DRAFT

MEMORANDUM

Date: October 22, 2001

To: The Honorable Chair and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator

Re: **Trends in Circulation**

Background

The attached study on *Trends in Circulation* provides background information relevant to the Circulation Element of the draft Comprehensive Land Use Plan, which was forwarded to the Board last week. This memorandum describes historic traffic volumes for roads within the various subregional planning areas of Pima County, and compares Pima County trends to national data in areas such as vehicle ownership, travel time, vehicle miles traveled, work trip modes of travel, registration, and vehicle costs. A general summary of proposed transportation improvements is also provided.

Historic Traffic Volumes

The trends in the average daily traffic volume on roads within Pima County demonstrates the impacts of increasing population growth and our increased dependence on automobiles for travel. Data for three roadways within each planning subregion is shown in five year intervals beginning in 1970. These numbers reflect the total average daily traffic in both directions.

Catalina Foothills Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Catalina Hwy, east of Tanque Verde	1500	4200	7600	10,500	12,900	13,200	14,100
Sunrise Drive, west of Craycroft	900	2700	6200	13,200	21,600	26,200	30,600
Swan Road, north of River Road	5000	7200	12,600	14,600	24,400	27,600	28,800

Northwest Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Tangerine Road, east of I-10	180	500	400	900	1300	2400	6700
La Cholla Blvd, south of Ina Road	350	1100	2200	9100	13,800	15,000	17,200
Ina Road, west of La Cholla Blvd	2000	5300	8700	26,400	33,000	37,000	36,800

Rincon / Santa Rita Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Houghton, north of I-10	1800	1100	4500	NA	2700	3700	6600
Benson Hwy, east of Alvernon Way	3800	5800	5100	6200	8600	9700	6200
Old Spanish Trail, south of S.Nat. Pk.	700	700	1300	1400	2200	1600	2400

Southwest / Altar Valley Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Kinney Road, north of Ajo Way	2400	4500	6000	8400	9100	9300	9700
Mission Road, south of Ajo	4900	8300	12,100	9100	17,900	16,100	21,700
Ajo Way, east of Kinney Road	4100	7000	14,000	16,000	16,100	16,800	27,000

Tucson Mountains / Avra Valley Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Avra Valley Road, west of I-10	1100	2700	2700	3800	4800	4200	6200
Silverbell Road, north of Ina	250	500	1200	900	1200	5400	5600
Sandario Rd, south Picture Rocks Rd			800	1100	2900	5600	5700

Upper Santa Cruz Subregion

ROAD	1970	1975	1980	1985	1990	1995	2000
Old Nogales Hwy, north Sahuarita Rd			4800	4200	6100	5100	7300
La Canada Blvd, south of Helment Pk			3300	2100	2600	2400	3200
Sahuarita Rd, west of Old Nogales Rd			1100	2100	3500	2900	6000

Comparison of Pima County Trends to National Trends in Circulation

The attached study compares Pima County circulation trends to national trends across a number of measures. This section summarizes a few trends that are found within the study.

Vehicles Per Household

- In 1990 and in 1999, 91 percent of households in Pima County had one or more vehicles.
- At the national level, 88 percent had one or more vehicles in 1990.
- In 1990, 96 percent of owner occupied housing units in Pima County had one or more vehicles. This measure rose to 97 percent by 1999.
- At the national level, 95 percent of owner occupied housing units had one or more vehicles in 1990.
- In 1990, 16 percent of renter occupied housing units in Pima County had no motor vehicle available. This measure rose to 17 percent by 1999.
- At the national level, 23 percent of renter occupied housing units were without vehicles in 1990.

Travel Time

- In 1990, around 65 percent of workers in Pima County could travel to work in less than 25 minutes. In 1999, this measure dropped to 63 percent.
- At the national level, 62 percent of workers had a 25 minute or less travel time to work in 1990, while 1999 data for counties by the American Community Survey found that only 56 percent of workers had a commute that lasted 25 minutes or less.
- In general, home based work has constituted only 3 percent of the market.

Traffic Volume Trends

- Vehicle miles traveled over the last decade have increased 36 percent in Pima County, outpacing the population increase of 30 percent.
- At the national level, vehicle miles traveled increased 26 percent in one decade.
- In Pima County, vehicle registration increased 31 percent during the period between 1990 and 2000.

Work Trip Mode Share

- In 1990, 72 percent of Pima County workers drove alone to work while 15 percent carpooled and over 8 percent walked, biked or took public transit.
- In 1999, 75 percent of Pima County workers drove alone and 13 percent carpooled.
- At the national level, 73 percent of workers drove alone in 1990 and 13 percent carpooled. By 2000, 76 percent drove alone and only 11 percent carpooled.
- Work related trips account for only 13 percent of total trips in Pima County.

Travel Costs

- The average household in the United States spends 18 percent of its total budget on transportation expenses.
- The percent of total budget spent on transportation by the poor can reach one third of the total household budget.

Conclusion

A review of trends in circulation indicates that Pima County residents tend to be more dependent on the automobile as a means of transportation than the national average, and traffic volumes are on the rise for existing roads. Yet, Pima County's attempts to fund roadway improvements have met with voter disapproval on several occasions. This has contributed to the infrastructure deficit. Transportation funding, dedicated for the next decade, will only address the needs of growth that has already occurred. Future growth will have to be focused in certain areas and corridors will play a major role in regional planning. The revenue void left by failed sales tax initiatives has not been filled by impact fee or other programs.

Two of the five recommendations for the draft Circulation Element of the Comprehensive Plan deal with funding issues. One recommendation is that off-site transportation infrastructure be developed concurrently with land use development to the greatest extent possible. Another recommendation is that alternative and equitable funding sources for transportation infrastructure be developed, in addition to current funding sources. I have directed staff to undertake a study of fee based alternatives and level of service standards needed to achieve concurrency. These and related studies will be forwarded to the Board for consideration as part of the Comprehensive Plan Update process.

Attachment

1. State of Transportation Services and Systems in Pima County

Purpose of Study

This section establishes a context for improving transportation options in the future and for setting goals and policies that will help achieve them. It includes a brief narrative of the state of transportation services and systems in Pima County. We describe trends in personal travel, auto ownership, travel distances, trip purpose, and modes of travel. A description our auto dependence and how transportation options can be broadened in the future are also discussed.

Land use and transportation commitments, such as the inventory of developable land, current land use commitments, and county roadway bond projects under design and construction, are critical factors in how the County grows.

Land use commitments have near-term and intermediate-term implications because they may not change significantly over the next two decades. There are measures and incentives to effect change in those committed land uses, and the horizon for the Comprehensive Plan beginning in 15-20 years and extending to "buildout" of the developable land. In addition, the cost of providing transportation facilities and services and the County transportation funding outlook and availability of revenues by mode are presented.

Data for this analysis are derived from myriad sources, including Pima County Department of Transportation (PCDOT); Pima Association of Governments Transportation Planning Division (PAG TPD); 1990, 1995, and 2000 U.S. Census; 2000 American Community Survey (conducted by U.S. Census Bureau); Federal Highway Administration (FHWA);, U.S. Bureau of Transportation Statistics (BTS); Surface Transportation Policy Project (STPP); and other sources.

2. Trends in Personal Travel – How We Travel

The Auto is Still King

Our transportation system continues to be dominated by the use of privately owned vehicles on public streets. Based on 1990 Census data, 91 percent of all occupied housing units in Pima County had one or more motor vehicles available for personal transportation, while the remaining nine percent of all occupied housing units had no motor vehicles available. For owner occupied housing units, 96 percent had one or more vehicles available, while for renter occupied units 84 percent had one or more vehicles available.

Very little changed in vehicle availability per occupied housing unit in Pima County between 1990 and 1999. The 1999 American Community Survey (ACS)[1] also found that 91 percent of all occupied housing units in the County had one or more vehicles available. There was a very slight change in owner occupied housing units from 1990, shifting upward from 96 percent to 97 percent of units having one or more vehicles available. Conversely, renter occupied housing units shifted slightly downward in vehicles available per unit, from 84 percent in 1990 to 83 percent in 1999. This relatively high amount of renter occupied housing units (17 percent) that have no available motor vehicles may have important implications for provision of public transportation services in the County and construction of pedestrian and bicycle facilities, in particular to better access public transportation routes.

As a comparison, across the United States, 88 percent of occupied units had one or more motor vehicles available in 1990. Approximately 95 percent of owner occupied units had one or more vehicles available, while only 77 percent of renter occupied units had one or more vehicles available. It is undetermined how this may have changed since 1990, because similar year 2000 Census and 2000 ACS data are not yet available for the United States.

As we discuss later, the number of transit riders has increased over time, primarily because the regional population increased while the percentage of households without vehicles has remained essentially the same. However, transit service is crucial to those without a vehicle, and can be a significant money saver for those who chose to ride the bus instead of buying an additional car.

Roads are ubiquitous; transit service and bicycle and pedestrian facilities are not. Currently, most residents are termed "auto-captive" because there is no transit service or other options available to them, or because public transit hours and routes do not meet their travel needs. Because of the widespread private investment in personal vehicles, residential locational choice, lifestyle trends, and other factors, there is marginal opportunity to change our auto dependence in the near term. Transit can become more viable with changes in future land use patterns, enhancing accessibility to bus stops, increases in the price of vehicles and fuel, and expansion of transit service areas.

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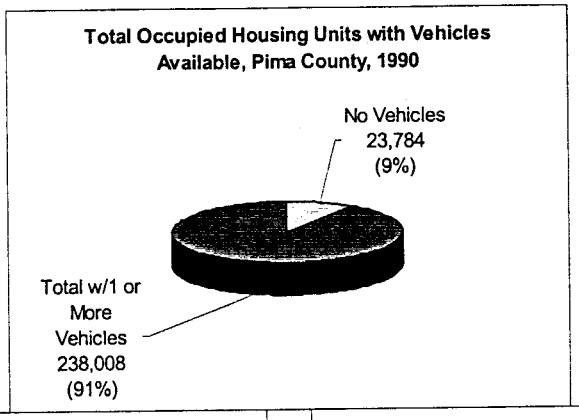
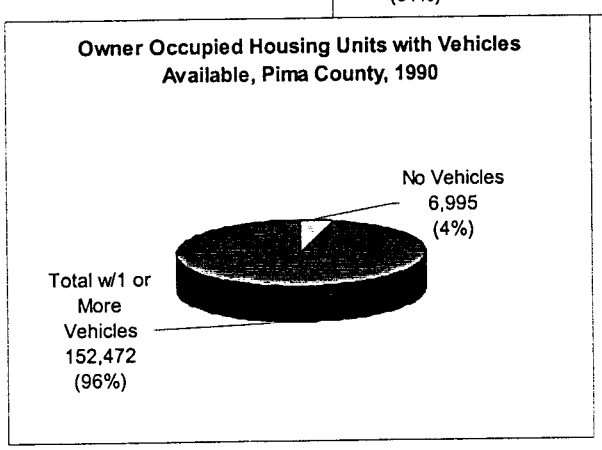
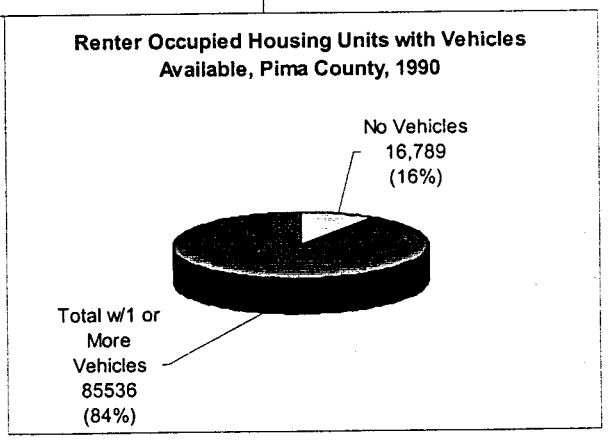
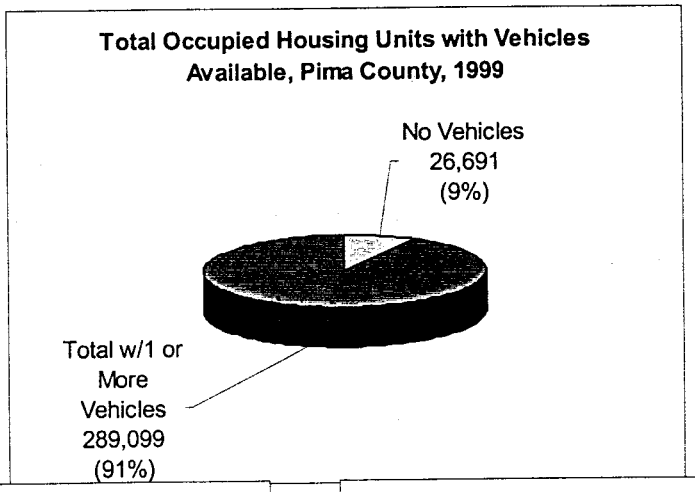
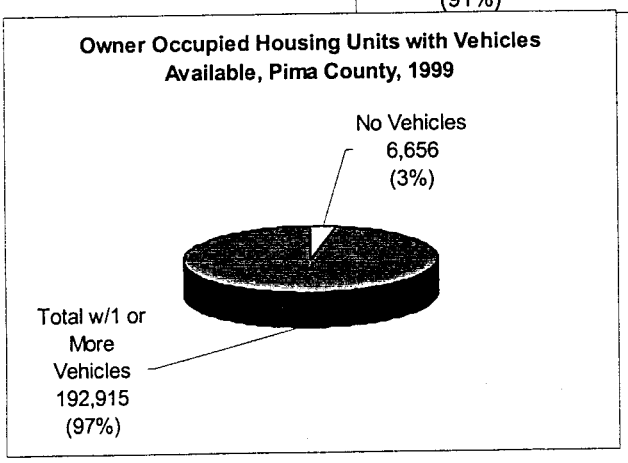
[1] The American Community Survey provides data for communities every year instead of once in ten years. It is an on-going survey that the Census Bureau plans to replace the long form in the 2010 Census. The ACS has surveyed 20 to 21 U.S. counties each year since 1996. Full implementation of the survey is planned for 2003 in every county of the United States if Congress allocates the necessary funding.

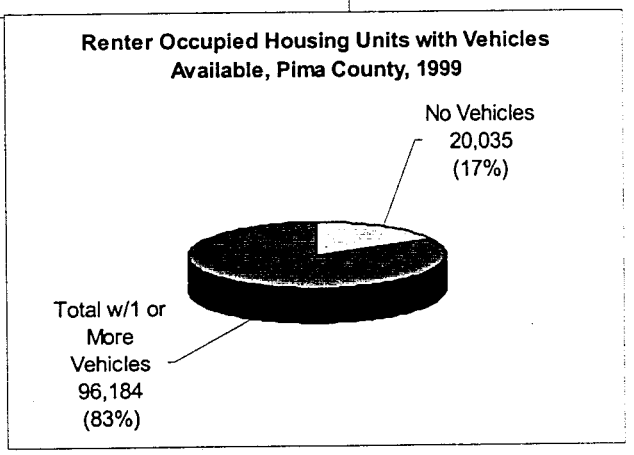

Total Occupied Housing Units with Vehicles Available, Pima County, 1990
No Vehicles 23,784 (9%)
Total w/1 or More Vehicles 238,008 (91%)

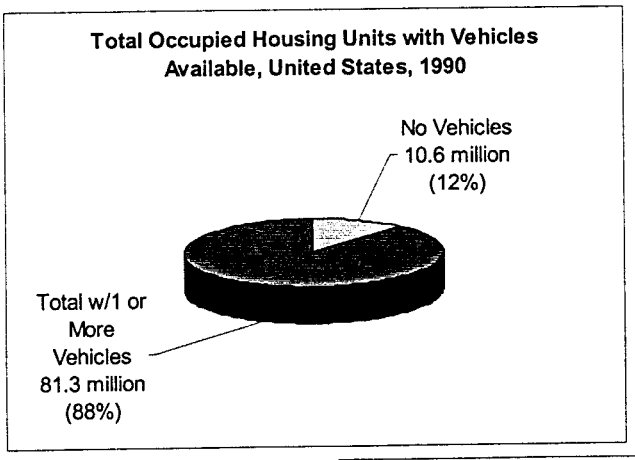

Owner Occupied Housing Units with Vehicles Available, Pima County, 1990
No Vehicles 6,995 (4%)
Total w/1 or More Vehicles 152,472 (96%)

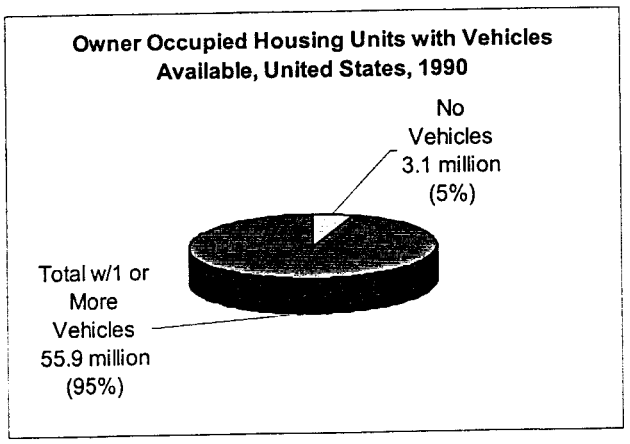

Renter Occupied Housing Units with Vehicles Available, Pima County, 1990
No Vehicles 16,789 (16%)
Total w/1 or More Vehicles 85536 (84%)

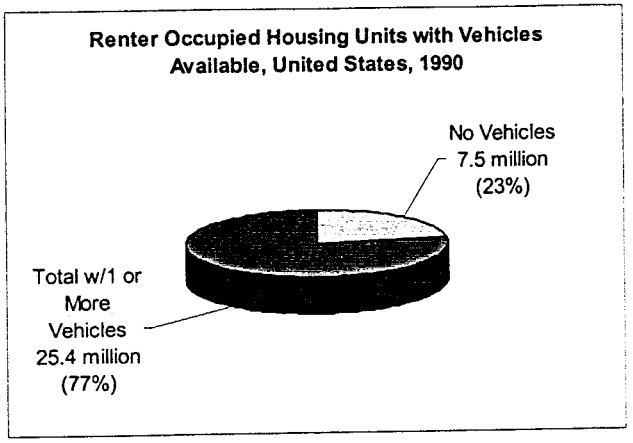

Total Occupied Housing Units with Vehicles Available, Pima County, 1999
No Vehicles 26,691 (9%)
Total w/1 or More Vehicles 289,099 (91%)


Owner Occupied Housing Units with Vehicles Available, Pima County, 1999
No Vehicles 6,656 (3%)
Total w/1 or More Vehicles 192,915 (97%)


Renter Occupied Housing Units with Vehicles Available, Pima County, 1999
No Vehicles 20,035 (17%)
Total w/1 or More Vehicles 96,184 (83%)


Total Occupied Housing Units with Vehicles Available, United States, 1990
No Vehicles 10.6 million (12%)
Total w/1 or More Vehicles 81.3 million (88%)

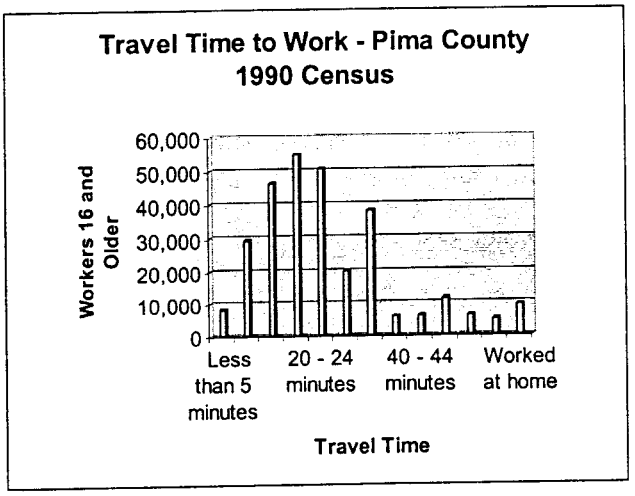

Owner Occupied Housing Units with Vehicles Available, United States, 1990
No Vehicles 3.1 million (5%)
Total w/1 or More Vehicles 55.9 million (95%)

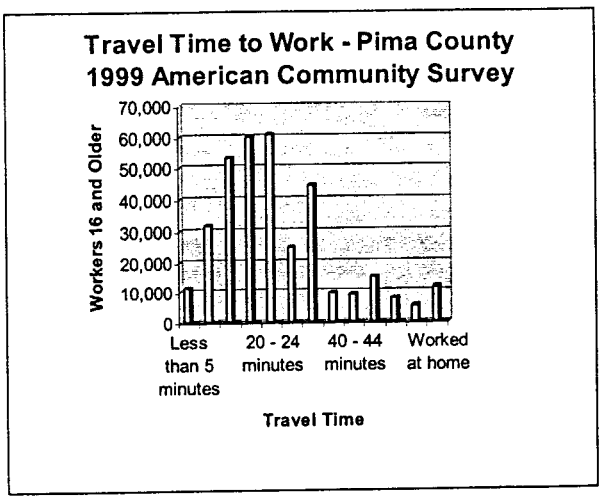

Renter Occupied Housing Units with Vehicles Available, United States, 1990
No Vehicles 7.5 million (23%)
Total w/1 or More Vehicles 25.4 million (77%)

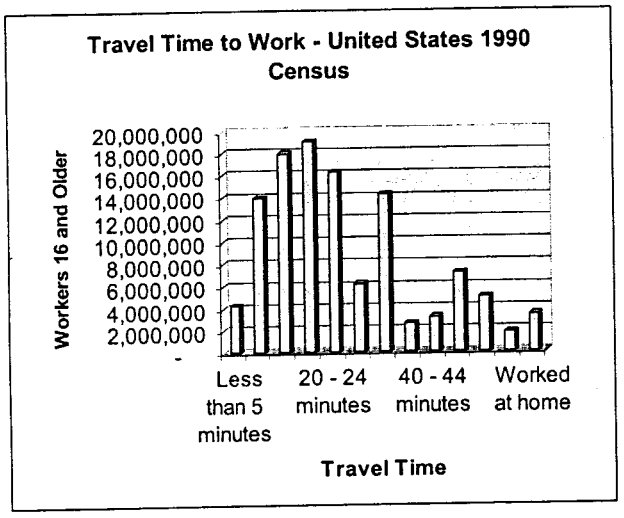
Travel Time

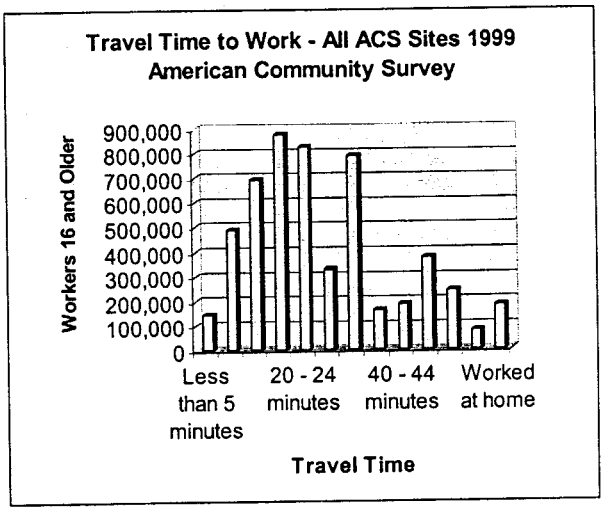
The amount of time we spend traveling to and from work is a defining characteristic of our lifestyle. Some people find the trip to work cathartic, although most people find it a necessary inconvenience. Travel time to work for Pima County employees 16 years of age and older (using all modes of travel) increased slightly from 1990 to 1999. In 1990 there were about 292,000 workers in Pima County age 16 and older while in 1999 there were about 345,000, an 18 percent increase. In 1990, approximately 65 percent of Pima County workers were able to travel from home to work in less than 25 minutes. Approximately 32 percent of workers traveled 25 minutes or more to work, while an additional 3 percent of workers worked at home. In 1999, approximately 63 percent of Pima County workers were able to travel from home to work in less than 25 minutes, while 34 percent of workers traveled 25 minutes or more to work. As in 1990, approximately 3 percent of workers worked at home despite major advances in telecommunications and e-commerce. Many workers may, however, be taking more work home with them and/or telecommuting part-time.

For the United States as a whole, 62 percent of workers in 1990 traveled less than 25 minutes from home to work, which is a slightly lower percentage than Pima County. About 34 percent of U.S. workers traveled 25 minutes or more, and 3 percent worked at home. While 2000 Census and 2000 ACS results are not yet available for this item, the 1999 ACS for 20 U.S. counties found that only 56 percent of workers traveled less than 25 minutes from home to work, while 40 percent traveled 25 minutes or more to work. The 1999 ACS also found that approximately 3 percent of workers worked at home.






Travel Time to Work - United States 1990 Census
Workers 16 and Older
20,000,000
18,000,000
16,000,000
14,000,000
12,000,000
10,000,000
8,000,000
6,000,000
4,000,000
2,000,000
-
Less than 5 minutes
20 - 24 minutes
40 - 44 minutes
Worked at home
Travel Time


Travel Time to Work - All ACS Sites 1999 American Community Survey
Workers 16 and Older
900,000
800,000
700,000
600,000
500,000
400,000
300,000
200,000
100,000
0
Less than 5 minutes
20 - 24 minutes
40 - 44 minutes
Worked at home
Travel Time

Traffic Volume Trends

In Pima County, there are now more people driving more miles than ever before. Traffic volumes in Pima County have seen steady increases at a rate greater than population growth. PAG TPD reports that vehicle miles traveled (VMT) over the past decade have increased approximately 36 percent in the PAG region, from 13.0 million miles in 1990 to 17.7 million miles in 2000. The population growth rate in the PAG planning area on average has been approximately 3.2 percent per year over this time period. Total Pima County population increased from 667,000 in 1990 to approximately 866,000 in 2000, an increase of 30 percent.[2] Transit ridership increased from 46,100 weekday trips to 65,000, an increase of 41 percent.

In comparison to national trends, preliminary reports from the State highway agencies indicate that travel during June 2001 on all roads and streets in the nation changed by -0.5 percent as compared to June 2000, resulting in estimated travel for the month at 237.1 billion vehicle-miles. This slight drop may reflect slowing economic conditions and their effect on nationwide travel. Total VMT nationwide has increased from 1.05 trillion vehicle-miles in 1990 to 1.32 trillion vehicle-miles in 2000, a 26 percent increase over this time period.[3]

Estimated Number of Daily Trips and Vehicles Miles Traveled (VMT) on the PAG Regional Network

	1960	1990	1995	2000
Vehicle Trips (1)	455,600	2,132,475	2,448,888	2,692,207
Person Trips (2)	579,100	2,785,228	3,177,925	3,679,665
VMT	1,806,100	13,027,930	15,578,450	17,684,396
Transit Ridership	15,400 (3)	46,100 (4)	53,100 (4)	65,000 (4)

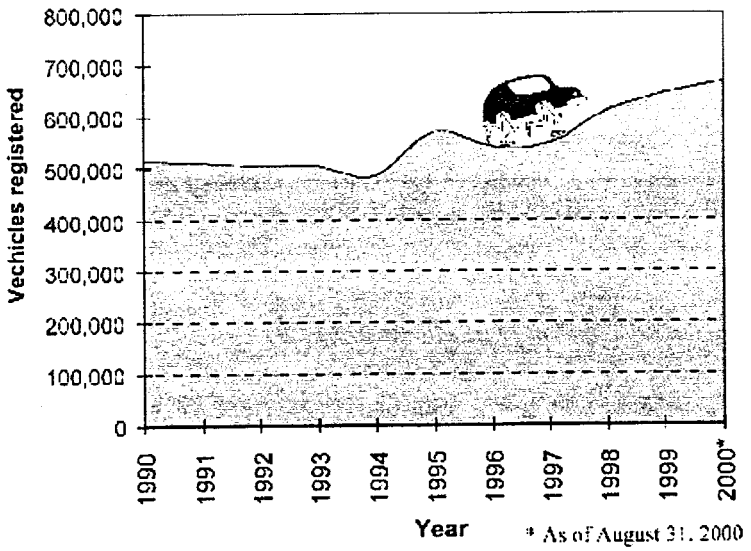
(1) Including external trips
(2) Including truck trips
(3) Daily trips by transit
(4) Average weekday ridership
Sources: PAG Regional Transportation Plan, 2001-2025. 1960 data from Tucson Area Transportation Study, Volume I, 1960, and 1990, 1995 and 2000 data from PAG.

[2] *PAG Regional Transportation Plan, 2001-2025*
[3] *Traffic Volume Trends*, FHWA, June 2001

Vehicle Registration

The number of registered vehicles in Pima County has steadily increased through over the past decade. Several factors have contributed to the growth in registered vehicles, including population increases, longer-distance trips, growing incomes, and greater use of motor vehicles for all trips. Registered vehicles in Pima County have grown from 510,000 in 1990 to 668,000 vehicles in 2000, an increase of 31 percent. These vehicles include bus, taxi, motorcycle, commercial, and government vehicles.

Registered Vehicles in Pima County



Source: Arizona Department of Transportation - Motor Vehicle Division; PAG Regional Transportation Plan, 2001-2025

Work Trip Mode Share

In 1990, nearly 72 percent of Pima County workers age 16 years and older drove alone to work and approximately 15 percent carpooled. Over 8 percent walked, used public transit, and bicycled to work, with the remainder using other means or were home-based workers. Year 2000 ACS data indicate an increase of drive-alone workers, now up to 75 percent of all workers. Carpool work trips declined to 13 percent of all work trips, with walk, public transit, and bicycle trips totaling less than 7 percent of work trips. Workers who work at home at least part of the time, however, increased to nearly 4 percent of all workers.

Across the U.S., approximately 73 percent of workers drove alone in 1990, with 13 percent carpooling. Walking, public transit, and bicycling combined accounted for nearly 10 percent of work trips, and 3 percent of workers were home-based. Year 2000 Census results indicate that there's been an increase in drive-alone workers to 76 percent of all workers, while carpooling declined to 11 percent. Walking, public transit, and bicycling declined to below 9 percent, with walk trips showing the sharpest drop from nearly 4 percent of all work trips to below 3 percent.

It is important to note that work trips, however, account for only 13 percent of total trips.[4] In general, the ratio of home-to-work trips to total trips declined over the years as the percentage of other family or personal business trips increased. Neither the Census nor ACS has measures for all trip purposes, including shopping, recreational, school, and other trips. However, the U.S. Centers for Disease Control estimate that approximately 13 percent of all school trips in the U.S. are made by walking and bicycling.[5] Also, the Bureau of Transportation Statistics has recently initiated a series of monthly, transportation-related national surveys. In August, September, and October of 2000, approximately one-in-five adults (41.3 million) in the United States reported using a bicycle in the last 30 days. Of those people, 22 percent (9.2 million) used their bicycle on more than 10 of the previous 30 days.[6] In addition, the 1995 Nationwide Personal Transportation Survey, which covers trips of all kinds, found that 5.4 percent of all trips were by walking. This represents 56 million daily walk trips covering 20 billion miles for the year.[7]

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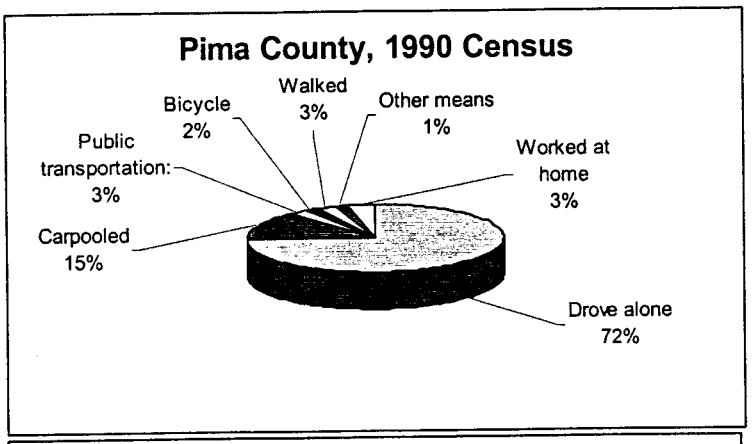
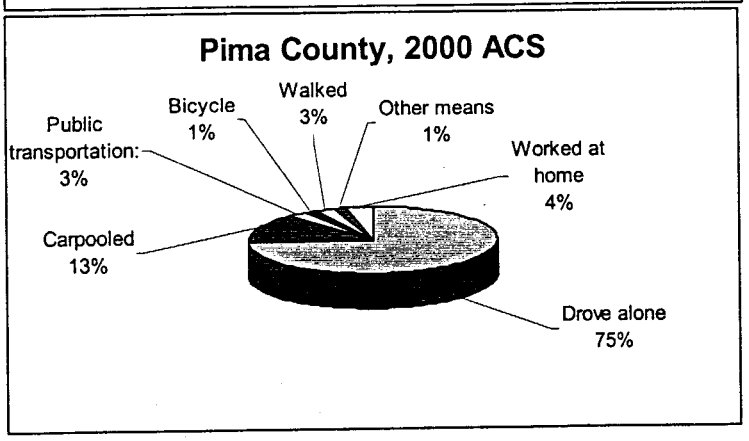
[4] Source: PAG TPD, *Trends and Data*, 2001.

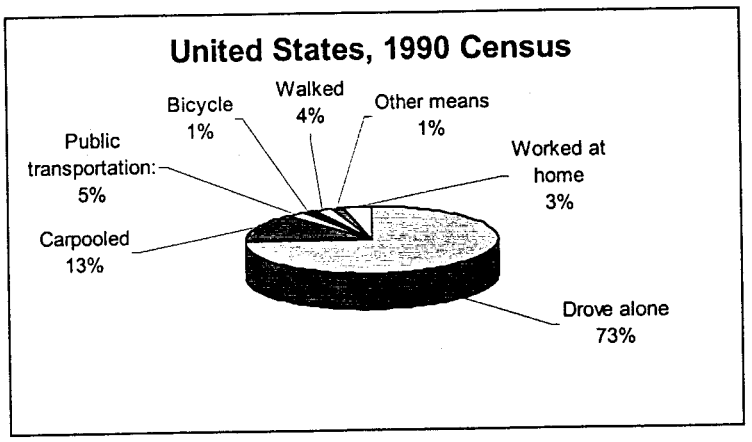
[5] U.S. Centers for Disease Control, as described in *Population and Travel Trends*, a study by TransCore produced for PCDOT in 2001.

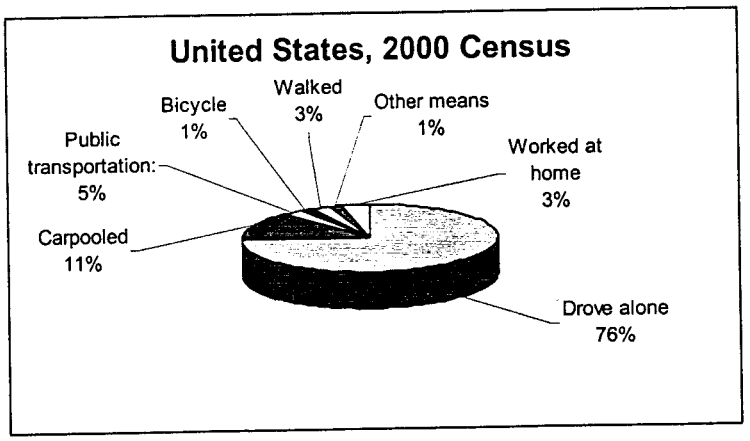
[6] Association of Pedestrian and Bicycle Professionals Pedestrian and Bicycle Information Center, www.bicyclinginfo.org (see also http://www.bts.gov/omnibus/results/october/omnibus_freq_oct.htm)

[7] Association of Pedestrian and Bicycle Professionals Pedestrian and Bicycle Information Center, www.walkinginfo.org (see also http://www-cta.ornl.gov/npts/1995/Doc/trends_report.pdf)


Pima County, 1990 Census
Walked 3%
Bicycle 2%
Other means 1%
Public transportation: 3%
Worked at home 3%
Carpooled 15%
Drove alone 72%


Pima County, 2000 ACS
Walked 3%
Bicycle 1%
Other means 1%
Public transportation: 3%
Worked at home 4%
Carpooled 13%
Drove alone 75%


United States, 1990 Census
Bicycle 1%
Walked 4%
Other means 1%
Public transportation: 5%
Worked at home 3%
Carpooled 13%
Drove alone 73%


United States, 2000 Census
Bicycle 1%
Walked 3%
Other means 1%
Public transportation: 5%
Worked at home 3%
Carpooled 11%
Drove alone 76%

Travel Costs

Personal travel is expensive in both time and money. The Surface Transportation Policy Project (STPP) conducted an analysis of transportation expenditures documented within the U.S. Bureau of Labor Statistics Consumer Expenditure Survey in 2000. The STPP found that of total transportation expenses only 6 percent is spent on vehicle fuel taxes for roadway construction and maintenance and 2 percent is spent on public transportation.[8] The remaining 92 percent is spent on fixed and variable costs to own and operate motor vehicles. Various other costs, such as police and ambulance service for accidents and employer-provided parking costs, are not accounted for as transportation costs in the analysis. The report also noted that the average American household spends 18 percent of its total budget on transportation expenses, and the poor sometimes spend a third of their household budget on transportation. In 1998, the average American household spent over $6,300 on transportation expenses, with $6,100 of that amount going to buying, fueling, and maintaining personal automobiles and trucks. This excludes the real property value of garages and related mortgage costs.

The American Automobile Association estimates that it costs between 43.9 and 61.7 cents per mile to own and operate a newer-model motor vehicle, depending on the size and type of vehicle. This works out to approximately $6,600 to $9,300 per year to own and operate a newer-model motor vehicle, including financing and depreciation costs but excluding "externalized" costs such as emergency services that are transportation-related and air pollution.[9] We subsidize these costs through other means, such as through general funds or health care fees and insurance premiums. The Arizona gas tax is 18 cents per gallon[10], and the federal tax is an additional 18.3 cents per gallon[11], totaling just over 36 cents per gallon. The average vehicle achieves about 20 miles per gallon. Therefore, for every mile driven at a cost of 44 to 62 cents, less than 2 cents in gas taxes are paid to plan, design, build, and maintain our roadway system.[12] The cost to ride the bus in the region (SunTran) is now $1 per ride at regular fare, with discount fares as low as 40 cents. This accounts for about 25 percent of the full cost to operate the bus system and virtually none of the capital and equipment costs. The deficit is offset by general funds and exceeds $20 million per year. Pima County's rural transit system serves Ajo, Marana, San Xavier and Tucson Estates. The fare is 75 cents per ride except the Ajo route, which is $7.50 each way. Pima County's system provides interconnection with SunTran routes, but the additional fare must be paid. Pima County's service is also heavily subsidized.

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[8] *Driven to Spend: The Impact of Sprawl on Transportation Household Expenses,* STPP Center for Neighborhood Technology, 2000.

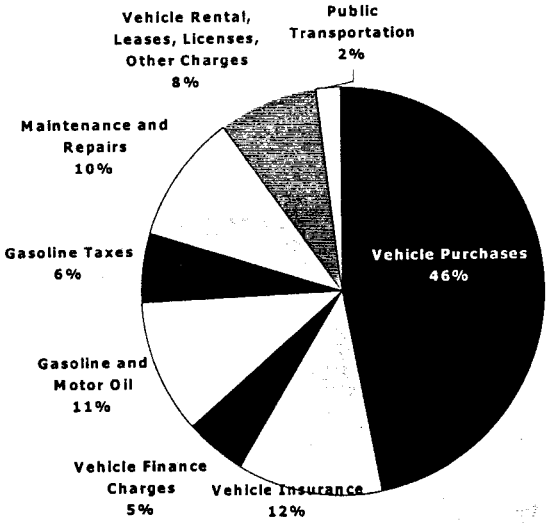
[9] *Your Driving Costs,* American Automobile Association, 2000.

[10] The Arizona rate has not increased since 1990 and has not kept pace with inflation. The PAG Metropolitan Transportation Plan contains funding strategies that call for a 5-cent increase in the gas tax and indexing against inflation.

[11] The federal gas tax was previously 14 cents per gallon, with an additional 4.3 cents per gallon to retire the national debt. In 1998, the 4.3-cent portion was shifted to gas tax, and the 18.3-cent rate remained unchanged.

[12] In addition, the annual Arizona Vehicle License Tax imposes an *ad valorem* in-lieu tax that varies by vehicle list price and age. Depending on the value of the car and its use, this could add up to another 1 cent to 2 cents per gallon in gas tax. The major portion of the VLT is credited to local and state general funds, and not to a transportation account.

Transportation Expenses



Source: Surface Transportation Policy Project, 2000

3. Current Transportation Commitments

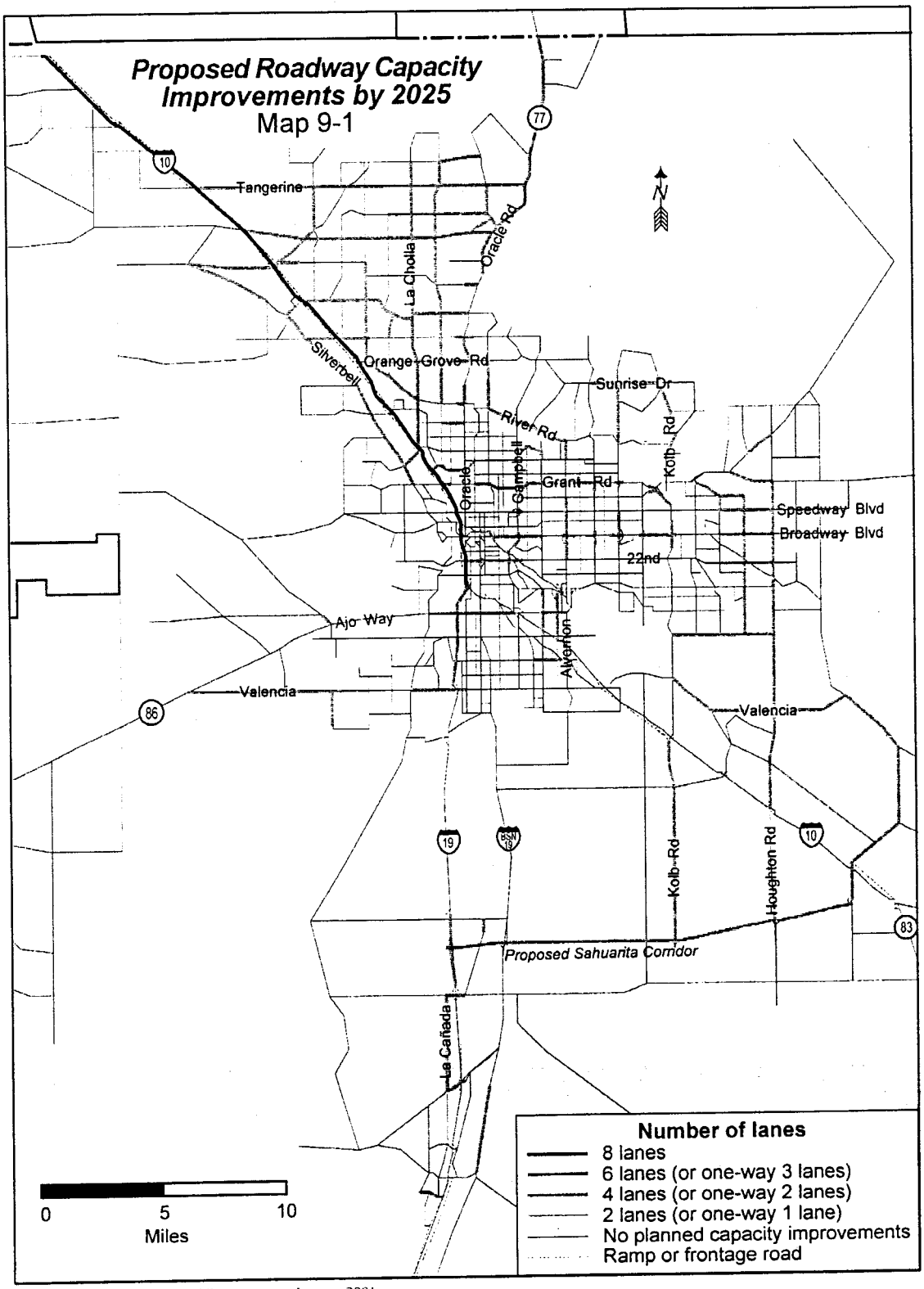
Transportation Commitments

Transportation system improvements are made through a stepwise process from conceptual planning through design, culminating in construction and ongoing operations and maintenance. The Metropolitan Transportation Plan, a coordinated federally mandated undertaking, is updated every three years. It is implemented through a 5-year Transportation Improvement Program that is update annually.

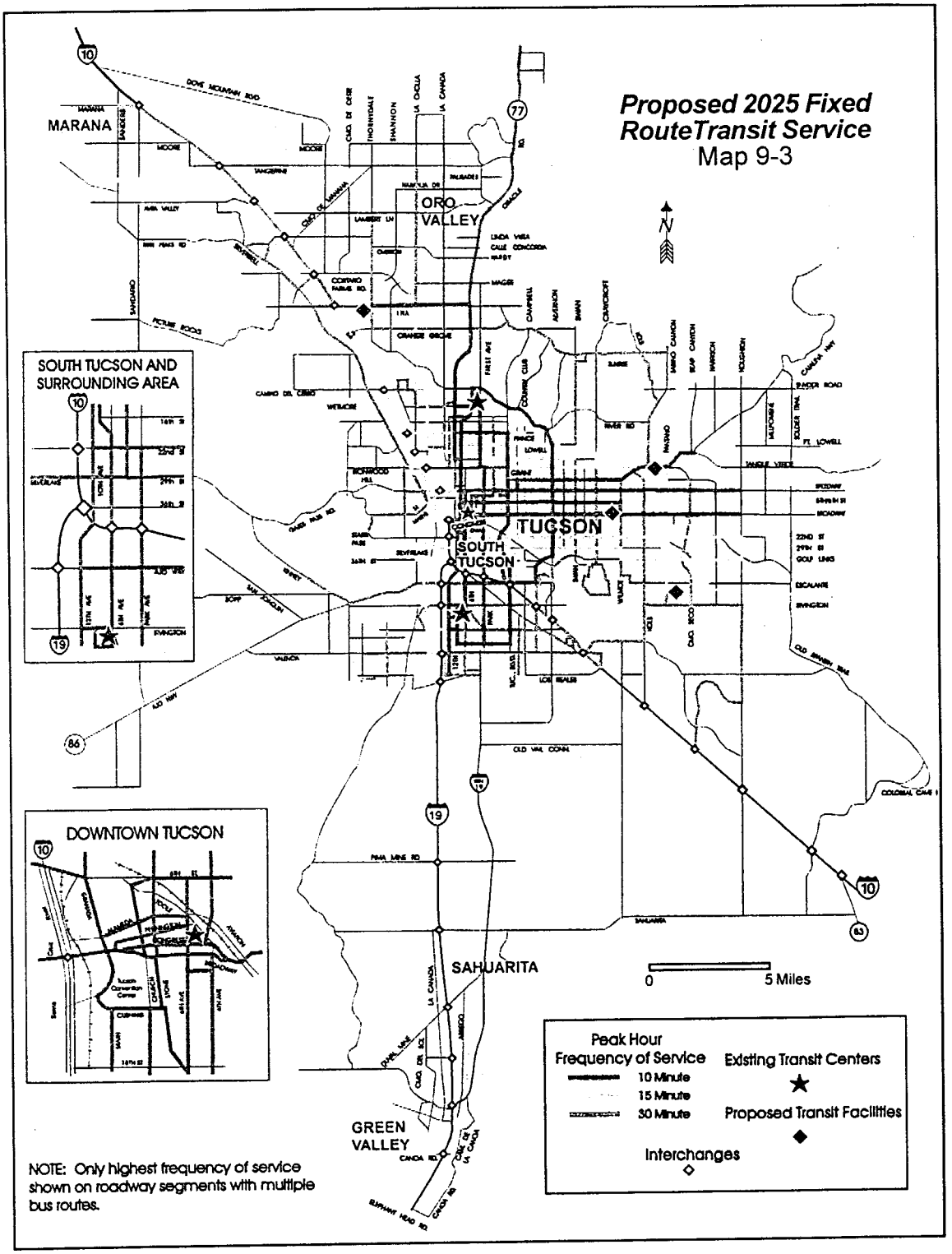
Various transportation decisions have been made within recent years that indicate "commitment" among PAG-member jurisdictions to construction of transportation facilities and completion of major maintenance and rehabilitation projects, and to on-going programs such as regular street maintenance and provision of transit service. Most of these projects and programs are documented within capital improvement programs of the jurisdictions and within the PAG Five-Year Transportation Improvement Program, or TIP. Generally, projects contained within the first two years of the TIP have very high likelihood of implementation; however, later years of the TIP may see adjustment of project scopes and budgets and additions or deletions of projects. Even with some major commitments such as the 1997 Pima County Roadway Bond program, some adjustments are made as the program is carried out.

The PAG 2002-2025 Regional Transportation Plan documents both projects contained within the TIP and Pima County Roadway Bond program as well as planned projects and programs through 2025. Map 9-1 from the PAG RTP illustrates the planned roadway widening projects and Map 9-3 illustrates planned fixed-route transit service improvements through 2025. As can be seen within Map 9-1, numerous roadway widening projects are planned to occur within the county, primarily from two-lane to four-lane roadways. Transit service is also planned to be extended within some areas of the county currently unserved by public transport.

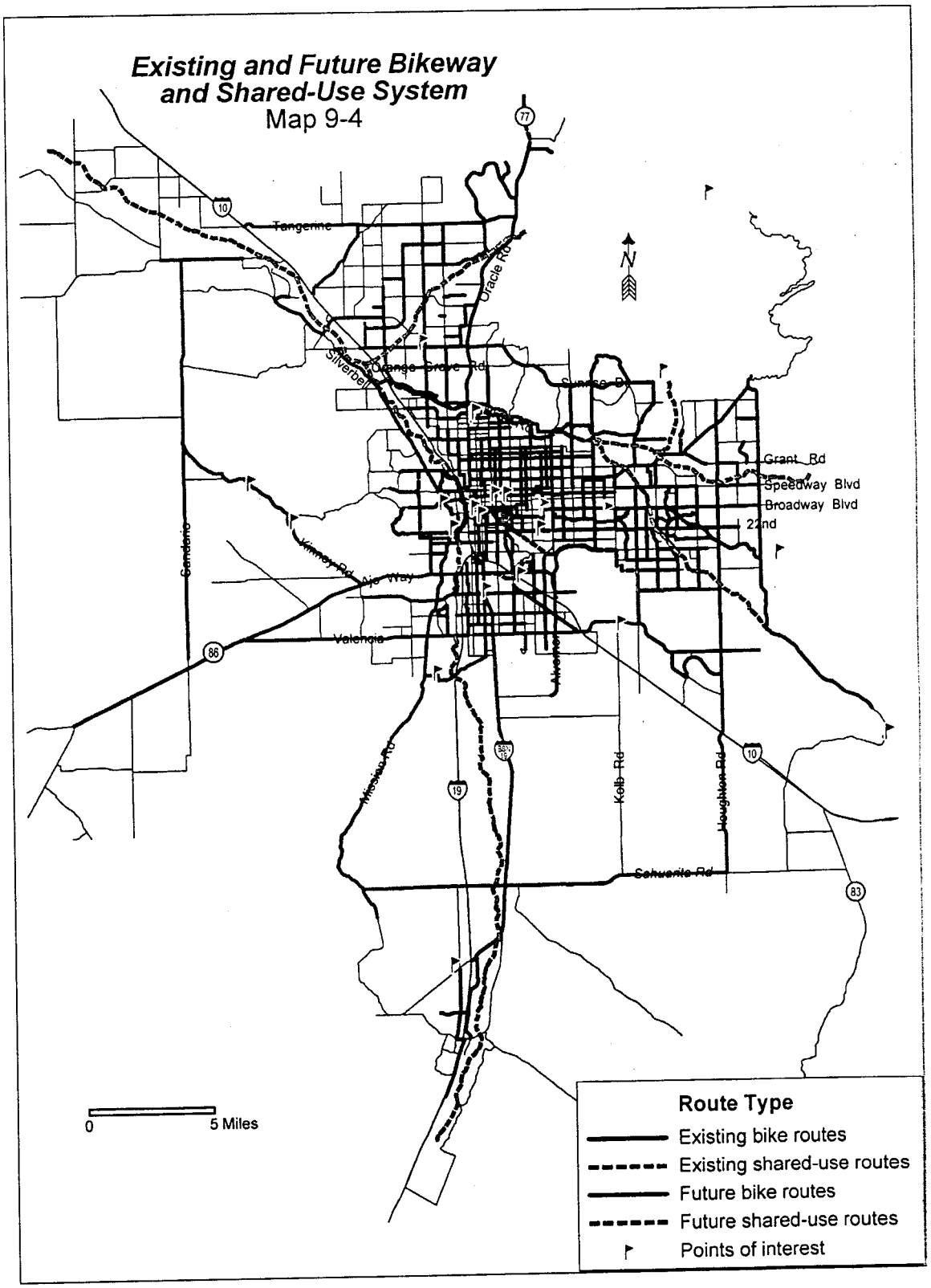
Other "non-capacity" projects and programs are contained within the RTP, including Travel Demand Management (TDM) programs, Intelligent Transportation System (ITS) improvements, major roadway rehabilitation projects, safety improvements, new or reconstructed bridges, drainage improvements, landscaping, and bicycle and pedestrian improvements (illustrated in Map 9-4 from the RTP).



Source: Pima Association of Governments, January 2001



Source: City of Tucson, January 2001



Source: Pima Association of Governments, January 2001

Reliance on Automotive Travel and Measures to Support Use of Alternate Modes

There are numerous reasons for reliance on personal automobiles for the majority of trips by Pima County residents. Automobiles generally provide the most convenient and quickest form of transportation, provided that roadway capacity is available and parking is plentiful, close to the final destination, and inexpensive or free. Air-conditioned automobiles provide all-weather service, and especially for summertime afternoons, provide travelers the most comfort in reaching their destinations. The street network is extremely comprehensive and designed primarily for automotive travel.

Direct expenses per auto trip are minimal, with little metered parking and very low fuel prices in comparison to the rest of the developed world. Land uses in the post-World War II era have been designed largely around the ability of the automobile to reach distant and wide-spread destinations. For many people, the automobile is also important to their sense of self worth and many are influenced by the cultural mores that present the automobile as essential to "quality of life".

Another reason for the reliance on the automobile in Pima County is the current lack of available alternatives. Bus service is not comprehensive, with many areas of the county lacking bus routes. Existing schedules are limited, with bus frequencies of 30 minutes or more, limited weekend service, and restricted hours of service during the weekday. Safe pedestrian facilities are acutely lacking and often pedestrian areas are hindered by utility poles, parked cars, and other obstructions. Pedestrian areas lack shade landscaping, which is essential to encourage walking. Many roadways and intersections are intimidating and difficult for pedestrians to cross due to the amount of traffic and to the large intersections. Bicycle facilities are discontinuous throughout the region, and some barriers such as bridges that lack bicycle lanes can effectively eliminate some roadways for use by bicyclists. Land uses are spread out and generally single-use and low intensity, with large surface parking lots and high-capacity area roadways causing an even greater increase in distance between land uses.

Measures to support use of alternate modes as a travel option, for some if not many trips, range from dedicating greater attention and resources to the provision of transportation alternatives and to encouraging land uses that support trips by walking, cycling, and public transit. Some measures include:

- Reducing trip lengths through higher-density and mixed land uses,
- Implementing transit oriented development projects (TODs),
- Providing quality and well-shaded bicycle and pedestrian facilities as part of a continuous and connected network,

- Improving roadway and intersection safety and accessibility, in particular for pedestrian and bicycle use,

- Running public service announcements on education and encouragement for improving roadway safety and use of alternate modes,

- Funding children's education on safe walking and bicycling practices and implementing "safe routes to schools" programs and projects,

- Supporting telecommuting and compressed work weeks,

- Increasing parking fees and/or providing incentives for carpooling and park-and-ride use of outlying parking lots, and

- Implementing parking cash-out allowances, which allow employers to offer payments to employees who wish to forego their employer-paid parking and use an alternative means to travel to work.

The intent of encouraging use of alternate modes is not to prevent use of automobiles, but rather to provide options for people to travel by other means for work, recreation, school, and other trips. As mode use is diversified and mixed land uses are encouraged, the existing transportation system can be used more efficiently and greater roadway capacity can actually be realized without expensive roadway construction projects.