix route is ready. However, given the increased interest in passenger rail transportation in Maricopa County following the passage of Proposition 400, which included funds for the expansion of light rail and the study of commuter rail, Amtrak and Union Pacific might be asked by local officials to shift the route to the re-opened line. Congress is currently debating the level of Amtrak funding, and the future of long-distance trains such as the Sunset Limited is by no means guaranteed.

Greyhound has also reduced or eliminated service to Pinal County communities in recent years. Service along the US 60 corridor in the Northeastern part of the County was eliminated altogether in 2005. Casa Grande is currently the only Pinal County city receiving Greyhound service.

Impact of Future Air Quality Concerns on Mode Choice

Air quality concerns have already caused the County to encourage the establishment of employer-based van pool and car pool programs. In the future, the entire County might be non-compliant with air quality standards, necessitating the expansion of ride-sharing programs and other transportation demand management devices.

3.2.2 Transit Service Threshold Methodology

As urban areas within Pinal County develop and increase in both total population and population density, they will meet or exceed demographic thresholds empirically determined to warrant the introduction or enhancement of transit service. Traditionally, transit thresholds are based on residential densities alone. However, the application of such thresholds to residential densities shown on a traffic analysis zone (TAZ) level fails to consider the variations in density within the TAZ itself. To compensate for this observation, the consultant decided to apply the thresholds to the sum of the residential and employment densities within a TAZ rather than to the residential densities alone.

A threshold scenario was developed for application to the TAZ array. The threshold levels for the different types of transit service were calculated from data presented in the MAG *High Capacity Transit Study*. Table 3 presents the threshold levels, and Figure 3 depicts the application of these levels using the forecasted 2025 combined population and employment for each TAZ in Pinal County.

**Table 3: Minimum Consolidated Residential and Employment Densities
For Various Types of Transit Services**

Transit Service Type	Persons/Sq Mile*
Bus–minimum service	4,500
Bus–intermediate service	7,780
Bus–frequent service	16,670
Light rail	10,000
Rapid transit	13,300

*Calculated from Maricopa Association of Governments *High Capacity Transit Study*, 2003

Bus minimum service = 1/2 mi between routes, 20 buses/day

Bus intermediate service = 1/2 mi between routes, 40 buses/day

Bus frequent service = 1/2 mi between routes, 120 buses/day

Analysis of Figure 3 shows that a few areas in Pinal County are forecasted to meet or exceed the minimum bus service thresholds and some areas meet the combined density thresholds for higher levels of service, notably in the Apache Junction and Queen Creek areas in the northern part of the County. However, as Figure 3 shows, a number of areas in the County are forecasted to have combined population and employment densities that approach the thresholds used in the MAG study.

Note that these density thresholds are guidelines only and that some jurisdictions with lower combined residential and employment densities have implemented well-patronized high capacity transit services. Increasingly, commuter bus and rail operations rely on the provision of adequate park and ride facilities to attract commuters in less dense areas as well as travel by persons within walking distance of the stations.

Several factors must be kept in mind when referring to Figure 3:

- The TAZs are relatively large areas, on average, and population and employment densities will vary considerably within many TAZs
- California counties with population densities less than that projected for Pinal already operate successful and well-utilized transit systems
- The demographic thresholds for transit service implementation may adjust downward over time in response to increasing highway congestion and rising fuel prices.

4. POTENTIAL SERVICES, FACILITIES AND BEST PRACTICES IN PEER COUNTIES

This section presents the options for public transportation to be considered by the County and summarizes the transit-related practices of peer jurisdictions.

4.1 POTENTIAL SERVICES AND FACILITIES

Two general forms of public transportation have been identified as being particularly suitable for meeting the local and regional needs of County residents over the next twenty years: Transportation Demand Management (TDM) alternatives and five types of transit service.

4.1.1 Transportation Demand Management Alternatives

Transportation Demand Management consists of a wide range of programs and services that enable people to get around without driving alone. Included are alternative transportation modes such as carpooling, vanpooling, transit, bicycling, and walking, and programs that alleviate traffic and parking problems such as telecommuting, variable work hours, and parking management.

Transportation Demand Management can address the needs of those traveling long distances with rideshare options such as vanpools and carpools. These types of services are vital in moving people around large areas, whether for work or for traveling to regional centers that have special services, medical facilities, or retail stores.

Rideshare Matching Programs provide service by identifying people who live and work close to each other and then facilitating carpooling and vanpooling. Matching services can pair full-time partners, or simply someone to call in an emergency. Rideshare matching can be done by individual employers or on a community-wide basis. In addition to commute trips, travelers can be matched with others participating in the same extracurricular school function, medical-related trip, shopping trip, or community activity.

Rideshare matching is typically done through a computerized system. A variety of vendors have created inexpensive, effective software that makes this process easy to use. Rideshare services can also be offered on-line.

Two common forms of ridesharing are carpools and vanpools.

Carpool participation is higher than the national average in rural Arizona, suggesting that a potential for developing additional carpools in the area exists. Strategies for formalizing and increasing carpooling in Pinal County follow:

- The carpooling that is already established needs to be quantified and documented. This process could be an employer-based registration system that provides an incentive for filling out an information/registration card. Incentives might be as simple as a chance to be entered in a drawing for dinner for two at a popular restaurant. Periodic updates and opportunities for future carpooling incentives would be an option for car-pool participants.
- A benefit of registering carpools is that the informal carpools might be able to serve another commuter who works the same shift, or an additional participant in the same

- periodic activity. The baseline data forms the beginning of destination-driven ride matching.
- Once the baseline data quantifies a level of carpool usage, goals for increasing participation and incentives to attract more new carpools can be identified and implemented.

Vanpools are also an alternative to be considered for area commuting. The methodology described above for carpools is one way to begin building a database for informal vanpools. By asking vehicle capacity on the registration card, the information helps organizers build an “excess capacity” database.

This type of vanpool is very informal and maintains its schedule based on employee needs. Matching commuters from the same or other businesses is the growth potential. Again, the object is to quantify and document existing vanpool commuters and build the program where possible.

Another option is to provide businesses with an incentive to let the vehicle be used for a formal vanpool program with a wider group of employees. If the vehicle becomes a part of a formal program, maintenance, insurance and vehicle upkeep can be offered as an incentive. Such a fleet of vanpool vehicles can be used as “guaranteed ride home” vehicles for bus/rideshare commuters who have an unscheduled midday need to get home.

A few issues do arise with shared-use vehicles as described above. If the driver of the vanpool is an employee who is also commuting to work, the type of insurance needed is different than if the driver is paid or if the vehicles are used for other service during the day. As with any formal bus service, vanpools need back-up vehicles or a plan for alternate service.

4.1.2 Different Types of Transit Service

A number of roadway-based and fixed-guideway forms of transit service exist, including bus service, light rail, commuter rail, subways, and monorail. Five modes of transit have been identified as most likely for eventual implementation in Pinal County. These are:

“Dial-a-Ride” Service is a demand-response service. Vehicles do not operate on a fixed route or schedule, but pick-up patrons at their origins and deliver them directly to their destinations. Before the trip begins, and during the course of the trip, the driver receives information from a dispatcher concerning pick-up and drop-off requests.

This cutaway vehicle, comprising a minibus body constructed on a recreational vehicle chassis, is used by Valley Metro for paratransit services. However, similar vehicles are typically used in both deviated fixed route and downtown or neighborhood circulator services.

Deviated Fixed Route Service, sometimes referred to as “checkpoint” service, is considered an intermediate step between dial-a-ride, which targets transit dependent riders, and fixed route service, which is more efficient in larger cities having significant volumes of transit ridership. A deviated fixed route stops at scheduled “time points”—or “checkpoints”—much as a fixed route service does. However, the route taken between points can vary from trip to trip. This mid-size transit coach is also used for fixed route service in smaller cities—as is being done in Flagstaff. Fixed Route Buses follow a route and schedule that never varies from one week to the next.

Variations such as reduced or extended weekend hours and weekend route differences are published in advance. Fixed route systems are typically structured either as radial systems with routes radiating out from a central transit center to different residential or commercial areas, as grid systems with routes operating on the major arterial streets, or as some combination of the two structures. Such systems comprise the dominant form of public transit in most major metro areas in North America.

Bus Rapid Transit service operates at higher speeds and makes fewer stops than local buses, resulting in trip times that are more competitive with those of trips made in a private automobile. Bus rapid transit routes typically operate on freeways, in high-occupancy vehicle lanes, in lanes designated for bus use only, or on dedicated bus ways.

Valley Metro's new "Rapid" buses feature amenities that make longer trips more comfortable such as forward-facing, reclining seats, individual reading lights, and overhead storage. Such vehicles could also be used for express, limited stop, or regional services.

Commuter Rail Services such as the Los Angeles area Metrolink connect suburbs from neighboring counties with the center of a major metropolitan area. Metrolink operates 130 trains daily on 66 different routes in the LA area and carries an average of over 27,000 riders each day. Trains operate as far east as Riverside and San Bernardino.

Bi-level commuter rail cars carry between 100 and 130 persons each, are wheelchair accessible, and also have bike racks. Trains average 45 mph, including stops.

Regional Rail services can use equipment similar to that used for commuter rail or can be equipped with reclining seats and other amenities designed to make longer trips more comfortable. In May 2000, a special round trip was operated between Phoenix and Tucson, including a stop in Coolidge, using TALGO train equipment normally operated between Portland and Seattle. The purpose of the trip was to demonstrate the potential for such service in the Phoenix-Tucson corridor. Due to the increased volume of rail freight service, additional tracks may be needed to operate passenger rail services.

MAG and ADOT are jointly embarking on a strategic planning process to assess the feasibility and to develop an implementation strategy for commuter rail service in the Phoenix metropolitan area and adjacent areas. Key study issues include the following:

- Public input to identify the level of support for commuter rail among citizens and elected officials
- Coordination with private railroad companies
- Opportunities for commuter rail to serve high growth areas and to integrate with other travel modes (e.g., freeways, airports, bus, and light rail)
- Right-of-way needs as part of an overall corridor preservation strategy
- Potential funding options and legislative measures to implement commuter rail
- Provide decision-makers with a comprehensive perspective on the costs, schedules, trade-offs, impacts, and policy implications of alternative implementation approaches.

4.1.3 Best Practices in Peer Counties

To assess the transit-related activities in peer counties, data from the U.S. Census Bureau was first analyzed to identify counties that currently have populations similar to that forecasted for

Pinal County in 2025. A list of U.S. counties having populations of 1 million persons or greater was reviewed, and counties likely to have demographic characteristics closest to those of Pinal County were selected. Data regarding total population and population per square mile for each of these counties is listed in Table 4.

Most counties having large populations have much smaller areas than Pinal, and are demographically dissimilar. No matter how large it becomes, Pinal County is unlikely to resemble Queens, New York, for example, or even Wayne County, Michigan, whose county seat is Detroit. Hence, other Sunbelt counties adjacent to—and containing suburbs of—major metropolitan areas were chosen.

Arizona has fewer counties than almost any other large state, and the square mileages of Arizona’s counties are thus larger than other counties with which they might otherwise be statistically similar. Consequently, all but three of the eight peer counties chosen have areas considerably smaller than Pinal’s. One, Orange County, California, has a current population significantly larger than Pinal’s is projected to be by 2025. Note, however, that the Western and North Central Study Areas of Pinal County, which comprise approximately half the square mileage, will experience most of the future transit development.

4.1.4 Transit Services in Peer Counties

The range of transit services currently offered by counties having populations similar to that forecasted for Pinal in 2025 is revealing. Table 5 summarizes the principal services provided. In addition, many of these areas still have Greyhound service.

**Table 4: Counties with Year 2000 Populations
Similar to Pinal County’s 2025 Forecast**

County	State	Adjacent Metro Area	Area (Sq. Mi.)	Population	Population Per Square Mile
Alameda	California	San Francisco	738	1,443,741	1,956.3
Broward	Florida	Miami	1,205	1,623,018	1,346.9
Clark	Nevada	Las Vegas	7,910	1,375,765	173.9
Orange	California	Los Angeles	789	2,846,289	3,607.5
Pinal*	Arizona	Phoenix	5,370	1,900,000	353.8
Riverside	California	Los Angeles	7,207	1,545,387	214.4
San Bernardino	California	Los Angeles	20,053	1,709,434	85.2
Santa Clara	California	San Francisco	1,291	1,682,585	1,303.3
Tarrant	Texas	Dallas	863	1,443,219	1,672.3

Source: U.S. Census Bureau, *County and City Data Book*, 2000

*Pinal County population 2025 forecast

Table 5: Principal Transit Services Provided in Peer Counties, 2005

County	Carrier	Mode	Area Served
Alameda	AC Transit	Bus	County-wide
Alameda	Union City Transit	Bus	Union City
Alameda	Dumbarton Express	Bus	Oakland, Dumbarton
Alameda	Amtrak	Rail	Oakland
Alameda	BART	Rail	Oakland
Broward	Broward County Transit	Bus	Fort Lauderdale
Broward	Tri-Rail	Rail	Fort Lauderdale
Clark	Citizens Area Transit	Bus, BRT	Las Vegas, Henderson
Orange	Orange County Transportation Authority	Bus	County-wide
Orange	Amtrak	Rail	Anaheim, Fullerton, Irvine, Santa Ana
Orange	Metrolink	Rail	Anaheim, Fullerton, Irvine, Santa Ana
Riverside	Banning Municipal Transit	Bus	Local service on three routes in the Banning and Cabazon regions. provided by RTA
Riverside	Amtrak	Rail	Riverside, Palm Springs, Indio
Riverside	Metrolink	Rail	Riverside
Riverside	Sunline Transit Agency	Bus	Desert Hot Springs, Palm Springs, Cathedral City, Rancho Mirage, Indian Wells, La Quinta, Indio,
Riverside	Riverside Transit Agency	Bus	Interregional service, Western Riverside County
San Bernardino	Amtrak	Rail	San Bernardino, Barstow, Needles
San Bernardino	Metrolink	Rail	San Bernardino
San Bernardino	Barstow Area Transport	Bus	Barstow
San Bernardino	Victor Valley Commuter	Bus	Victorville to San Bernardino
San Bernardino	Needles Area Transit	Bus	Needles
Tarrant	Amtrak	Rail	Fort Worth
Tarrant	Dallas Area Rapid Transit	LRT, Bus	Fort Worth
Tarrant	"The T" Fort Worth Transit	Bus	Fort Worth and Richland Hills
Tarrant	Trinity Railway Express	Rail	Fort Worth

All of the counties listed except Clark County, Nevada, have commuter rail service that originates or traverses the county connecting suburbs to the central metropolitan area. These counties have comprehensive dial-a-ride and local circulator transit systems within their urban areas, together with a wide variety of both public and privately funded special needs services.

Note that even the two California counties with more area and less population density than is forecasted for Pinal County have a variety of bus and rail services connecting their major urban areas with the Los Angeles metropolitan area.

4.1.5 Transit in Arizona Cities

As a comparative reference, data from transit systems operating in Arizona is also presented. The National Transit Database contains data from urban systems receiving FTA Section 5307

funding. Transit systems such as Coolidge’s Cotton Express that operate in Arizona cities with populations of less than 50,000 are funded through Section 5311. Data for Section 5311 operations is only available if obtainable from the cities themselves. Two of the Section 5311 Arizona cities, Kingman and Sierra Vista, provided the requested data on their transit systems. Table 6 shows the key fixed route transit characteristics of Arizona cities, and Table 7 shows key dial-a-ride characteristics. With the exception of Tucson, Kingman, and Sierra Vista, all of the cities shown participate in Valley Metro (RPTA) and the figures shown for these cities represent their contribution to the RPTA. Note that the data for Kingman and Sierra Vista is for 2003, not 2000.

Possible future challenges faced by Pinal County cities can be anticipated by reviewing this current Arizona data. Note that both Kingman and Sierra Vista operate deviated fixed route systems where buses deviate from the route between checkpoints to provide curb-to-curb service in lieu of having a separate dial-a-ride system. As Table 6 and Table 7 show, these small city systems cost less per vehicle hour to operate than their big city counterparts.

Phoenix, Mesa, Scottsdale, and Tempe had dedicated funding sources for transit in 2000, although the Phoenix mechanism was passed by the voters in March 14 of that year, in the middle of the reporting period. Kingman and Sierra Vista provide their local match from the general fund and also employ LTAF monies when available. Flagstaff also enacted a dedicated transit funding source during 2000, and Glendale in 2002.

Sun City, an unincorporated area whose system is privately funded, had the lowest cost per hour of any of the dial-a-ride systems as well as the lowest cost per boarding. A retirement community with an above average percentage of mobility-limited seniors, Sun City also had the highest boardings per capita. Glendale and Peoria had the highest number of passengers per revenue hour and the highest costs per hour. One significant reason for Sun City’s lower operating costs may be the comparatively small size of its service area.

Table 6: Key Fixed Route Transit Service Characteristics of Arizona Cities

	Service Area Population	Service Area Sq. Mi.	Operating Expense	Passenger Miles	Unlinked Trips	Vehicle Revenue Hours	Peak Vehicles
Phoenix ¹	1,350,000	476	63,208,199	124,065,580	31,838,093	756,010	335
Tucson ¹	503,991	242	29,395,644	65,471,221	17,991,935	532,792	159
Mesa ¹	345,000	120	3,841,811	2,768,775	791,105	72,100	27
Scottsdale ¹	189,000	56	1,318,908	414,110	125,488	26,253	7
Tempe ¹	163,843	40	8,662,773	5,899,554	2,475,133	192,313	68
Kingman ²	40,000	17	263,379	115,000	38,000	6,678	3
Sierra Vista ³	37,000	138	546,244	238,683	115,902	14,221	7
Flagstaff ⁴	57,050	26	485,873	469,102	360,848	352,606	7

Source: 1. 2000 National Transit Database
 2. Kingman estimated from 10 months of operation through December 2003
 3. Sierra Vista data from October 2002 through September 2003
 4. Flagstaff data from 2004 Database—not available in 2000

**Table 7: Key Dial-a-Ride Service
 Characteristics of Arizona Cities**

	Service Area Population	Service Area Sq. Mi.	Operating Expense	Passenger Miles	Unlinked Trips	Vehicle Revenue Hours	Peak Vehicles
Phoenix	1,350,000	476	7,434,649	3,072,572	398,068	194,583	117
Maricopa County	996,166	416	1,715,614	1,786,829	140,471	56,405	56
Tucson	503,991	242	5,886,845	2,738,676	312,138	147,534	57
Glendale	208,000	59	1,517,514	469,751	69,081	21,174	12
Peoria	100,000	141	575,030	137,340	35,028	8,568	4
Sun City	65,899	28	497,853	191,716	59,777	18,838	14
Surprise	21,442	67	81,396	42,000	7,250	3,000	2
Flagstaff ¹	57,050	26	212,772	118,810	22,848	86,154	4

Source: 2000 National Transit Database

1. Flagstaff data from 2004 Database—not available in 2000

5. INITIAL TRANSIT RELATED RECOMMENDATIONS

Analysis of peer county practices and the forecasted combined densities of population and employment depicted in Figure 3 were used to develop draft recommendations for transit services for Pinal County in 2025. By 2025, significant areas of the northern and northwestern parts of the County will have become urban or suburban in nature—some areas will have become part of the greater Phoenix metropolitan area. Note that, at the same time, the Phoenix metropolitan area itself is projected to have become one of the major metropolitan areas in the nation. Due to the rapid population growth of both Pinal County and Maricopa County, Pinal County will have significant transit service needs in the future. Figure 4 depicts the suggested future bus service areas, transit corridors, and park-and-ride locations in the County, and Figure 5 depicts the suggested passenger rail services, including regional, commuter, and excursion rail services, together with candidate transit center locations.

By 2025, existing local transit service in Coolidge is expected to be joined by similar services in Apache Junction, Casa Grande, Eloy, Florence, and Maricopa. These local operators could consist of dial-a-ride services, deviated fixed route services, fixed route local circulator services, or combinations of these. The local transit service areas would be connected by a network of regional transit routes. The regional routes might begin as scheduled commuter vans linking residential areas with employment centers and evolve into regional bus lines with schedule operating throughout the day. Inter-regional transit corridors would traverse the County linking the Phoenix and Tucson areas by both the I-10 and US 60/SR 79 corridors, and linking to Gila County cities.

In the less densely populated eastern portion of the County, comprehensive special needs services will still be necessary, likely augmented by periodic scheduled service connecting the area with Tucson.

By 2025, passenger rail service in the Phoenix-Tucson corridor may have been reestablished, together with commuter services from the Coolidge and Florence areas into the Phoenix metro area. If the Union Pacific Railroad continues to carry the heavy amount of freight traffic—and the forecasted growth in the area suggests that rail freight traffic will increase—new rail lines will likely need to be constructed to carry the passenger rail traffic. These lines could parallel existing trackage in rights-of-way purchased from the UP, or they could follow new alignments.

The Gila River Indian Community (GRIC), which lies between many Pinal County cities and the Phoenix area, has been opposed to the construction of any non-Tribal infrastructure on GRIC territory. However, recent comments made by Tribal leaders regarding possible alternative alignments for the South Mountain Freeway in the Phoenix area appear to reflect a softening of this position. The GRIC could become a partner in the expansion of both highway and rail infrastructure within Pinal County, including the identification and development of new multimodal corridors. Such a partnership might facilitate the creation of a new rail corridor connecting the Union Pacific lines in the Tempe area with the UP line near Maricopa, creating a reliever for rail freight traffic and a new commuter rail route. Similarly, the UP branch that extends south from Chandler could be reconnected to the UP line near Coolidge, resulting in two rail lines between the Coolidge area and Mesa. Commuter rail corridors may first be developed as bus rapid transit corridors, upgraded to rail as usage warrants and funding becomes available.

Many of the County's transit improvements will take place in the North Central Study Area due to its

proximity to the metropolitan Phoenix area. These include the regional bus and future commuter rail services from the Coolidge and Florence areas and new local circulators in Apache Junction and Florence. The Western Study Area will see new transit services necessitated by the emergence of the City of Maricopa and the continued growth of Casa Grande. If a partnership with the GRIC can be developed, a new high-capacity corridor could be implemented between the Maricopa area and metropolitan Phoenix. The Eastern Study Area, while expected to experience significantly less population growth, may see the implementation of excursion rail service through the Gila River gorge area between Florence and Ray Junction, as well as regional transit along the SR 79 corridor and enhanced special services transit along the SR 77 corridor.



- Existing Amtrak Route
- Regional and Commuter Rail on Existing Rail Lines (Current MAG/ADOT Studies)
- New High Capacity Corridor
- Excursion Rail Service (Copper Basin Railway)
- Transit Center Location T

Figure 5: Proposed Passenger Rail Services and Transit Center Locations

2025 Street Network
2025 Population + Employment Density (Per Square Mile)

	0
	1 - 1,999
	2,000 - 3,249
	3,250 - 4,499
	4,500 - 7,779
	7,780 and Above

City Limits

0 5 10 Miles



Note:
Jurisdiction boundaries as of August 11, 2005
include all annexations as of July 5, 2005.

6. RECOMMENDED NEXT STEPS FOR PINAL COUNTY

Specifically, the Consultant recommends that the County take the following steps, as appropriate, to implement and expand transit services:

- **The County should hire a Transportation Coordinator, when needed,** to develop a rideshare program, serve as a clearing house for local and regional public transportation information, and manage the implementation and operation of transit services.
- **The County should appoint a volunteer Transit Advisory Committee** to assist the County in identifying the desirable attributes of the coordinator position and to work with the coordinator after his or her selection. The Transit Advisory Committee could act as a liaison for transit issues between the County, local jurisdictions, and the business community, with respect to transit issues, and could also provide input for mode choice, equipment selection, route selections and additions, and transit center concept and site selection.
- **The County should communicate and coordinate with organizations and agencies** that are evaluating and/or advocating transit service options affecting the County including ADOT Public Transportation Division, MAG, PAG, CAAG, Valley Metro, Pima County DOT, the Pima RTA, the Arizona Transit Association, and the Southwest Rail Corridor Coalition.
- **The County should adopt and encourage the adoption by local jurisdictions and agencies the recommendations of the Arizona Rides program**
- **The County should consider development of a transit oriented design (TOD) overlay** that could be implemented along identified future transit corridors to ensure that commercial and residential development provide enhanced accessibility to and from transit.
- **The County should contract for Countywide Transit Feasibility and Implementation Study** to build upon and revise as needed the findings and recommendations of this Transit Element and serve as a blue print for transit service implementation within the 20-year timeframe leading up to the 2025 horizon year.
- **The County should continue to present short- and long-range plans to ADOT Public Transportation Division** that were developed or refined by the Feasibility and Implementation Study including plans for local circulator services, additional dial-a-ride services, regional bus services, and commuter and excursion rail services. Demographic thresholds for the implementation of each should be identified and the demographics tracked periodically accordingly.

7. TRANSIT FUNDING AND IMPLEMENTATION

This section summarizes multimodal revenue sources and estimates that are applicable to Pinal County and outlines a timetable for transit service implementation.

7.1 FEDERAL FUNDS

A number of funding mechanisms exists that could be used to fund multimodal improvements for Pinal County. These include a number of federal, state, regional and local sources, as shown in Table 8.

Table 8: Matrix of Potential Multimodal Funding Sources

Fund Name	Description	Eligible Uses	Timing*	Application Process
Federal				
STP	Federal funds, administered by FHWA and ADOT	Variety of capital projects including transit and enhancement projects	L	Programmed and distributed through CAAG and ADOT District
FTA Section 5304 funds	Federal funds administered by ADOT	Funding for transit planning and studies	S/M	Programmed through ADOT Public Transportation Division
FTA Section 5310 funds	Federal funds administered by ADOT	Local jurisdictions and private non-profit agencies	M	Programmed through ADOT Public Transportation Division
FTA Section 5311 funds	Federal funds administered by ADOT	Used for rural transit services and communities of less than 50,000 population	M	Programmed through ADOT Public Transportation Division
FTA Section 5316 funds	Federal funds administered by ADOT	Local jurisdictions and private non-profit agencies	M	Programmed through ADOT Public Transportation Division
FTA Section 5317 funds	Federal funds administered by ADOT	Local jurisdictions and private non-profit agencies	M	Programmed through ADOT Public Transportation Division
State				
LTAF II	State funds derived from PowerBall lottery sales	Used as local matching funds for FTA transit funds	M/S	Funds allocated to jurisdiction as proportion of population
Local/Regional				
Pinal County Transportation Tax	½ cent sales tax dedicated to road improvements within Pinal County	General transportation improvements	L	Funds allocated to jurisdiction by proportion of population
Impact Fees	Fee imposed by local jurisdiction on development on per unit basis	Used to fund a variety of infrastructure needs including transportation	S	Locally administered
Development Stipulations	Requirements by developers to dedicate appropriate ROW and build streets adjacent to project	Benefits are derived by offsetting cost of acquiring ROW and building infrastructure	S	Locally administered

*L = 10-15 years, M = 5-10 years, S = 0-5 years

The Federal government funds a variety of transportation programs including Surface Transportation Program (STP) funds and a series of transit-specific programs. Arizona receives about \$142 million in STP funds per year. These funds can be used on freeways or for bridge rehabilitation, transportation enhancements, and safety projects. The County would work through ADOT and CAAG to utilize STP funds.

The FTA 5316 Job Access and Reverse Commute (JARC) Program is now a formula program based on ratios regarding the number of eligible low income and welfare recipients. Twenty percent of the funds are reserved for small urban areas with populations of less than 200,000 and another 20 percent are reserved for rural areas. The program provides funding designed to facilitate job access for individuals not effectively served by public transportation. Coordination between private, non-profit, and public transportation providers is required. The "New Freedoms" Program is a part of the SAFETEA-LU legislation enacted in 2005 and provides formula funding for transportation alternatives for mobility-limited persons beyond those required by ADA. Like the JARC Program, 20 percent of the funds are reserved for small urban areas with populations of less than 200,000 and another 20 percent are reserved for rural areas. Coordination among providers is also mandated.

7.2 ARIZONA STATE SHARED REVENUE

7.2.1 Local Transportation Assistance Fund (LTAF I and LTAF II)

State funding programs include LTAF I, which is funded by Arizona Lottery receipts other than PowerBall, and LTAF II, which is funded by PowerBall receipts. These funds are also distributed based on population. Larger cities, those over 300,000, must use LTAF I revenue for public transit; smaller communities can use the funds for other transportation projects. LTAF II monies must be used for transit by nearly all jurisdictions. The State also administers Federal transit funding within the Section 5311 and 5310 programs. These programs provide for small urban and rural transit services in addition to special needs transit services.

The LTAF II monies received annually by the County and the local jurisdictions within the County may be used as matching funds for both administrative and capital expenditures and for operating subsidy Section 5311 grants. However, the size of the local match for administrative and capital grants varies and can be as low as 20 percent. The size of the local match for operating funds is fixed at 50 percent.

7.2.2 Regional and Local Funding Sources

Regional and local funding sources include an existing Pinal County transportation tax. Pinal County estimates this tax generates approximately \$10 million dollars per year (2005) and is distributed according to a population based formula:

1. Distribution to incorporated cities and towns is calculated by multiplying the total revenue by the factor of incorporated population/total population
2. Distribution to unincorporated areas is calculated by multiplying the total revenue by the factor of unincorporated population/total population
3. Distribution to individual city or town: distribution to incorporated cities and towns multiplied by the factor of individual city/total incorporated population
4. Distribution to Supervisory district is calculated by multiplying the distribution to unincorporated areas by the factor of supervisory district population/total rural population

8. IMPLEMENTATION OPTIONS

Table 9 presents a suggested implementation schedule for transit improvements. The schedule is based on the “Next Steps” recommended in the previous section and assumes a logical progression of events following the completion of the recommended Transit Feasibility and Implementation Study.

The actual costs of both implementing and funding initial transit services will depend upon a number of variables, including the following:

- Which mode, or modes, of transit service are recommended for implementation?
- What type of vehicles will be used and how many will be purchased?
- Will transit centers be built initially? Or will they be programmed for later fiscal years?
- What new maintenance facilities will be needed? Can existing facilities belonging to either the County or local jurisdictions be used initially for starter bus systems? Or is contracting the maintenance out to another agency or a private sector provider practicable?
- When will rail services be introduced? What additional track construction or upgrading will be needed? How much right-of-way will need to be acquired?
- What bus stop furniture will be provided? Will shelters be constructed at stops?

Table 9: Suggested Pinal County Transit Implementation Schedule

Action	Responsibility	Time Frame
Appoint Transit Advisory Board	Pinal County Board of Supervisors	Near Term
Select initial funding sources and set budgets	Pinal County Public Works Department	Near Term
Adopt and encourage the adoption by local jurisdictions and agencies the recommendations of the Arizona Rides program	County Transportation Coordinator with input from Transit Advisory Board and ADOT Public Transportation Division	Near Term
Contract for Countywide Transit Feasibility and Implementation Study	Pinal County Board of Supervisors with input from Transit Advisory Board and ADOT Public Transportation Division	Near Term
Present short, long-range plans in partnership with the ADOT Public Transportation Division	County Transportation Coordinator	Near Term
Begin Ridesharing Program Development	Pinal County Transportation Coordinator with input from Transit Advisory Board	Mid Term
Discuss transit service options with prospective service providers	County Transportation Coordinator and Public Works Department with input from Transit Advisory Board	Mid Term
Recommend transit service types and implementation thresholds	County Transportation Coordinator with input from Transit Advisory Board, ADOT, and Railroads	Mid Term

**Table 9: Suggested Pinal County Transit Implementation Schedule
(continued)**

Action	Responsibility	Time Frame
Obtain funding approval from ADOT	Pinal County Board of Supervisors / Pinal County Public Works Department	Mid Term
Request Design Concept Proposals for Transit Centers	Pinal County Public Works Department	Mid Term
Request proposals for equipment, guideway, and transit center construction	Pinal County Public Works Department	Mid Term
Develop Transit Service Marketing concepts	Pinal County Transportation Coordinator with input from Transit Advisory Board	Long Term
Implement Marketing Campaign	Pinal County Transportation Coordinator	Long Term
Order equipment and begin construction	Pinal County Public Works Department with input from County Transportation Coordinator and Transit Advisory Board	Long Term
Equipment arrives, Transit Centers open, and service starts	County Transportation Coordinator with input from Transit Advisory Board	Long Term