DRAFT

MEMORANDUM

Date: September 10, 2001

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

From: C.H. Huckelberry
County Administrator

Re: **Transportation Primer**

Background

Under the state law that defines the elements of the Comprehensive Plan, the Circulation Element is to consist of "the general location and extent of existing and proposed freeways, arterial and collector streets, bicycle routes and any other modes of transportation as may be appropriate, all correlated with the land use plan," which is required to promote compact form development.

Pima County maintains just over 2000 miles of roads in the unincorporated areas. For many years as a community we have turned down opportunities to fund transportation improvements. Total system needs for all jurisdictions in the region by 2025 now stands at $10.7 billion, although only $6.6 billion is projected to be available given existing funding sources. The unincorporated areas of the region have additional dilemmas created by the unfunded travel demand that results from wildcat subdividing, and the fact that the outlying areas are not well serviced by transit.

As part of the Growth Area Element of the Comprehensive Plan, we will support development reserve areas that increase the efficiency of automobile, transit and other multi-modal circulation, while at the same time conserve significant natural resources and open spaces as specified by the state law, both within the growth area and in coordination with open space outside the growth areas. Significantly, less than one-third of the County maintained roadway system is touched by proposed biological reserves. The potential growth areas for Pima County are not in conflict with the goals of protecting the highest resource value lands. Because a rational pattern of land use has emerged as we focus on development reserve and conservation reserve areas, a rational and more efficient transportation plan also comes to light.

The attached *Transportation Primer* provides insights on historical and current issues in transportation planning. The first section is an essay that describes the last five decades of planning efforts, funding initiatives and the increasing use of the roadway system. The second section is a series of fact sheets and maps of each subregion that presents the extent of the roadways, traffic volumes on major streets, transit and bicycle facility availability, future planned improvements, issues within the subregion, an overlay of the draft biological reserve, and in the northwest, a further overlay of pygmy-owl habitat with a detailed analysis of bond projects. This memorandum includes a summary of some of the important points found within these documents.

Review of Planning Efforts of the Past Five Decades

The first attachment is a brief essay on how our transportation needs grew while our willingness to fund such needs stood still.

Prior to 1950 -- Tucson began paving streets in 1911; the state started registering motor vehicles in 1913; and in the early 1920s the first Tucson traffic signal went up at Stone and Congress. Federal funds for roadway improvements began to be authorized in 1916. By 1930 coast-to-coast travel was possible on paved highways. In the early 1940s, the first comprehensive roadway plan for Tucson was proposed: it established major streets along the section and quarter section lines, and routes along the Rillito, Arroyo Chico, and Canada Del Oro watercourses.

Circulation in the 1950s -- In the 1950s, travel was downtown-oriented 25 percent of the time, for more than 100,000 residents who made more than 336,454 trips each day. The City held the business and retail district of the community. Federal funding through the Federal Interstate Highway Program led to the 1-10 and 1-19 alignments, which opened in the late 1960s.

Circulation in the 1960s -- By the sixties the downtown area was no longer a major destination for drivers. Some 13 shopping centers and 11 plazas drew off the retail business so that only one in seventeen trips was bound for the downtown area. Automobile registration was up 3.5 fold to 143,357 and 95 percent of the 579,000 daily trips in Tucson were taken in cars. The planning philosophy of the day emphasized the freedom of the driver: "Facilities should be planned in response to how people wish to travel and where they wish to go," stated the 1965 Tucson Area Transportation Study. Fortunately funding did not follow this idea, but the legacy of our four functional street classifications came from this plan: local streets, collector streets, major arterials, and expressways.

Circulation in the 1970s -- In 1970 there were 351,667 residents and 218,600 cars. By 1977, there were 435,000 people. Individuals continued to take about the same number of trips, but these trips tended to be longer, and there were more people, so that in 1977 daily vehicle miles traveled covered about 6.3 million miles. Funding could not keep up with the demand.

Circulation in the 1980s -- In 1980 there were over half a million people and 361,000 cars. Funding proposals for roadways in unincorporated Pima County were rejected by voters in 1984 and 1986. By 1988 vehicle miles traveled rose to 10.4 million miles, with 95 percent of travel taking place in automobiles.

Circulation in the 1990s -- In 1990 another improvement plan was turned down for funding by the voters. There were 666,800 people and over half of a million registered cars. Total daily vehicle miles traveled exceeded 13 million miles. Funding on the Federal side took the form of the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA), and its reauthorization in 1997, the Transportation Equity Act for the 21st Century (TEA-21). Both emphasize decision making at the local level. Pima County's bond program was also approved in 1997. A discussion of additional funding is found in pages 14 through 17, and a good review of the impact fee benefit areas follows.

Conclusion -- The essay reasonably concludes that 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; and the revenue void left by failed sales tax initiatives has not been filled by impact fee or other programs.

Summary of Facts and Issues by Sub-Region

The second section is series of fact sheets and maps of each subregion that presents the extent of roadways, traffic volumes on major streets, transit and bicycle facility availability, future planned improvements, issues within the subregion, an overlay of the draft biological reserve, and in the northwest, a further overlay of pygmy-owl habitat with a detailed analysis of bond projects. Highlights by subregion include the following:

Tucson Mountains / Avra Valley Subregion

- Pima County maintains 290 miles of road in this subregion; 219 miles are paved.
- Average daily traffic volumes range from 27,000 on Ajo Highway to 2,800 at Gates Pass.
- Public transit and bicycle facilities are limited.
- Planned improvements include a portion of Twin Peaks Road (funded by impact fees); widening of a portion of Silverbell by 2025 (PAG); and improvements to Sandario and Picture Rocks roads.
- Additional issues in the subregion include: lot splits create demand for paved local roads; and Ina Road through Marana is congested.
- Most of the paved roads maintained by the County are not in the proposed draft biological reserve.

Catalina Foothills Subregion

- Pima County maintains 483 miles of road in this subregion; 434 miles are paved.
- Average daily traffic volumes range from 66,000 on Oracle Road to 9,700 on Catalina Highway.
- Public transit is very limited; bicycle lanes are provided along certain corridors.
- Planned improvements include a number of bond projects and other safety and drainage improvements.
- The vast majority of the paved roads maintained by the County are not in the proposed draft biological reserve.

Rincon / Santa Rita Subregion

- Pima County maintains 253 miles of road in this subregion; 216 miles are paved.
- Average daily traffic volumes range from 42,900 on I-10 to 1,600 on Camino Loma Alta.

- Public transit and bicycle facilities are limited or not available.
- Planned improvements include a new Sahuarita Road corridor, but funding is not established.
- Additional issues in the subregion include: lot splits create demand for paved local roads.
- Slightly more than half of the paved roads maintained by the County are in the proposed draft biological reserve.

Upper Santa Cruz Subregion

- Pima County maintains 239 miles of road in this subregion; 194 miles are paved.
- Average daily traffic volumes range from 12,400 on La Canada to 1,600 on Mission.
- Public transit is not available; multi-use lanes are provided on some roads.
- Planned improvements include several major roadway capacity projects funded by the 1997 Transportation bond.
- The vast majority of the paved roads maintained by the County are not in the proposed draft biological reserve.

Southwest Subregion

- Pima County maintains 369 miles of road in this subregion; 254 miles are paved.
- Average daily traffic volumes range from 33,100 on Valencia to 500 on Diamond Bell Road.
- Public transit is available; signed bicycle lanes are provided on some roads.
- Planned improvements include two major roadway capacity projects funded by the 1997 Transportation bond.
- The vast majority of the paved roads maintained by the County are not in the proposed draft biological reserve.

Northwest Subregion

- Pima County maintains 371 miles of road in this subregion; 349 miles are paved.
- Average daily traffic volumes range from 38,500 on Ina to 4,600 on Mona Lisa.
- Public transit is available; bike routes are provided on some roads.
- Planned improvements include several major roadway capacity projects funded by the 1997 Transportation bond.

- Congestion is a major problem in this subregion. Capital improvement projects that fall within the recovery or critical habitat areas include transportation projects, a park project, and cultural resource projects.

Ajo Subregion

- Pima County maintains 50 miles of road in this subregion; 44 miles are paved.
- Public transit is available.
- The vast majority of the paved roads maintained by the County are not in the proposed draft biological reserve.

Conclusion

Pima County's attempts to fund roadway improvements have met with voter disapproval on several occasions and this has contributed to the infrastructure deficit. A rational pattern of land use has emerged as we focus on development reserve and conservation reserve areas, and along with this a rational and more efficient transportation plan also comes to light. In general, the growth areas and corresponding circulation goals for Pima County are not in conflict with the goals of protecting the highest resource value lands.

Transportation Primer
Draft

Introduction

As much as we might prefer it otherwise, the transportation system that has been developed for eastern Pima County has been determined largely by dependence on the private automobile to meet our transportation needs. Not coincidentally, land uses in the region distinctly reflect a pattern of development that assumes the great majority of trips will be accomplished by use of the private automobile.

Today, as we are challenged to protect our natural resources, provide users with a reasonable quality of service on our transportation facilities, and maintain a productive economy, it is useful to step back and understand the past transportation trends and planning activities that have guided us to our current situation.

A Snapshot – Post World War II Tucson

From its beginning as a walled presidio through the early 1950s, downtown Tucson was the region's major activity center and there was no other.

In the early 1950s, Tucson enjoyed a strong central business district. Retail stores were established along the principal streets extending several miles from the business center and residential areas were widely scattered and low density, but Tucson's downtown was the major attraction. People came downtown to shop, bank, and enjoy theater and music. The streets were busy all day long with people on their various errands. Newspapers hawkers cried out the latest news. You could get your shoes shined on the street corner. Roving photographers snapped pictures of people on the busy streets, carrying shopping bags, toting young children, young lovers, strolling arm and arm. (A few of these unique pictures have been reproduced in large scale on ceramic tile and decorate the Broadway underpass near Barraza-Aviation Parkway.)

Two public bus companies, both of them privately owned and self-supporting, provided transit service into downtown. Tucson was a busy metropolitan area, and it looked and felt like it. To put it in transportation terms, in 1948, a metropolitan population of approximately 76,000 people made about 336,454 trips every day. Approximately 25% of all trips were oriented downtown, either as a trip origin or destination. Daily bus trips numbered around 35,000. Motor vehicle registration was 40,207 in 1948, or an average of 3.3 persons per vehicle.

A transformation, however, was already in the making. Within a decade, there would be 13 major shopping centers and 11 minor shopping plazas located outside of the downtown area, and only one in seventeen trips would be destined for downtown. This trend would continue, with more and larger major shopping centers developing in the suburban outreaches, following the spread of inexpensive, low-density housing. Today downtown restaurants open only for the lunch crowd. The retail center is a Walgreen's drug store. After 5 p.m., the sidewalks are empty, and the public spaces occupied by only indigents and teens performing stunts with their skateboards on public fountains and benches.

The Automobile Age

The decline of downtown throughout the country began with Henry Ford's innovation automating automobile manufacture. Soon thereafter, the burgeoning numbers of auto travelers began to demand all-weather roads to keep their cars from bogging down in the mud. Street paving began in Tucson in 1911, a year before Arizona was admitted into the union. By 1913, the state began registering motor vehicles.

The year 1916 saw the first federal law authorizing federal funds for the roadway improvements. A subsequent law, the Federal-Aid Highway Act of 1921, became the basic template for legislative renewals and updates by which federal monies were appropriated and authorized for road building throughout most of the century. By the early 1930s, it was possible to travel by private automobile from coast to coast, all on newly paved highways.

The first traffic signal in Tucson was erected at the intersection of Stone and Congress some time in the early 1920s. By 1930, traffic signals flashing red, yellow and green lights were commonplace across the United States. Soon thereafter, in 1935, the first Manual on Uniform Traffic Control Devices was published by the United States Bureau of Public Roads, due to the efforts of the American Association of State Highway Officials (AASHO).

The Depression and World War II only braked slightly the momentum of car ownership. Beginning in 1945, motor-vehicle registrations, total highway expenditures, motor-fuel consumption and state highway user tax revenues all escalated rapidly, and have hardly slowed to this day.

In 1940, Packard introduced its first car with a refrigeration system, the predecessor to air conditioning. In 1941-1943 the first comprehensive street plan for Tucson metropolitan region was prepared. The plan established major streets along existing section and quarter section lines and along watercourses, specifically, new routes flanking the Rillito, the Arroyo Chico, and the Canada Del Oro. The Casa Grande Highway was proposed to bypass the central business district. The street plan both reflected and reinforced the Government Land Office division of western lands into townships, a square grid six miles on a side, comprising 36 individual square miles, or sections, of land.

The 1950s were a flurry of activity benefiting automobile transportation in the United States. The Highway Capacity Manual, first published in 1950 by the U.S. Department of Commerce, quickly became the standard for highway design and planning. In Tucson, the 1950s were a period of rapid growth and accomplishment. New planning concepts were being implemented. A 1951 street plan was developed for the region jointly by the City of Tucson, Pima County, the State of Arizona and the Bureau of Public Roads.

Reflecting the state of the practice at the time, the 1951 street plan provided a detailed study of travel habits within the Tucson region. An origin and destination traffic survey included interviews with every 10th household in the area regarding trips made the previous day.

A study of trips originating from outside the study area was accomplished by stopping traffic and interviewing motorists at 16 stations established on state highways and county roads where they crossed the study boundary. The 1951 plan documented monthly, daily and hourly traffic patterns. Traffic speed and delay was assessed, and a parking inventory was conducted for downtown.

In terms of a street network, the 1951 street plan was a refinement of the 1941-43 plan, with recommended cross sections. The 1951 study proposed that Congress and Broadway become paired one-way streets and elimination of on-street parking to address congestion problems.

In accordance with the National System of Interstate Highways, defined by the Federal-Aid Highway Act of 1944, the 1951 plan proposed the region's first freeway alignment – the Casa Grande Highway bypass of the central business district. This route, planners said, " will relieve the severe traffic congestion now existing on Stone Avenue and South 6th Avenue." The new freeway would be a four-lane divided section, from approximately 37th Street to Broadway Boulevard, and permit "uninterrupted flow of traffic at speeds exceeding 40 mph if desired."

The first funds authorized for the federal interstate system were contained in the Federal-Aid Highway Act of 1952. It authorized $25 million on a 50-50 matching basis (50% federal dollars, 50% local match). The Federal-Aid Highway Act of 1954 authorized $175 million at a 60-40 matching rate. Also in 1954, AASHO (later, the American Association of State Highway and Transportation Officials, or AASHTO) published "A Policy on Geometric Design of Rural Highways."

This book became known as the blue book, and with subsequent updates, and the publication of a companion policy for urban streets, the Green Book. These policies have had immense influence on the design of highways in the United States. The Green Book is considered the bible of roadway engineering design.

In 1956, President Eisenhower signed the Federal-Aid Highway Act of 1956, authorizing a $25 billion, 13-year program for interstate highway building with a 90-10 matching ratio.

Under the Federal Interstate Highway Program, high-speed, controlled-access roadway facilities were first established in Tucson. Interstate 10 was established diagonally through Tucson, generally on the existing Casa Grande and Benson highway alignments.

Interstate 19 was also conceived as a branch from I-10 south to Mexico along a new alignment. By 1968, the I-10/I-19 interstate system in the Tucson region was open for traffic. Interstate 710 was planned as a route from the airport that would provide north-south penetration into the urban core, along an alignment in the vicinity of Campbell Avenue.

Also in the 1950s, "the neighborhood unit concept" was formally adopted as part of the General Land Use Plan. This concept had the effect of placing major streets at one mile intervals.

A Snapshot of 1960 Tucson

By 1960, the effect of the concentration of effort on roadbuilding and the general eagerness with which the population embraced the automobile was readily evident on the Tucson landscape.

Downtown Tucson was declining in importance. The number of trips bound for downtown had stagnated since 1948, while non-CBD trips increased by more than 125%. Put another way, whereas in 1948, one in every seven trips in the metropolitan area were bound for downtown, by 1960, one in seventeen trips were bound for the downtown.

Nonetheless, the central business district continued to be a major trip attractor, particularly for work-related trips. However, new neighborhood shopping centers were established and widely spread, and the first regional shopping center (El Con) was in operation.

Distances between trip origins and destinations increased as residential growth continued to spread to where land was readily available and inexpensive. The 1960 population in the Tucson metropolitan region more than tripled that of 1948 to 244,495 people. Automobile registration in all of Pima County increased 3.5 times to 143,357, providing a vehicle for every 2.5 persons. Of the 579,000 trips generated daily within the region, 95% were conducted by automobile. Total vehicle miles travel in 1960 was about 1.8 million miles.

While automobile trips increased by 147 percent, commercial transit patronage declined 55 percent to approximately 15,400 daily trips. These trips were oriented primarily around the central business district. In 1960, two transit companies were serving the Tucson region: Old Pueblo Transit and Tucson Rapid Transit Company. These companies were faced with high operating costs, large service areas and declining patronage, which affected frequency of service and the number of routes that could be maintained. This trend in transit use was occurring all over the United States.

With Tucson's wide open spaces, its pleasing climate, and improvements in air conditioning, planners for Pima County and region envisioned a brilliant future for Tucson metropolitan area. The vision is articulated in the Tucson Area Transportation Study, published in 1965, which is premised upon the observed fact that people preferred to travel by automobile: "Facilities should be planned in response to how people wish to travel and where they wish to go."

As stated in the plan, this position was consistent with the policy statements of the American Society of Civil Engineers: "Freedom to select the vehicle or system the individual prefers, for any reason, is the inherent right of the individual and should be a consideration in all transportation planning."

In this vision, the Tucson metropolitan region would be a thoroughly modern city in the desert, interlaced with a network of expressways by which travel to every corner by automobile was accommodated. The soon-to-be completed interstates I-10 and I-19 were an excellent base upon which this new network could be developed.

These expressways were comprised of freeways, such as the Butterfield Freeway, which would expedite east-west travel (along the approximate alignment of the Barraza-Aviation parkway), the I-710/Campbell Freeway (a north-south route along Campbell Avenue), and Rillito Freeway (along the Rillito River from I-10 to Campbell Freeway).

In addition to freeways, parkways were conceived to provide a pleasant driving environment for passenger cars only, with wide areas for landscaping. In terms of parkways, the plan proposed the Rillito-Pantano Parkway from the Campbell Freeway southeasterly along the Rillito-Pantano watercourses to Interstate 10. The Florence Parkway wended its way gracefully along a scenic route west of the Catalina Mountains, and finally, a short stretch of the Airport Parkway, would serve as a gateway to the airport.

While these planned freeways and parkways did not come to pass, the planning effort put forward the concept of a street hierarchy that remains with us today. The 1965 plan identifies four functional street classifications (in ascending importance to the network): local streets, minor streets providing access only to abutting land; collector streets, for short trips between local streets and other major routes; major arterials, which serve large volumes of traffic and interconnect major traffic generators, and, finally; expressways, high-speed, access-controlled facilities entirely devoted to the task of moving traffic.

The classification of roads into functional types was conducted according to recommendations contained within the procedure manual "Determining Street Use," prepared by the National Committee on Urban Transportation. These concepts have since been incorporated in the AASHTO's Green Book and the current federal-aid highway system.

The classification strengthens the relationship between land use and transportation facilities. The 1965 plan illustrated how the classification system supported the "neighborhood unit concept" contained in the joint City-County General Land Use Plan. The neighborhood unit concept involves identifying neighborhoods of appropriate size and shape (typically a square mile) such that the property in the interior can be served by local streets, and thereby protected from objectionable traffic intrusion. The size of neighborhood unit determined the spacing of major streets, because major streets formed the neighborhood unit's boundaries. Commercial uses were restricted to the corners, and were therefore provided with sufficient access by transportation facilities. A consequence of this concept is that the arterial street at the neighborhood boundaries must serve for access to commercial activities and to carry through traffic.

As the 1965 plan made its way through the various governmental entities for review, concern emerged that another direct east-west expressway was needed. Subsequently, in January 1968, regional planners presented a document entitled, "Staff Recommendations -- Expressway System." It compared various alternative routes for all the expressways articulated in the 1965 plan, plus another east-west controlled-access route, located north of Speedway Boulevard. Because of the number of freeway miles proposed for the oldest portions of the city, many established neighborhoods would have been adversely impacted.

Public response to these plans was decidedly negative. At a public meeting downtown in 1970, a thousand angry people showed up to protest the freeway plans. According to news reports, when the City planning and zoning chairman asked those in favor of the plan to stand up, only three men stood, and one of them was booed when he finished speaking.

Following a month-long transit strike in 1969, the privately owned by company providing service to the north and east sides of the metropolitan area announced it was going out of business. To avoid leaving these areas without transit service altogether, the City agreed to take over the transit operation, and hence was born Sun Tran. (Old Pueblo Transit continued to operate on the south and the west sides until 1978,when it gave up its franchise to the City of Tucson.)

1970s Planning

Controversy over the proposed freeways delayed consideration and adoption of the 1965 plan for several years.

In 1970, Pima County's population was 351,667 people. With 218,600 registered motor vehicles, there were 1.6 persons per vehicle. By 1976, the population in the planning region had grown to 435,000 people. While trip generation rates by income category remained relatively constant between 1960 and 1977, average trip length had become longer for all trip purposes.

Total daily vehicle miles traveled in 1977 was about 6.3 million miles. With the 1970 renewal of the Federal-Aid Highway Act the federal government established the first provisions to ensure that highways constructed with federal funds were consistent with ambient air-quality standards.

By 1973, the horizon year for the President Eisenhower's landmark Federal-Aid Highway Act of 1956, 93 percent of the federal interstate system had been constructed. The nation was in an energy crisis. The air quality guidelines were published in late 1974, and, thereafter, regional transportation plans had to be evaluated for consistency with approved air-quality criteria. So began the Pima Associations of Governments air quality program.

By 1975, under administration by the City of Tucson, Sun Tran ridership had increased about 400% , due in part to the ongoing energy crisis.

The Tucson area transportation planning picture was decidedly less rosy. "The demand for travel is increasing at a faster rate than the present financial ability to provide services and facilities to accommodate that demand at the present standard of service" was a theme that was echoed throughout regional planning documents of the mid- to late 1970s.

Gone were the ambitious plans for a shimmering network of freeways and parkways. The focus became increasing the efficiency of existing and planned facilities, reducing the rate at which the demand for travel was increasing, and an acknowledgement that not all demands for travel could be accommodated at ideal levels of service.

Elements like sidewalk construction, bikeway studies, actions to improve transit, and carpooling appeared as part of the regional transportation plans. A Tucson Downtown Study was conducted in 1976 to determine how best to enhance the Downtown environment in order to attract more people. An alternate modes study was conducted to "determine how a typical urban area in the American Southwest, which has developed with the automobile as virtually the sole mode of transportation, can be adapted in its future development to allow for substantial diversion of travel habits away from the automobile and toward increased reliance on alternative transportation modes."

On Mach 8, 1977, enabled by 1973 and 1976 amendments to the Federal Aid Highway Act, a joint request by the State of Arizona, the Pima Association of Governments, and the City of Tucson, was submitted to the U.S. Department of Transportation for the withdrawal of the proposed I-710 from the Interstate system, freeing up $33 million for other mass transit and street improvement projects.

In 1977, an interest in extending Kolb Road south through the Davis-Monthan Air Force Base was rekindled with the announcement of a industrial development (IBM) to be located south of the DMAFB. Air Force officials gave approval for the extension and the extension was included in the 1978 regional planning documents. In the process of reviewing the regional transportation plan, the elected officials passed a resolution that the Rillito-Pantano Parkway be included in the 1978 Regional Transportation Plan, and in at least three of the five alternatives being developed for the major update due to be completed in 1981.

1980s Planning

By 1980, the region was home to over 531,000 people and 361,000 registered motor vehicles. The availability of motor vehicles continued to increase with fewer than 1.5 persons per vehicle. Previously, the eastern portion of Tucson was fastest growing, extending well beyond the city limits out into unincorporated Pima County. Through the '80s, the northwest would also be face development pressures.

By 1981, the Update of the Long Range Plan, which began in 1978, was nearing completion. At first, five alternatives were proposed. These alternatives included various combinations of grade-separated intersections of arterial streets, new arterial streets, new limited-access routes (the Rillito-Pantano and Aviation Parkways), and express transit. Soon a sixth alternative was proposed, which looked at reducing major street improvements by changing travel behavior, reducing peak-hour travel, and increasing efficiency of existing major streets through traffic signal synchronization, one-way streets, and elimination of left turns during peak hours.

Through the early 1980s, opposition was mounting to the last-mile of the Aviation Parkway through downtown Tucson, which opponents felt would cut-off downtown, destroy historic buildings, and generally have a deleterious effect on neighborhoods.

Meanwhile the County embarked on the Rillito Corridor Study, which culminated in a recommended plan for a parkway along the Rillito-Pantano watercourses, and included land use, open space, and flood control elements. Funding for engineering and right-of-way acquisition went to a vote of Pima County residents in 1984, which failed. The Rillito Parkway was deleted from the 1981 Long Range Plan in February 1985.

But Pima County wasn't ready to give up. The Long Range Transportation Plan for Unincorporated Pima County, published in June 1986, recommended a half-cent sales tax to fund a range of transportation improvements that included new highway improvements, express transit routes, and other transportation system management features. Some features were controversial, like grade-separated interchanges, development of Tangerine Road as a high-speed, controlled-access facility; a controlled-access facility looping west around the Tucson mountains; and extending Sunrise Drive/Snyder Road across Sabino Creek, among others.

The Board of Supervisors approved the plan. In anticipation of the half-cent sales tax, local jurisdictions petitioned the State Transportation Board to add roadway miles to the state route system as it existed in eastern Pima County. Since more state route miles are located in the Maricopa county than in Pima County, there was local concern that Maricopa region was enjoying an unfair advantage in state investment. The Sahuarita and Tangerine Road corridors were among those added to the State Route system, however it was expressly stated that construction of these new corridors would come local funding sources.

In November 1986, the half-cent sales tax to fund the County's plan went to the voters, who turned down the proposal.

In 1987, the City completed its Broadway Corridor Study, Phase I, which was jointly sponsored by Urban Mass Transit Administration (UMTA). It evaluated eight alternatives

for Broadway Boulevard, from Stone to Wilmot, including various combinations of grade separated-interchanges, roadway widening, high occupancy vehicle (HOV) lanes, and transit, including light rail and monorail. The conclusion was, not surprisingly, that the City had insufficient funds to implement the improvements, and existing transit funds were not sufficient to maintain the transit elements.

In 1988, 95.2% of all trips within the Tucson planning area were conducted by automobile. Transit trips accounted 1.8% of total travel. Biking and walking, exceeded transit trips at 3.0% of all trips. Total vehicle miles traveled (VMT) were 10,383,000 miles.

Not long after Pima County's 1986 sales tax defeat, the region embarked upon the "BAJA Project." The stated purpose of the BAJA project was to "develop a plan that would improve eastern Pima County's air quality and transportation conditions through the Year 2010." The BAJA Project was overseen by an officially sanctioned committee of 29 citizens referred to as the "Citizen's Air Quality Committee."

The "Long Range Transportation and Air Quality Plan" that emerged included transit improvements, bicycle and pedestrian improvements, grade-separated intersections, and roadway improvements. A key feature of the roadway improvements and grade-separated intersections was that they would not be implemented until certain triggers were met that justified their construction. For a grade-separate intersection, the threshold for construction was 80,000 entering vehicle per day. Most controversial roadway elements were eliminated, the notable exception being the Aviation Parkway along the Golf Links/Aviation alignment. Transit improvements called for doubling the bus fleet to 400 buses, increased express routes and service to outlying areas.

Phase II of the Broadway Corridor Study, which examined transit alternatives for Broadway Boulevard, provided input and coordination with the ongoing BAJA project.

Total cost of the BAJA plan improvements was $1.1 billion to be spent over a 10-year period. Available revenues were projected to be $731 million, derived from gas taxes, federal transit and highway funds, existing voter-approved bonds and development fees. The remaining $369 million was to be raised form new sources. In November 1990, voters again turned down a proposed one-half cent sales tax to help fund the plan.

A survey of 600 randomly selected residents, showed favor for the plan elements ranging from 62% (support for transit elements) to 85% (support for pedestrian and bicycle elements). In spite of the rejection by voters, project organizers concluded that the plan had a high degree of public favor because of the balanced use of different transportation modes. They blamed the defeat of the sales tax initiative on the anti-tax sentiment that existed throughout the country at the time.

Throughout the late 1980s, debate over the last mile of Aviation Parkway through downtown was heated. Grass-roots groups began crafting alternatives to the last mile of the parkway. In 1988, opponents organized "Hands Through the Historic 4th Avenue Underpass," in which opponents to the plan joined hands through the underpass in a display of opposition. By late 1989, Tucson City council members were rescinding their support for the parkway plans through downtown. Mayor and Council finally agreed to cancel the plans for the "last mile" and embarked on a new planning effort in 1990 called the Downtown Land Use and Circulation Study, or DLUCS.

1990s Planning

By 1990 there were 666,800 persons residing in Pima County, with 504,000 registered motor vehicles. The availability of motor vehicles had continued to increase at a greater rate than population. Vehicle availability was now at 1.3 persons per vehicle. Total daily vehicle miles traveled was more than 13 million miles, a more than sevenfold increase over 1960 vehicle miles traveled, and more than twice vehicle miles traveled for 1977. In 1990, 72% drove alone for their commute to work, 3% took the bus, 4% walked, and 2% rode a bicycle.

A new approach to federal funding of transportation was undertaken with completion of the federal interstate system, new environmental concerns, and public desires for a more balanced transportation system. Transportation planning in the 1990s is characterized by the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, and its reauthorization in 1997 entitled Transportation Equity Act for the 21st Century, or TEA-21.

ISTEA was very different from past federal spending bills for several reasons. For one, it provided for flexibility in how federal funds could be spent. Funding could be "flexed," or distributed, between highways or transit, and between new facilities or rehabilitating aging ones, at jurisdictional discretion.

Also very importantly, ISTEA emphasized decision making on the local level. As a result of this, PAG's role as the Metropolitan Planning Organization (or MPO) was strengthened. ISTEA and its reauthorization also mandated that all long-range planning be fiscally constrained. Instead of being a "wish list" of transportation improvements, a financial analysis has to be completed to assure that funding would be available for proposed improvements.
Another important feature was the identification of a funding source called "Transportation Enhancements." Transportation Enhancements meant that for this first time federal transportation funds could be used to design and build features like sidewalks, bike paths, landscaping, and bus shelters.

ISTEA legislation recognized uses of technology in transportation, and Intelligent Vehicle Highway Systems (later Intelligent Transportation Systems) was well-funded. The application of technology to transportation system was abetted by the demise of the soviet bloc as a overseas threat, because it offered a domestic market for defense technologies. Intelligent technologies promised a means by which existing transportation infrastructure can be used more efficiently, maximizing the investment already put in the ground.

By 1992, the City of Tucson approved the Downtown Land Use and Circulation Study (DLUCS) Design Concept Report for the alternative to the last mile of the Aviation Parkway. The new plan called for circulation changes downtown, including elimination of some one-way streets, and construction of a new, low-speed, four-lane facility interrupted with traffic signals. The historic 4th Avenue Underpass would be rehabilitated for pedestrian and bicycle traffic. The extensive public involvement in the DLUCS project became the precedent for all future transportation projects within the City.

Beginning in 1994, regional planners undertook preparation of the Metropolitan Transportation Plan (MTP), the first long-range regional transportation plan under ISTEA legislation. Almost four years and more than $1 million later, after intensive public involvement, the region's first fiscally-constrained long-range regional transportation plan was adopted in 1998.

The 1998 MTP concluded that there were insufficient funds to meet the $9.2 billion in identified needs. The plan suggested new funding sources, specifically, a new state gasoline tax adjusted for inflation, implementation of inflation-adjusted development impact fees on a regional basis, and a countywide ¼-cent general sales tax dedicated to transit. A new gas tax would require an act of the state legislature. Institution of Development impact fees requires actions by the elected bodies of participating jurisdictions. With regard to the proposed new sales tax, planners proceeded cautiously, given the region's history of rejecting new taxes for transportation improvements.

Throughout the '90s, the regional planners continued looking at transportation in terms of "corridors." The Tangerine Road corridor study, prepared for ADOT in 1988, along the existing Tangerine Road alignment from I-10 to Oracle Road, proposed an eight-lane high-speed, access-controlled facility.

Meanwhile, the Arizona Department of Transportation (ADOT), frustrated with the problem of maintaining signalized, urban roadways within otherwise incorporated municipalities, began planning how to divest itself of portions of state highways that might more appropriately be maintained by local jurisdictions. (Examples of this is include State Route 77, or Oracle Road, through Oro Valley, and Business Route 19, or the Nogales Highway, through Sahuarita.) Funding shortfalls for maintenance caused local jurisdictions to balk at taking on the increased responsibilities. In support of this policy, ADOT announced that its mission is to provide transportation facilities appropriate for inter-city travel only. For these reasons, and the ever-present funding shortfalls, ADOT expressed unwillingness to take on new routes and even new high-speed corridors within the metropolitan planning area.

By the late 1990s, the Town of Oro Valley found itself with a plan for improving Tangerine Road requiring 300 feet of right-of-way, intense pressures to develop land along Tangerine Road, and no agency with sufficient funds to construct anything. Similarly, in newly incorporated Sahuarita, developers proposed and the council approved a new subdivision and golf course smack on top of the Sahuarita corridor, an element of Pima County's unfunded 1986 transportation plan.

Meanwhile, within the City of Tucson, the focus has been on livability. The Stone Avenue Corridor Study assumes no capacity increases along Stone Avenue, that increased trips will be diverted to alternate modes of travel. The 5th/6th Street Livability and Circulation Study (ongoing) is evaluating how to address the livability concerns of corridor residents while meeting corridor travel needs. Interestingly, 5th/6th Street is one of a few inner-city routes established before the concept of functional street classification, and before the neighborhood unit concept established major streets at one-mile intervals.

Throughout the '90s, the single most limiting feature regarding transportation improvements was funding. Some relief was provided with the success of Pima County's HURF Revenue Bond program, which voters approved in 1997. This program bonds against future HURF revenue, and therefore, does not represent a new tax. Many of the improvements approved as part of the program address transportation needs brought on by intense growth in the 1980s. Implementing the program has been complicated by environmental constraints, specifically, in the northwest, the endangered pygmy owl.

The Regional Transportation Plan for 2001-2025 identifies corridors that show the need for further study and consideration of planned capacity improvements. These corridors include the River Road/Rillito River Corridor, the Sahuarita Corridor, Snyder Road, Oracle Road Corridor, Houghton Road Corridor, and Tangerine Road corridor. These corridors will figure prominently in transportation planning in the future.

Planning Summary

Throughout the history of transportation planning in Pima County the private vehicle has held paramount place. While plans have been adopted, then abandoned or modified to fit political and financial reality, the region's reliance on this mode of travel has continually increased.

Travel growth has increased at a greater rate than population growth. The availability of private vehicles has continued to increase unabated. Where there were 3.3 persons per vehicle in 1948, there are now only 1.3 persons. The development pattern we have today is the product of our unparalleled personal mobility.

The question we face in transportation planning is both simple and difficult; Can we, by choice, alter the trends and patterns that have been established over more than fifty years of experience?

Funding

When regional planners unveiled their 1965 plan for freeways through the Tucson metropolitan region, they assumed that, as in years past, federal funding would be used to accomplish the bulk of the construction. When it was pointed out that the federal aid for the interstate system was to sunset in 1972, the planners said they were confident that new federal legislation would encourage parkways and freeways in metropolitan areas.

This did not come to pass, and every transportation plan since the 1970s has placed funding as the most important issue facing transportation planning in the region.

The single largest source of funding for highway purposes in the region is the sum total of all allocations made to local jurisdictions from Arizona's Highway User Revenue Fund (HURF). Collectively, these allocations amount to approximately $81 million annually for the planning area, allocated among Marana, Oro Valley, Pima County, Sahuarita, South Tucson and Tucson, according to formulas related to population and gas taxes paid. In 1996, the State Legislature added a portion of the state Vehicle License Tax (VLT) to the highway funds distributed to counties. (It is this revenue stream that is being used to support the current Pima County bond program of roadway improvements.) State HURF is comprised of state fuel taxes (currently at 18 cents a gallon), vehicle license fees, and assessments for underground storage of fuels.

The second single largest identified funding source for highways, currently, is derived from the County's HURF Revenue bond program. That program is expected to bring in almost $310 million over the next ten years for construction of projects approved by voters in 1997.

The next greatest revenue stream for transportation funding for highways for the region is administered through the Pima Association of Governments (PAG). It is the so-called "12.6% funds," formerly "15% funds," and sometimes known as "Regional HURF." The funds also derive from state gas taxes and fees. The ambiguous name for this funding source only underscores the complex nature of transportation funding for the region. The 12.6% funds amount to approximately $20 million annually, and are programmed through the PAG's five-year transportation planning process. All the jurisdictions in the region compete for these highly desirable funds, which are allocated on a project-specific basis. Originally, state law designated these funds for use only for limited-access facilities, such as the ADOT portion of the Barraza-Aviation Parkway (S.R. 210). Subsequent state legislation allowed these for roadway improvements on routes of regional significance. Allocation of these funds since completion of the ADOT Barraza-Aviation Parkway has been on a consensus basis among the jurisdictions, however, PAG has looked at prioritizing projects for these funds.

The 2.6% funds are similar to the 12.5% funds in that they derive from the state HURF. Programming of these funds is accomplished jointly between PAG region and ADOT. These funds are limited for use on state highways, including the interstate system. The limited number of state facilities in the planning region pose limitations on the use of these funds, which amount to approximately $6 million annually. PAG's program for implementing Intelligent Transportation Systems has benefited considerably through the 2.6% funding program.

PAG also administers the allocation of some federal transportation funds within the region. These federal funds, known as Surface Transportation Program, or STP, derive from federal gas taxes, and are authorized by the TEA-21 legislation. These funds, like the 12.6% HURF funds, are considered competitive, however, because of the burdensome federal requirements for spending these funds, larger jurisdictions, like the City of Tucson and Pima County, can more readily develop and construct projects for their application. Additionally, there is a 6% local match requirement. About $15 million in STP funding is available annually.

STP funds are "flexible funds" in that, if so desired, they may be utilized not only for road building purposes but for the provision of transportation enhancements and transit. The state administers its own STP program, which amounts to approximately $5 million annually in the region.

Other federal transportation funds are programmed by ADOT for interstate maintenance, bridge and safety management systems. ADOT also programs and administers National Highway System (NHS) funds, which are authorized by TEA-21 for use on the designated National Highway System (mainly interstate system and state routes).

Development impact fees have the potential to be a significant source of transportation funding in the region. Currently, Marana, Pima County and Sahuarita impose development impact fees to fund transportation improvements. At present levels, these existing sources impact fees are expected to comprise less than 5% of total funds available for highway construction, however, their impact could be sizable in areas where development pressures are intense. Increasing development impact fees revenues is a recommended new source of funding contained in both the 1998 and 2001 regional long range plans. Other sources of funds for local highway construction include the Marana sales tax on construction spending, federal demonstration funding, City of Tucson parking fees, federal Transportation Enhancement funds, and Pima County Flood Control funds. These various funds may have restrictions depending on the facility, the location, and type of project, and do not currently amount to a significant share of transportation funds available to the region.

The 2001 Regional Transportation Plan assessed regional transportation needs through Year 2025 and determined that transportation needs were in excess of $10.7 billion. Existing transportation funding sources, discussed above, will bring in about $6.6 billion. After a review of all possible new revenue sources, it was concluded that it is not realistic to find enough new money to make up the entire $4.1 billion shortfall.

A combination of three new revenue sources, capable of generating $1.8 billion, however, was determined to be feasible. These new revenue sources are the same as those identified in the 1998 plan: new inflation-indexed gas tax, regional development impact fees, and a countywide ¼ cent sales tax for transit. Of the $8.4 billion in existing and potential new revenues anticipated through 2025, $633 million must be reserved for debt service payments. This reduces the amount available for transportation improvements to $7.8 billion. Of the $7.8 billion, $3.8 billion is needed to meet operations and maintenance on the existing system. Therefore, the total anticipated funds available for new transportation improvements and corresponding operations and maintenance of new improvements is $4.0 billion.

Transit Funding

Transit providers within the eastern Pima County rely on a combination of local contributions (or subsidies), federal and state funds and farebox revenues for operating and capital funds.

Local contributions for transit are funds directly from a city or county's general fund, typically sales taxes and local property taxes. Reimbursements for provision of transit service from one jurisdiction to another is also an example of a local contribution.

State funds include HURF allocations, distributions from Vehicle License Taxes (VLT), and Local Transportation Assistance Fund (LTAF). LTAF is derived from the state lottery and shares are allocated based on a population formula. Cities with populations over 300,000 must dedicate their LTAF funds to transit. Smaller cities can spend their LTAF monies on either transit or highway needs. The LTAF is scheduled to sunset in 2003. Another source of state funding is through the Supplemental Funds program, which is used solely for special projects. The Supplemental Funds Program is highly competitive with other transit needs.

Federal funds usually come in the form of grants through the Federal Transportation Administration (FTA). Two federal grants are utilized in the PAG region, the Federal Transit Operating Assistance Grant and the Federal Capital Grant. As their names imply, these grants can only be used for operating and capital expenditures, respectively. Additionally, the Transportation Equity Act for the 21st Century or TEA-21 has enhanced funding mechanisms.

Fare-box revenues and user fees are funding sources generated by the transit provider through services provided, including fares for transit service and shuttles, and on-board advertising. Fare-box and user fee revenues usually constitute a small percentage of the overall budget for the PAG transit providers.

Highway Funding Limitations

The region relies heavily on HURF funds for transportation improvements, however, two factors are at work that have been and will continue to decrease the HURF allocation to the region. One is the increase in fuel economy. As more vehicles are able to travel longer distances on a gallon of gas, the amount of gas taxes paid per mile of travel will continue to decrease, as it has over the last 20 years. Fuel efficiency, while good for air quality, has a negative impact on highway construction funding resources. Secondly, the explosive population throughout the state of Arizona and incorporation of new communities is reducing the proportion of state HURF money available to Pima County jurisdictions. Cities like Tucson, the urban core of which will not see significant increases in population, lose out to brand new communities, whose population gains correspondingly mean greater HURF allocations from the state. While Marana and Oro Valley are rapidly growing communities, they are relatively small compared to many other cities in the state. In addition, HURF supply is sensitive to decreases in economic activity. A downturn in the economy could reduce fuel sales related to tourism and economic activity.

The 2001 regional plan anticipates that implementation of inflation adjusted impact fees on a regional basis (i.e., by each jurisdiction) at an initial rate of $2,500 per new dwelling unit, will provide $229 million over 25 years to support the transportation plan.

Impact fees, while seemingly equitable in that it forces growth to pay its way, have limitations, as well. For one, they are highly politicized source of money. Implementation on a regional basis requires actions by elected bodies across the region.

Perhaps more significantly, impact fees are accumulated incrementally. Funds are generated for transportation coffers each time a new house is sold or significant improvements on existing lots are constructed. They do not produce an up-front large source of money. For this reason they are inadequate for constructing large, capital-intensive projects needed in advance of anticipated growth in areas with minimal existing transportation facilities. Additionally, the inflow of impact fees is very sensitive to economic activity, and for that reason represent a highly unpredictable source of funds difficult to bond against.

By relying on development impact fees for construction of transportation improvements in areas where few already exist and development pressures are high, local jurisdictions will always be playing a game of catch up.

Impact Fee Benefit Areas

Pima County has designated seven Roadway Development Impact Fee Benefit areas. In addition to the seven fee-benefit areas, Pima County has identified three areas where fees are not currently assessed, but may be in the future. Each impact fee area has its own travel and transportation characteristics, some of which are discussed below.

Rincon Valley

The Rincon Valley Fee Benefit area is located south of Saguaro National Park and North of Interstate 10. For the most part, this benefit area is in the Cienega-Rincon Planning Subarea for the Sonoran Desert Conservation Plan (SDCP). This benefit area surrounds the existing Cienega Creek Natural Preserve and the County's Colossal Cave Mountain Park. Significant population increases had been planned in this area by previous actions of the Board of Supervisors.

At present, this benefit area contains little employment, no major retail commercial areas and few providers of medical and other services. Only 7.3% of trips generated in this area stay within the boundaries. The average household travels 99 vehicle miles per day. There is no public transportation service in the Rincon Valley.

While I-10 forms a boundary for the region, there are few access points onto the Interstate. Other transportation infrastructure is comprised of two-lane, rural paved roads, such as Marsh Station Road, Colossal Cave Road, Old Spanish Trail and Camino Loma Alta. New transportation facilities in this area will have to take in account crossing Cienega Creek/Pantano Wash, crossing the railroad, and potential new parks, as proposed by the SDCP.

Houghton Road will figure prominently in addressing circulation needs for the southeast sector of the metropolitan area. It is expected that Houghton Road will be both a local urban route, serving fairly dense residential and commercial development, and a regionally significant connector route. Houghton Road will continue to serve travel demand to and from Interstate 10, Rita Ranch, Saguaro National Park, the UA Science and Technology Park, and Mt. Lemmon. The segment of Houghton Road between Irvington Road and Valencia Road had a reported traffic count of 20,000 vehicles per day in February 2000, a high volume for a two-lane road. Traffic projections for that same segment for 2025 are between 55,000 and 60,000 vehicles per day. Houghton Road is scheduled for widening, and a major corridor study will soon be undertaken to determine the roadway cross section and level of access for the future roadway facility.

Mountain View

Mountain View is currently a non-fee area, and is located south of the Rincon Valley Benefit Area. It is included in both the Cienega-Rincon and the Upper Santa Cruz subareas of SDCP. From Interstate 10 to the Coronado National Forest, this area is prime for development, due to private inholdings within state lands. Development pressure to the south and east of this area is limited by national forest, Bureau of Land Management (BLM) land, and national conservation areas proposed by the SDCP

Existing transportation infrastructure is very limited. It consists of Interstate 10, Sahuarita Road, Wilmot Road (unpaved), Houghton Road, Wentworth Road and State Route 83, a scenic highway from Interstate 10 south to Sonoita. All of the roads, other than I-10, have few improved drainage crossings and are frequently impassable during storms. As discussed earlier, Houghton Road will play a major role providing transportation facilities in the southeast sector of the metropolitan Tucson. Currently, access points to Interstate 10 are limited. Only Sahuarita Road and Houghton Road, both two lanes, provide access to the most likely near-term growth area centered around Corona de Tucson, located seven miles south of I-10.

Ideally, provision of transportation infrastructure would help guide land development. Because of the desirability of locating next to a natural resources, like a National Forest, growth in this area has the potential to leap frog outside of even the existing roadway system, compounding the problem of meeting transportation needs in the area.

The Sahuarita Corridor will play a major role in the development of this area. Planning for this corridor began in 1986, with the Pima County Regional Transportation Plan. The Sahuarita Corridor Study, completed in 1989, envisioned a controlled-access facility located to the north of the existing Sahuarita Road alignment. This route is considered to be both a truck bypass route for travel between Mexico and the east and Midwest states, and an alternative major arterial for traffic in the southern portion of the Tucson Metropolitan area. An improved transportation facility could help direct residential and commercial developments in this area.

Recent planning approved by the Town of Sahuarita has prompted a reconsideration of where the Sahuarita corridor connection to I-19 will be located. Concern has been expressed by people with lots in the proposed alignment that their rural lifestyle is in jeopardy, but as this is the only planned corridor to serve this region, it will very likely be planned and constructed to carry significant traffic volumes.

Santa Cruz Valley

The Santa Cruz Valley Fee-Benefit Area represents land available for development west of the Mountain View area and north of the Santa Cruz County Line. Land within the Town of Sahuarita, the San Xavier District of the Tohono O'Odham Nation, and the Santa Rita Experimental Range are not included. It falls within the Upper Santa Cruz subarea of the SDCP.

The retirement-oriented community of Green Valley is a commercial center and attractor of trips locally and from Santa Cruz County. Although the area has few major employers, the high percentage of retired households makes this a less significant issue today. Over 21% of the trips generated within this area remain inside its boundaries. The average household generates 66.7 vehicle miles of travel per day. There is very limited public transportation available today, although a modest community dial-a-ride pilot project is planned for 2002. New family-oriented development in the Town of Sahuarita will have an impact on the average household-based travel demand in the near future.

Sahuarita Road passes through a portion of this fee-benefit area, however the most significant transportation feature is Interstate 19. Land available for development in this fee benefit area include property east of the Town of Sahuarita, and a long thin corridor

in proximity to I-19. While the interstate poses a high-capacity, limited access facility for movement of large volumes of vehicles, there are not many existing interchanges providing points of access to the interstate. Additionally, most of the development potential has already been planned. Crossings for the Santa Cruz River will limit future facilities. Rail and road interfaces could be an issue, particularly as the number of trains through the region increases.

I-19 is part of the Canamex corridor, a priority corridor for trade. For this reason, I-19 will get special attention in terms of enhancing safety and efficiency. New facilities may be developed and existing facilities enhanced. Additional federal funds may be made available for highway facilities in the Canamex corridor.

San Xavier

The San Xavier Fee Benefit Area is located south of the City of Tucson and to the north and east of the San Xavier District of the Tohono O'Odham Nation. It is a relatively small area. Ajo Highway is a significant transportation facility under ADOT's jurisdiction in the west of the benefit area, Pima County jurisdiction in the east. Portions of Kinney Road, Valencia Road, Ajo Way, Country Club Road and Palo Verde Road are being widened as part of the Pima County HURF Revenue Bond program.

This benefit area is a mix of mature and newly developing areas. There are many significant employers, particularly in the vicinity of the Tucson Airport. Although only 12.5% of the trips generated by households within the San Xavier stay within its boundaries, this is a statistical anomaly due to its peculiar geography rather than a lack of employment and basic service opportunities. The average household generates 62.4 vehicle miles of travel per day. There is public transportation available within much of this area.

Silverbell-Tortolita

This fee-benefit area on the far northwest side includes the Ironwood Forest National Monument. For the most part, it is within the Tucson Mountain/Avra Valley subarea of SDCP. The existing rural development consists of extensive, very low density residential uses, separated by undeveloped areas, and current and presently fallow agricultural uses. In terms of drainage and safety, the existing roads are substandard, and difficult to maintain. Because of the problems with sheet flow, the roads themselves become drainageways. Much of the existing roadway infrastructure is not county- maintained. Due to the lack of employment and commercial development, less than 16% of the household travel stays within the area, although many significant destinations lie just outside the benefit area borders. The average household in Silverbell-Tortolita generates 74.3 vehicle miles of travel per day. Pima County Rural Transit serves a portion of this area.

Sandario Road goes through the middle of the area on a north-south orientation. In Pima County's 1986 plan for transportation improvements, Sandario Road was a major link in a new access-controlled facility to serve that region. Because of its proximity, transportation decisions made by the Town of Marana will bear heavily on transportation options for future residents in this area. Currently there are bridges over the Santa Cruz River at Avra Valley Road, Sanders Road, and Trico-Marana Road. Crossings over the Brawley Wash will affect transportation decisions, too.

Northwest Side – Tucson Mountain and Canada Del Oro

The northwest side has seen the most rapid growth in last 10 years. There are two identified Fee-Benefit areas in the northwest, Tucson Mountains and Canada del Oro. These areas fall generally within the Northwest subarea of the SDCP.

The Tucson Mountains Fee-Benefit area is almost entirely residential development. Employment, shopping and essential services are located primarily to the east of I-10. Due to the nature of the development patterns, only 7.3% of the trips generated by households stay within the benefit area. On the other hand, this area is compact and is located in relatively close proximity to major trip attractors, such as downtown Tucson, the University of Arizona and Pima College, Northwest Medical Center, and retail commercial along Silverbell Road in Tucson and Marana. The average household generates only 45 vehicle miles of travel per day despite the lack of public transportation service.

The Canada del Oro Fee Benefit area is diverse and contains a broad mix of development types, including a variety of housing options. It is also much larger than the Tucson Mountain area. While its size means longer trips within the area, the broad mix of employment, shopping and services results in this area having, on average, the shortest average trip length for travel to destinations outside of any benefit area. The average household generates 53.8 vehicle-miles of travel per day. Select corridors within the benefit area (Ina Road, Oracle Road) have high levels of public transportation service, and this is the only benefit area with express transit service to major regional employment centers in downtown, the University of Arizona, and the aeronautics business oriented areas south of Tucson Airport.

The Pima County Bond program has committed the greatest amount of bond dollars to bringing the northwest's existing 2-lane rural roads up the job of transporting the volumes of people who have moved and do business there. These include Cortaro Farms Road, Orange Grove Road, Thornydale Road, La Canada Drive, River Road and La Cholla Road.

Oracle Road, or State Route 77, is located in this region, and has been identified as one of the major corridors to deserve attention in the next 25 years. Oracle Road is expected to continue in the dual role of being a major urban arterial and principal regional route between Pima County and Pinal County. Rapid growth in and around the Town of Oro Valley, combined with expected growth in Catalina and southern Pinal County, is expected to severely stress the carrying capacity of Oracle Road in the future. The long-range traffic forecasting is projecting 80,000 vehicles per day in year 2025 on Oracle Road north of Linda Vista Boulevard.

The only grade separated intersection with the Union Pacific Railroad in the northwest is located at Orange Grove Road. All other intersections are at grade. Rail and road interfaces will continue to be an issue on the northwest side.

Access to the Interstate is another issue. The Town of Marana has recently instituted a new development impact fee with revenues dedicated for extension of Twin Peaks Road and provision of a new traffic interchange with I-10 . This will relieve congestion on Cortaro Road east of I-10. When coupled with a planned bridge across the Santa Cruz

River, this interchange will also relieve congestion on Cortaro Farms west of I-10 and improve access for the Silverbell-Tortolita Benefit Area west of the Tucson Mountains. A new traffic interchange in this location could have implications for development east of I-10. Extension of Camino de la Manana on the east side could open up areas to the north for development, however, pygmy owl habitat could be a limiting factor to development in this area.

Catalina Foothills

The Catalina Foothills Fee-Benefit Area is north of the Tucson City limits and south of the Coronado National Forest. It is located in the Catalina Foothills Subarea of the SDCP. An increase in growth in trips is expected for the Catalina Foothills, in spite of the fact that the area is largely built out as low-density residential. Travel pressures by growth that has occurred and will continue to occur on the northwest side and the southeast side will put pressure on the Catalina Foothills transportation infrastructure.

Existing large, undeveloped parcels, such as at Skyline and Campbell Avenue intersection, will pose development issues and potentially increase trips on the existing transportation facilities, like Ina Road, Skyline Road, Orange Grove Road, and Sunrise Drive.

The River Road/Rillito River corridor will figure prominently in the future. Connecting Snyder Road between Sabino Canyon and Houghton Road is another corridor that will be examined in the future. This fee-benefit area demonstrates well how most destinations are not in Pima County's jurisdiction, however Pima County has responsibility for the transportation corridors.

The Catalina Foothills Fee Benefit Area resembles the Tucson Mountains in that the short axis of its geometry is in greatest proximity to major destinations within the City of Tucson. Therefore, trips generated by households have a relatively shorter distance to travel before they are out of the area.

Although 17.9% of trips generated are satisfied within the area, the average household generates only 42.4 vehicle-miles of travel per day, lowest among all benefit areas.

Development within this benefit area is fairly mature, but changing demographic characteristics of households may increase average travel. For example, school enrollment seems to be increasing at a greater rate than population. This may indicate that the average household size is getting larger, with a resultant increase in trip rates.

Conclusions

- Based on the potential constraints to growth imposed by efforts to conserve specific habitats and species in the SDCP, growth will be focused in certain areas with less potential environmental conflict

- Pima County should provide access to areas where growth is more desirable and where transportation facilities can be provided more economically. However, all current available financial resources for the next ten to 12 years will be focused on catching up to growth that has already occurred.

- Corridors will continue to loom large in regional planning, as they offer the most promise for serving longer distance, higher speed travel.

- The failure of past sales tax initiatives has resulted in a general reluctance to go back to voters with funding initiatives that rely on increasing tax rates.

- There are limitations to use of impact fees for construction of major transportation improvements due to the incremental nature of revenue collections. Impact fees will be most effective when used to leverage other funds. Fees may provide a base for future transportation infrastructure financing plans that are more creative and flexible than traditional bonding.

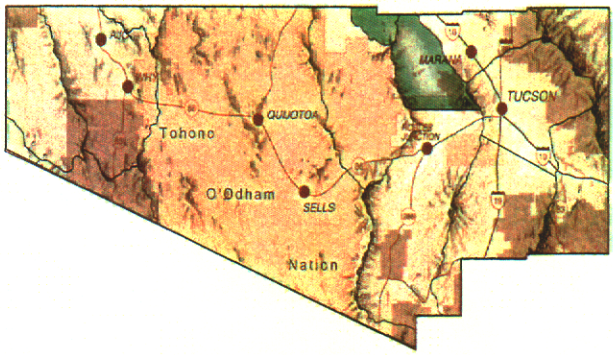
PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

PIMA COUNTY 2001 COMPREHENSIVE PLAN

TUCSON MOUNTAINS/ AVRA VALLEY

SUB REGION TRANSPORTATION SUMMARY

Protected and agricultural lands, mountainous terrain and floodplains characterize the Tucson Mountains/Avra Valley sub region. This sub region includes Saguaro National Park West Unit, the Sonoran-Desert Museum and Tucson Mountain Park as well as residential areas and the Tohono O'odham lands. Residential areas are located on the eastern slopes of the Tucson Mountains and in Picture Rocks and Avra Valley. Due to these geographical features, the roadway network is limited and does not typically follow section lines.

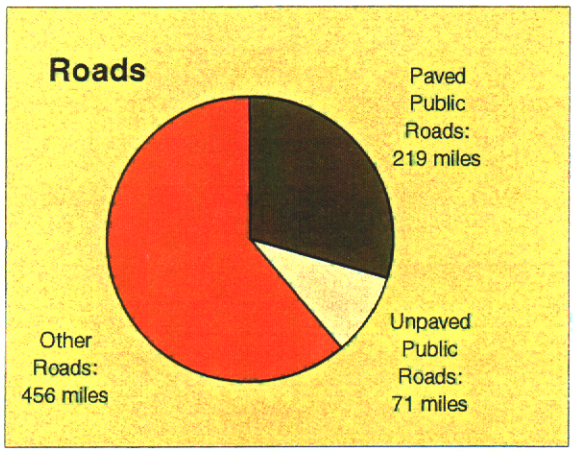


ROADWAYS

Pima County maintains 290 miles of roads in this sub region, of which the majority (219 miles) are paved. Most of the roads in this sub region (456 miles) are not maintained by Pima County. These include private streets and unimproved public road easements.

Picture Rocks Road, Kinney Road and Gates Pass road are narrow winding two-lane roads that extend through Saguaro National Park and Tucson Mountain Park. Avra Valley and Trico-Marana roads have interchanges at I-10 and provide access to Avra Valley. From the eastern slopes of the Tucson Mountains many roads (Avra Valley, Cortaro, Ina, Sunset, El Camino Del Cerro, Ironwood Hill, Speedway) provide access to Interstate 10 and downtown Tucson. Silverbell Road parallels I-10 and provides an alternate route to central Tucson and access to residential and commercial areas. Major north-south roads include Sandario, Anway and Trico.

Average daily traffic volumes on selected major streets in this sub region are shown in the table below. These volumes represent the most traveled portions of these roadways. Traffic volumes are lower on some segments. The most congested roadway in this sub region is Ina Road, between Silverbell and I-10.

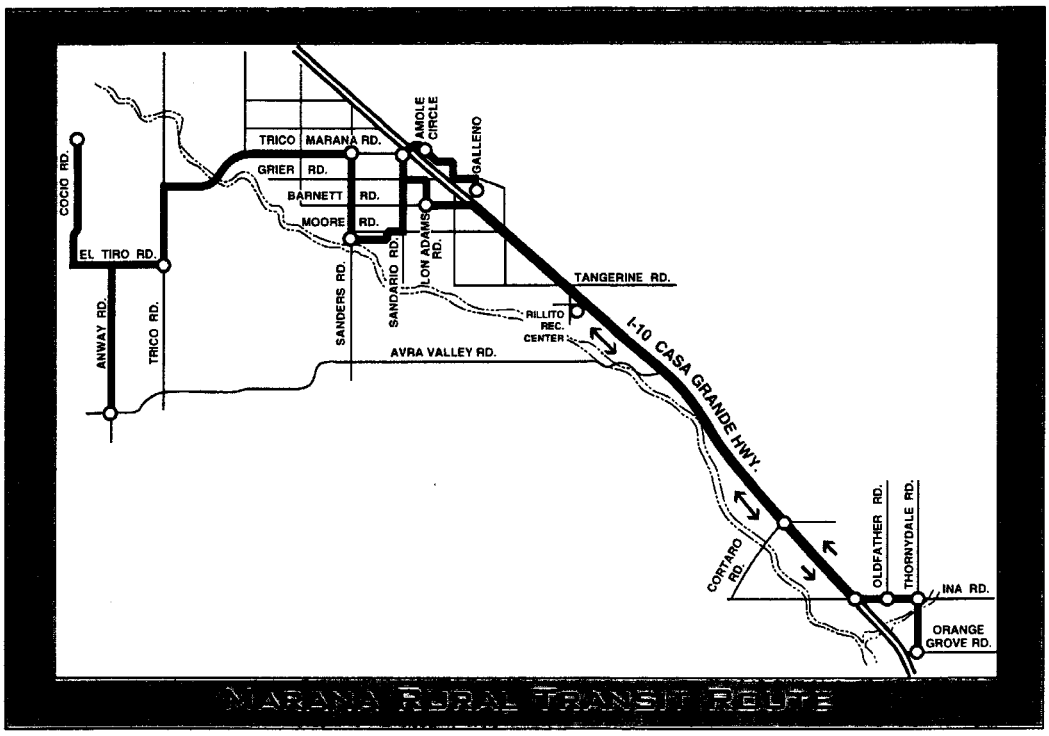


Selected Roadways	Traffic Volumes
Ajo Highway	27,000
Silverbell	18,900
Ina Road	7,400
Avra Valley	6,200
Camino Del Cerro	6,100
Sandario	5,700
Twin Peaks	4,200
Kinney	2,800
Gates Pass	2,800

PUBLIC TRANSIT

Pima County provides public bus service in portions of this region with the Marana Rural Route. Operated by A & K Transportation, the bus route circulates through residential areas along Cocio, El Tiro, Trico and Anway Roads and into the Town of Marana along Trico Marana Road. The service operates 4 round trips per day Monday through Friday. The fare is $0.75 for service in the Rillito area and $1.00 for service to Ina Road. This route provides access to commercial and business centers along Ina and Thornydale roads east of I-10 and connects to the SunTran bus system. SunTran Route 102 (Ina Road Express) stops on Ina Road before continuing on I-10 to downtown Tucson. Route 16 (Oracle) also stops along Ina Road and provides access to central Tucson along Oracle Road.

In the southern portion of this sub region, SunTran Route 20 (West Grant Road), runs along Grant Road as far west as Silverbell Road and Route 22 (Grande), runs along portions of Grant and Silverbell roads. Route 5 (Pima) runs along Speedway Boulevard as far west as Greasewood Road and serves Pima Community College West as does Route 5-Pima, which runs along Anklam Road. A park-and-ride lot is located at PCC West.

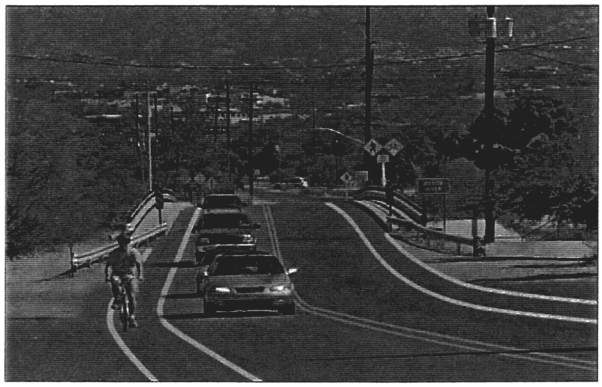


AIRPORTS

The Marana Northwest Regional Airport is located in the Town of Marana on Avra Valley Road just east of Sanders Road.

BICYCLE

Bicycle facilities in this region are limited. Signed bike routes with on-street bike lanes exist on portions of North Silverbell Road, Ironwood Hills Drive, Speedway Boulevard, Anklam Road, Star Pass Boulevard, and South La Cholla Boulevard. Paved roadway shoulders exist on portions of North Silverbell Road, Kinney Road, and Ajo Way, but most roads do not have paved shoulders.



FUTURE PLANNED IMPROVEMENTS

- A portion of Twin Peaks Road located west of Silverbell Road through Rattlesnake Pass will be improved when sufficient development impact fees in that vicinity have been collected.
- Anticipated traffic growth will require Silverbell Road, between Ina Road and El Camino Del Cerro, to be widened to four lanes by 2025. This project is included in the PAG 2025 Regional Transportation Plan.
- Other minor safety and drainage improvements are planned and well as improvements to Sandario and Picture Rocks roads.

ISSUES

- The major roadways in this region are two-lane rural roadways and traffic volumes are relatively light compared to more urbanized areas. Some future roadway capacity exists on portions of the roadway system.
- Environmental constraints limit future residential development and roadway expansion in some areas.
- Ina Road is a congested 2-lane roadway between Silverbell Road and I-10. Located in the Town of Marana, this roadway is not currently programmed for widening.
- Unregulated lot splits in the Picture Rocks and Avra Valley areas continue to create a demand for paved local roads.
- Most roadways lack bike lanes.
- Transit service west of the Tucson Mountains is limited to Pima County's Marana Rural Route.

For more information, contact: Jonathan L. Crowe, AICP
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Tucson, AZ 85701
520-740-6383
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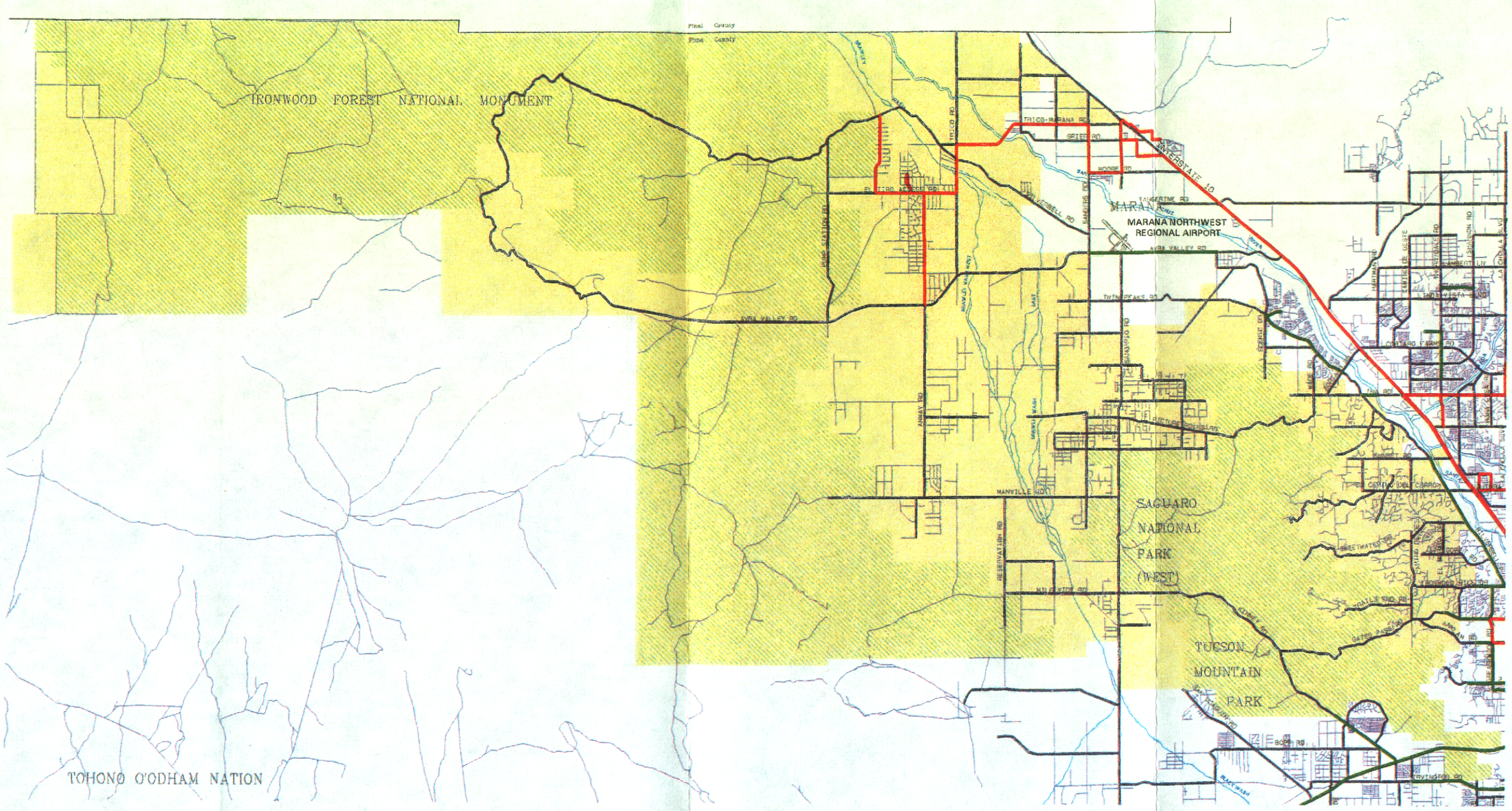
Pima County Comprehensive Land Use Plan

Tucson Mountains /Avra Valley Subregion

Transportation System

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION



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This product is subject to the Department of Transportation Technical Services Division's Use Restriction Agreement.

- Minor Streets
- Major Streets
- Major Washes
- Bike Routes, Paved Shoulders
- Bus Routes
- National Park, National Monument, Mountain Park, State Park
- Subregion Extents

STATISTICS:
Maintained By Pima County
Paved 219
Dirt 71
Not Maintained By Pima County .. 456

N

Scale 1: 65,000

Pima County Index Map

Index Map Scale 1:2,750,000

30-JUL-2001

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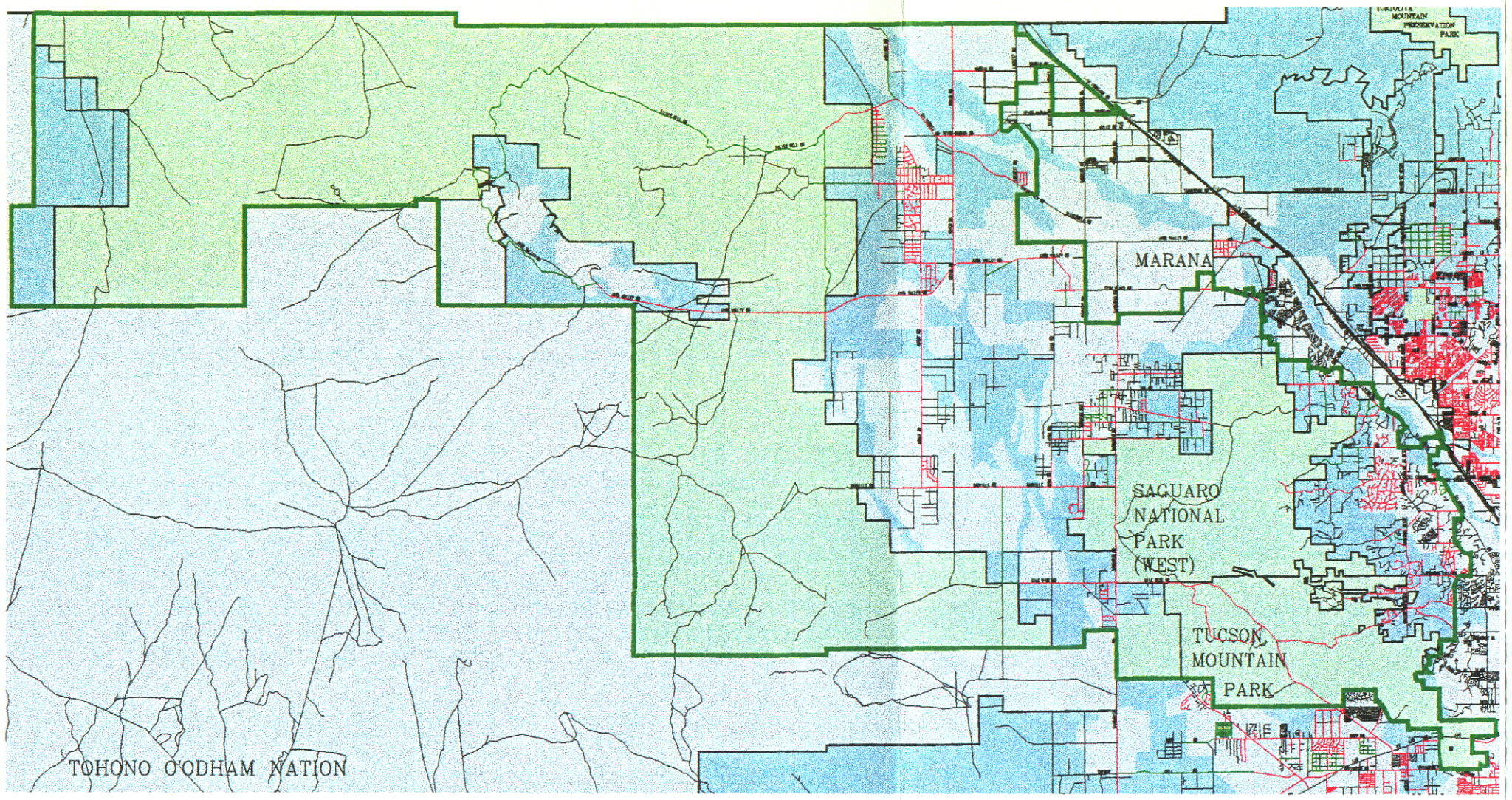
Pima County Comprehensive Land Use Plan

Tucson Mountains/Avra Valley Subregion

Biological Reserves



ROADS NOT MAINTAINED BY PIMA COUNTY
Existing Reserves 119.7 Miles
Preliminary Biological Reserves 192.5 Miles
Other 148.7 Miles

ROADS MAINTAINED AS PAVED
Existing Reserves 23.6 Miles
Preliminary Biological Reserves 81.1 Miles
Other 112.6 Miles

ROADS MAINTAINED AS DIRT
Existing Reserves 15.4 Miles
Preliminary Biological Reserves 32.2 Miles
Other 23.7 Miles

Administrative Boundaries

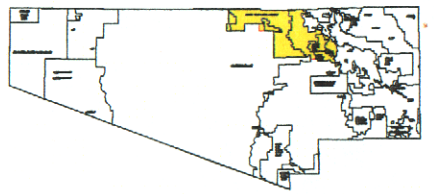
Subregion Extents

Preliminary Biological Reserves

Existing Reserves

Inholdings - Private or Other Ownership

Pima County Index Map



Index Map Scale 1:1,500,000

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N

Scale 1:84,000

15-MAY-2001

/pygmyowl3/cplan/tmav/amls/biores_tm.aml

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

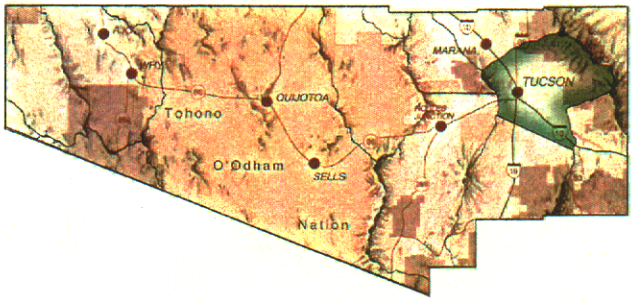
PIMA COUNTY 2001 COMPREHENSIVE PLAN

CATALINA FOOTHILLS

SUB REGION

TRANSPORTATION SUMMARY

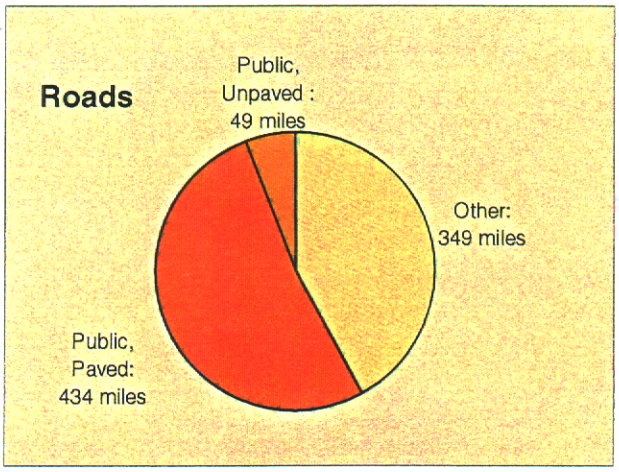
The Catalina Foothills sub region includes the southern foothills of the Santa Catalina Mountains, the Tanque Verde Creek valley, and the surrounding national forest lands. This sub region extends to Oracle Road and Catalina State Park on the west, the Rillito River on the south, the Pinal County border to the north and the Cochise County border to the east.



ROADWAYS

Pima County maintains 483 miles of roads in this sub region, of which the majority (434 miles) are paved. There are also 349 miles of roads that are not maintained by Pima County. These include private roads, Forest Service roads, and unimproved public road easements.

Major north-south roads include First Avenue, Campbell, Swan, Craycroft, Kolb, Sabino Canyon, Bear Canyon, Houghton, Harrison, Melpomene, and Soldier Trail. Oracle Road is the largest roadway in this region, providing access to downtown Tucson as well as points north. The Ina-Skyline-Sunrise corridor is the major east-west corridor, providing access to Interstate 10 further west. The River Road corridor is a secondary route that terminates at Sabino Canyon Road.



Other east-west roads include Orange Grove, Snyder and Tanque Verde.

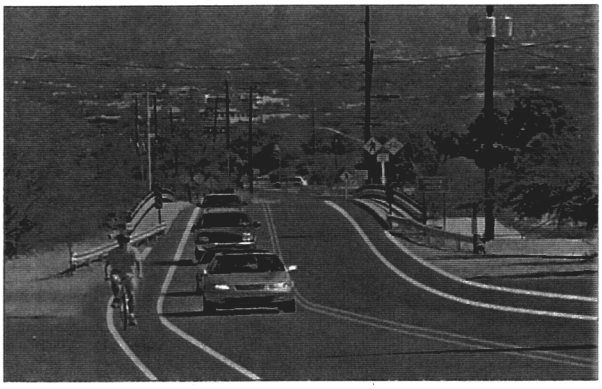
Average daily traffic volumes on selected major streets in this sub region are shown in the table below. These volumes represent the most traveled portions of these roadways. Traffic volumes are lower on other segments. The most congested roadways in this sub region are River Road between Campbell Avenue and Hacienda del Sol Road and Sunrise Drive between Swan Road and Craycroft Road.

Selected Roadways	Traffic Volumes
Oracle Road	66,000
Sunrise Road	41,900
Ina-Skyline Roads	41,000
River Road	38,900
Swan Road	28,800
Sabino Canyon Road	27,900
Craycroft Road	16,800
Campbell Avenue	15,100
Kolb Road	12,900
Tanque Verde Road	10,400
Catalina Highway	9,700
Houghton Road	6,500

PUBLIC TRANSIT

Public transit is very limited in this region. SunTran Route 105 (Swan Express) provides express bus service from the vicinity of Sunrise and Swan to First Avenue, Stone Avenue and downtown Tucson. Route 9 provides service from Tanque Verde at Catalina Highway to downtown with stops along Sabino Canyon and Cloud. Route 16 provides service along Oracle Road between Oro Valley and South Tucson. Route 103 provides service between the Town of Marana and downtown, with stops along Ina Road, Oracle Road, River Road and Campbell Avenue. The Tohono Tadai Transit Center is located just outside this region at the intersection of Stone Avenue and the Rillito River, across the street from the Tucson Mall.

BICYCLE



Signed bicycle lanes are provided along the entire Ina-Skyline-Sunrise corridor and along portions of River Road (Oracle Road to First Avenue, Craycroft Road to Sabino Canyon Road). Signed bike lanes also exist along First Avenue, Swan, Sabino Canyon, Cloud, Limberlost, Conestoga and portions of Bear Canyon, Catalina Highway, Houghton and Tanque Verde. Paved roadway shoulders exist on Oracle Road and on the remainder of River Road. Bike paths follow portions of the north bank of the Rillito River Park.

FUTURE ROADWAY IMPROVEMENTS

Several major roadway capacity projects were funded by the 1997 Transportation Bond and are currently under construction or design. These include:

- Sunrise Drive from Swan Road to Craycroft Road is currently being widened and the section from Craycroft to Kolb is under design.
- The Kolb Road/Sabino Canyon Road intersection has been redesigned and is currently under reconstruction.
- Catalina Highway will be widened from Tanque Verde to Houghton. Bicycle lanes will be extended from Houghton Road to the National Forest boundary.
- Kolb Road will be widened from Sabino Canyon Road to Sunrise Drive.
- Skyline Drive from Chula Vista Road to Campbell Avenue will be reconstructed.
- River Road will be widened from Campbell Avenue to Alvernon Way.
- Craycroft Road will be widened from River Road to Sunrise Drive.
- Tanque Verde Road will be widened from Catalina Highway to Houghton Road.
- Other minor safety and drainage improvements are also planned.

FUTURE TRANSIT IMPROVEMENTS

Transit service to Mt. Lemmon is proposed and the 1997 Transportation Bond allocated funds for capital expenses such as shuttle buses, roadway pull-outs and a terminal in the community of Summerhaven. Funding for operations has not been secured. As envisioned, the service would begin at the Bear Canyon Library and stop at Udall Park before traveling up the Catalina Highway. The shuttle would make numerous stops along the route to Summerhaven and the Mt. Lemmon Ski Valley. Bus pull-outs are now being constructed along the Mt. Lemmon Highway and planning is underway for the terminal.

ISSUES

- Several bond-funded roadway improvements will be constructed within the next five years, alleviating the worst current roadway congestion.
- Many residents prefer not to extend Snyder Road across Sabino Creek.
- Campbell Avenue from River Road to Skyline Drive is a winding 2-lane road that cannot easily be widened to increase traffic capacity.
- Commercial developments at the intersection of Campbell Avenue and Skyline Drive will require roadway improvements to accommodate future traffic.
- Transit funding is limited for operation of the proposed Mt. Lemmon Shuttle. Many Summerhaven residents prefer the shuttle terminal to be located close to the center of town.

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

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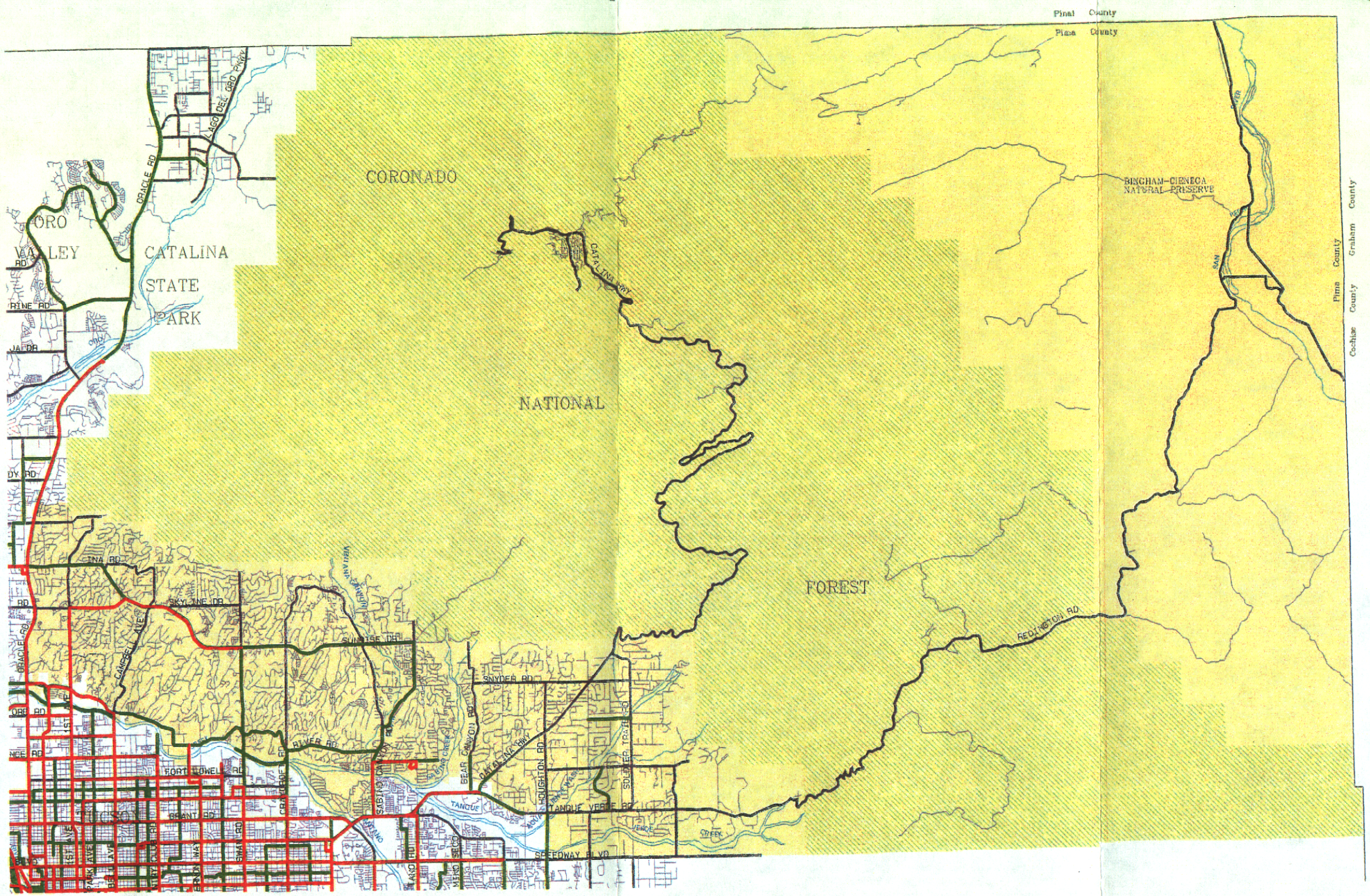
jcrowe@dot.co.pima.az.us

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

Pima County Comprehensive Land Use Plan
Catalina Foothills Subregion
Transportation System



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- Minor Streets
- Major Streets
- Major Washes
- Railroad
- Bike Routes, Paved Shoulders
- Bus Routes
- National Park, National Monument, Mountain Park, State Park, County Park
- Subregion Extents

Statistics:

Not maintained by Pima County 349

Maintained by Pima County
Paved 434
Dirt 49

Scale 1:50,000

Pima County Index Map

Index Map Scale 1:2,750,000

31-JUL-2001

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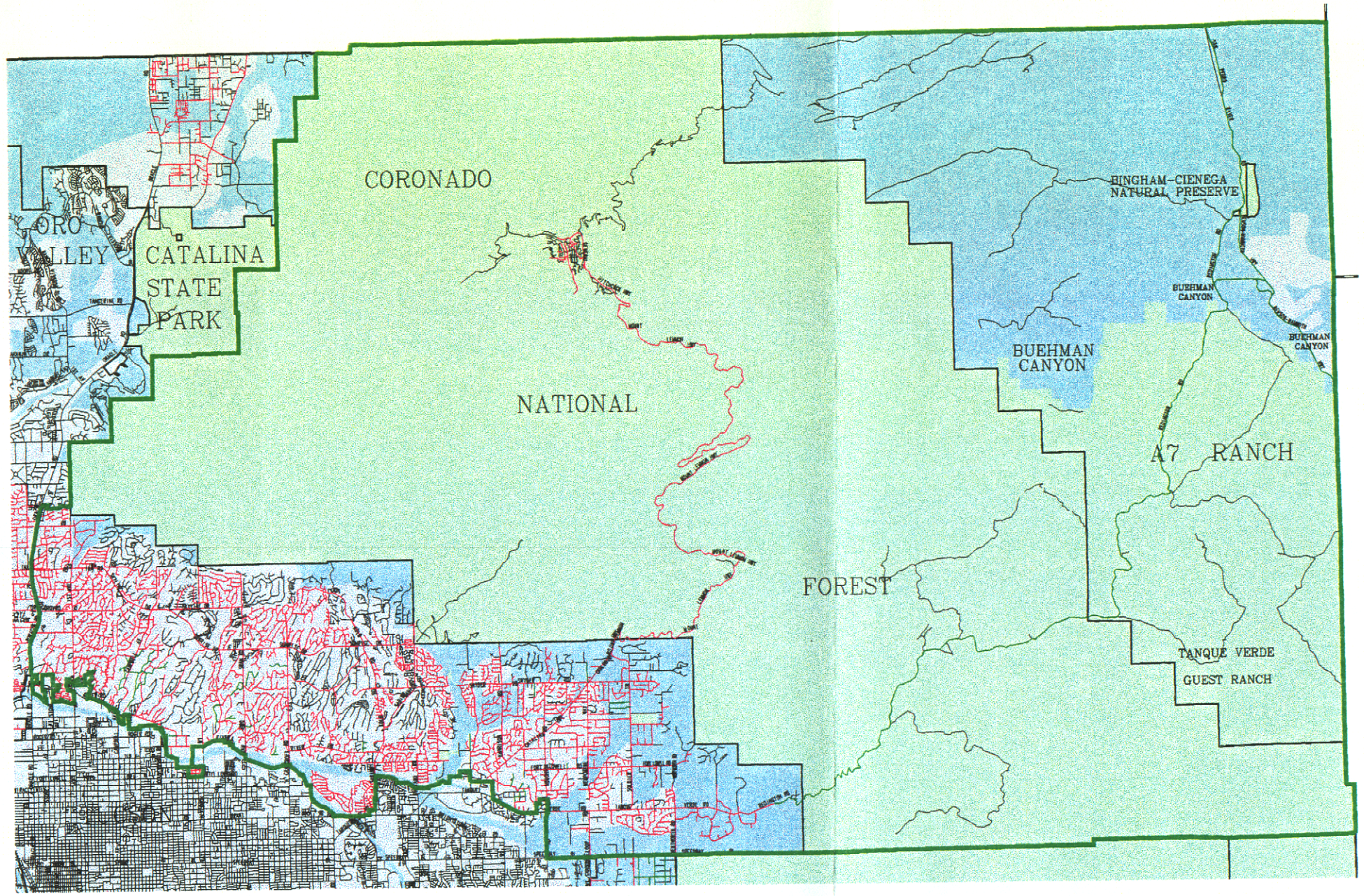
Pima County Comprehensive Land Use Plan

Catalina Foothills Subregion

Biological Reserves



ROADS NOT MAINTAINED BY PIMA COUNTY
Existing Reserves 57.5 Miles
Preliminary Biological Reserves 113.5 Miles
Other 180.9 Miles

ROADS MAINTAINED AS PAVED
Existing Reserves 29.1 Miles
Preliminary Biological Reserves 56.1 Miles
Other 348.1 Miles

ROADS MAINTAINED AS DIRT
Existing Reserves 14.7 Miles
Preliminary Biological Reserves 20.6 Miles
Other 13.8 Miles

Administrative Boundaries

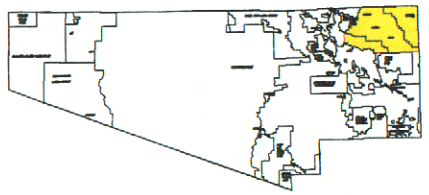
Subregion Extents

Preliminary Biological Reserves

Existing Reserves

Inholdings - Private or Other Ownership

Pima County Index Map



Index Map Scale 1:1,500,000

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N

Scale 1:60,000

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14-MAY-2001

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

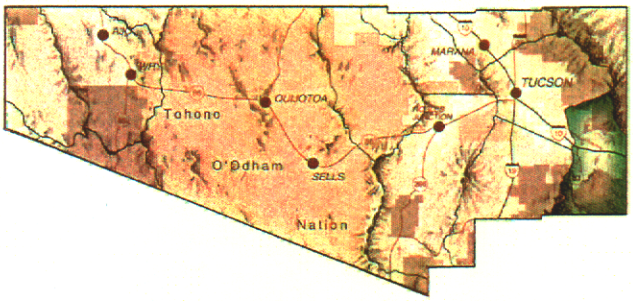
PIMA COUNTY 2001 COMPREHENSIVE PLAN

RINCON/SANTA RITA

SUB REGION

TRANSPORTATION SUMMARY

The Rincon/Santa Rita sub region makes up the southeast corner of Pima County, extending from City of Tucson limits to Santa Cruz and Cochise counties. This sub region includes Tucson International Airport, the communities of Vail, Corona de Tucson and Rincon Valley as well as Saguaro National Park East Unit, Coronado National Forest, the Empire Cienega Resource Conservation Area, Cienega Creek Preservation Area and other protected lands.

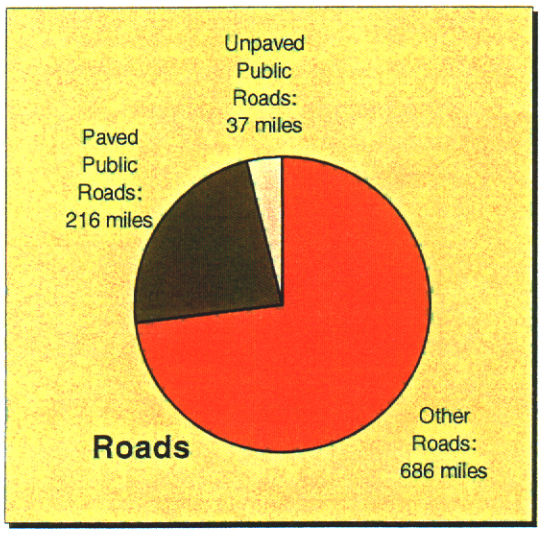


ROADWAYS

Pima County maintains 253 miles of roads in this sub region, of which the majority (216 miles) are paved. The majority of roads in this sub region are not maintained by Pima County (686 miles). These include private streets and unimproved public road easements.

Interstate 10 provides major access to this sub region from central Tucson and points north and east. The arterial roadway system is relatively dispersed. North of I-10, Old Spanish Trail, Camino Loma Alta, Vail Road, and Colossal Cave Road provide access into the Rincon Valley. South of I-10, major north-south routes include Alvernon, Swan, Wilmot, Harrison, Houghton, Wentworth and the Sonoita-Mountain View Highway (State Route 83). Major east-west routes include Los Reales, Hughes Access, Old Vail Connection, Old Vail Road, Dawn, and Sahuarita Road.

Average daily traffic volumes on selected major streets in this sub region are shown in the table below. These volumes represent the most traveled portions of these roadways. Traffic volumes are lower on some segments. The most congested roadway in this sub region is Valencia Road, between Alvernon and Kolb.



Selected Roadways	Traffic Volumes
Interstate 10	42,900
Old Spanish Trail	2,400
Camino Loma Alta	1,600
Vail	4,100
Valencia	25,600
Los Reales	3,300
Wilmot	4,800
Sahuarita	3,600
Houghton	3,900
Old Sonoita Hwy	2,800

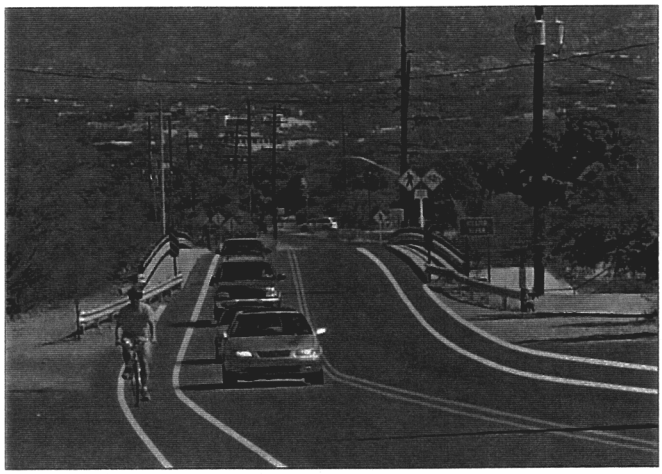
PUBLIC TRANSIT

Public transit service in this sub region is limited to the area around the Tucson International Airport. Currently there is no public transit service available in southeast Tucson, Rincon Valley, Vail or Coronado de Tucson.

BICYCLE

The most important bicycle facility in the Rincon/Santa Rita sub region is Old Spanish Trail, a popular bicycle path and bicycle route providing access from central Tucson to Saguaro National Park and the Rincon Valley. This route provides access to the Loop Road in Saguaro National Park East Unit. The Old Spanish Trail bicycle route is an off-street bike path and paved shoulder from Broadway Boulevard east to Houghton Road, where it continues as an off-street bike path only to Freeman Road. From this point south, Freeman Road and Old Spanish Trail is a signed bike route with paved shoulders all the way to Pistol Hill Road in Rincon Valley.

Other signed bicycle routes serving this sub region include Houghton Road and Kolb Road, north of Valencia (city limits). Valencia road is a bike route between Kolb and Houghton, as is Old Vail Road and Rita Road. These routes are striped bike lanes on the road shoulder. Old Nogales Highway has a paved shoulder as far south as Old Vail Road. Most roads in this sub region do not have bike lanes or paved shoulders.



AIRPORT

The Tucson International Airport is located in this sub region. Interstate 10 provides regional access to TIA. Tucson Boulevard, Alvernon Way, Valencia Road, Kino Parkway and other arterial streets provide local access to TIA. SunTran serves the Tucson International Aiport with bus routes 11 and 25. Routes 180 and Route 186 provide express service to the AeroPark industrial area south of the Tucson International Airport.

RAIL

The Union Pacific Railroad runs parallel to and north of Interstate 10. The crossing at Vail Road is at grade. Houghton Road Kolb Road crossings are grade separated.

FUTURE PLANNED IMPROVEMENTS

A new Sahuarita Road corridor has been planned, but funding has not yet been established. No other major roadway capacity improvements are currently scheduled in the Rincon/Santa Rita sub region. However, impact fees are being collected to help fund improvements to Vail Road from I-10 to the Union Pacific railroad crossing. Other roadway improvements are anticipated in conjunction with development of the Rocking K ranch, Rancho del Lago, and other private developments in the Rincon Valley. These improvements include the extension of Valencia Road east across the Pantano Wash, widening of Old Spanish Trail to four lanes, and construction of a new Old Vail Road from Colossal Cave Road west to Houghton Road. Other minor roadway safety and drainage improvements are planned.

ISSUES

- The major roadways in this region are two-lane rural roadways and traffic volumes are relatively light compared to the northwest Tucson. Roadway capacity exists on portions of the roadway system in this sub region.
- Interstate 10 provides regional access to this sub region.
- Access to Rincon Valley is limited by the at-grade crossing of Rincon Creek on Old Spanish Trail.
- Large-scale development of remaining vacant lands in this sub region will require roadway improvements.
- Unregulated lot splits in areas south of Sahuarita Road continue to create a demand for paved local roads.
- Most roadways lack bike lanes.
- There is currently no transit service in this sub region.
- The City of Tucson continues to annex lands in this sub region. Significant areas of vacant land remain.

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

For more information, contact:

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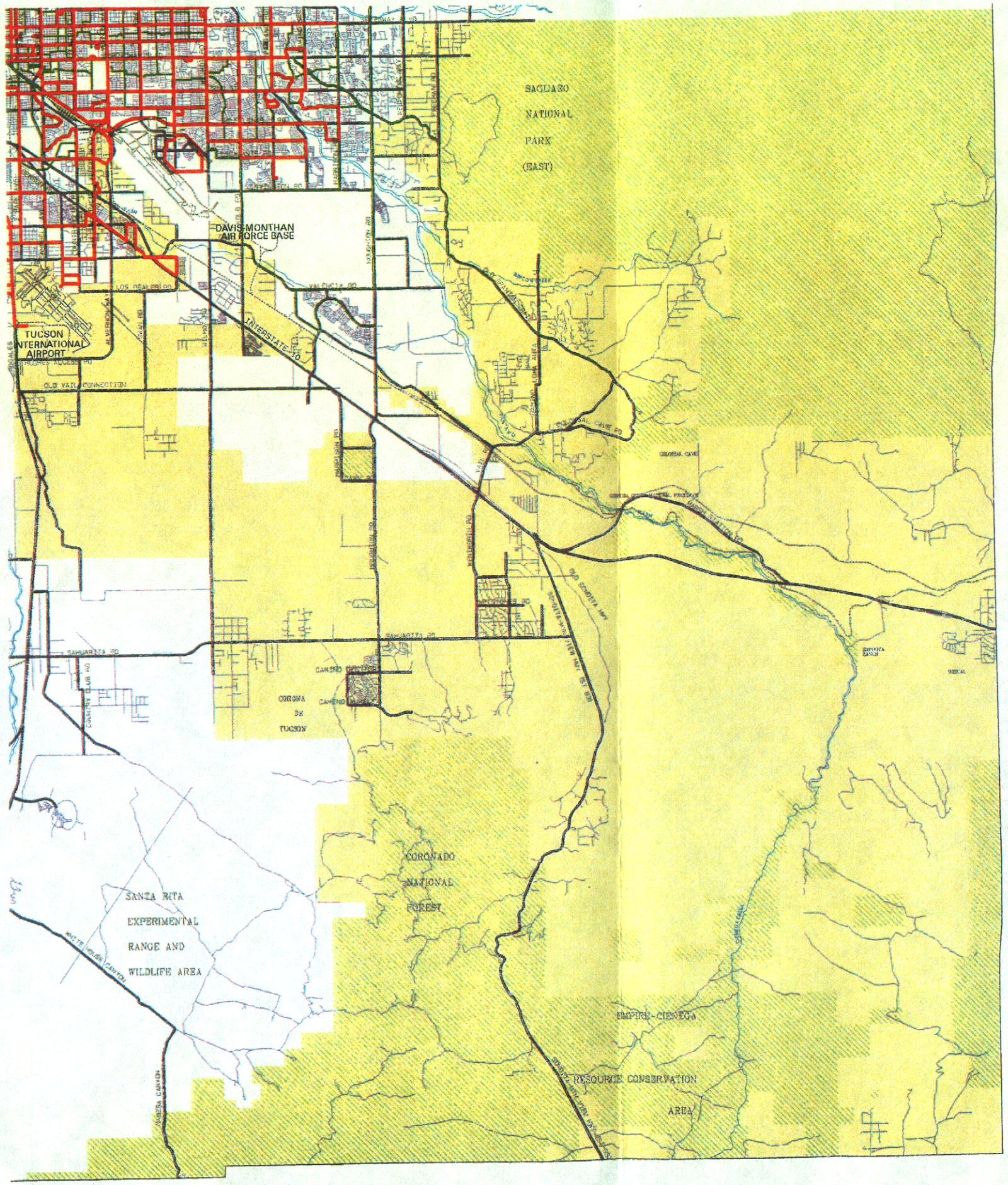
Pima County Comprehensive Land Use Plan
Rincon SE /Santa Rita Subregion
Transportation System

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION



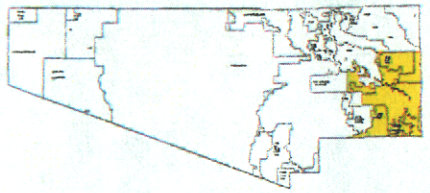
- Minor Streets
- Major Streets
- Major Washes
- Railroad
- Bike Routes, Paved Shoulders
- Bus Routes
- National Park, National Monument, Mountain Park, State Park, County Park
- Subregion Extents

Statistics:

Not maintained by Pima County 686

Maintained by Pima County
Paved 216
Dirt 37

Pima County Index Map



Index Map Scale 1:1,500,000

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N

Scale 1: 70,000

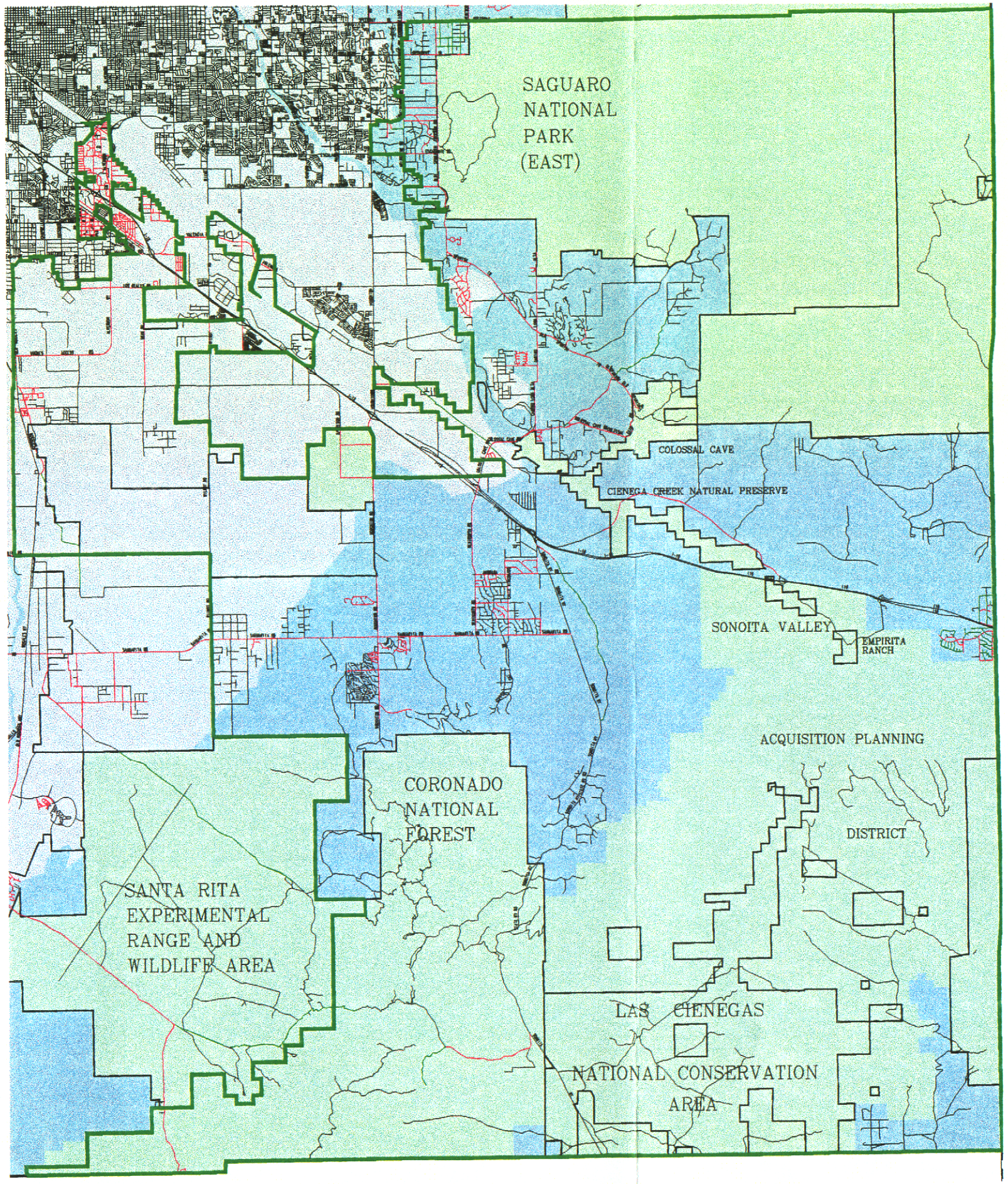
31-JUL-2001

/pygmyowl3/cplan/rsar/amls/roads_rs2.aml

Pima County Comprehensive Land Use Plan

Rincon SE/Santa Rita Subregion

Biological Reserves



ROADS NOT MAINTAINED BY PIMA COUNTY
Existing Reserves 128.2 Miles
Preliminary Biological Reserves 408.7 Miles
Other 162.1 Miles

ROADS MAINTAINED AS PAVED
Existing Reserves 16.2 Miles
Preliminary Biological Reserves 103.2 Miles
Other 92.2 Miles

ROADS MAINTAINED AS DIRT
Existing Reserves 2.5 Miles
Preliminary Biological Reserves 23.7 Miles
Other 8.7 Miles

Administrative Boundaries

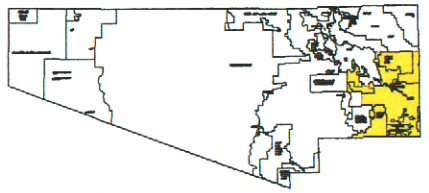
Subregion Extents

Preliminary Biological Reserves

Existing Reserves

Inholdings - Private or Other Ownership

Pima County Index Map



Index Map Scale 1:1,500,000

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N

Scale 1: 70,000

14-MAY-2001

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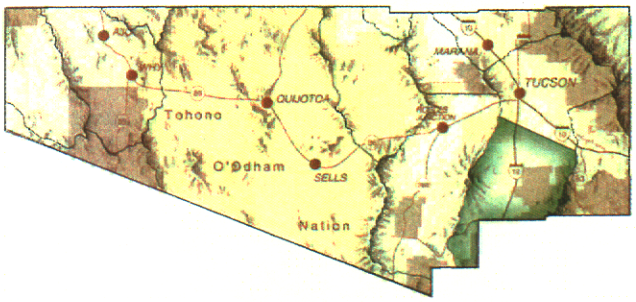
PIMA COUNTY DEPARTMENT OF TRANSPORTATION

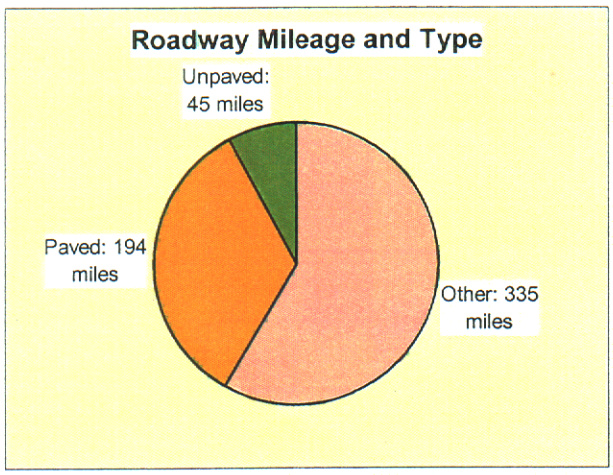
PIMA COUNTY 2001 COMPREHENSIVE PLAN

UPPER SANTA CRUZ SUB REGION TRANSPORTATION SUMMARY

The Upper Santa Cruz sub region makes up the south-central portion of Pima County including Green Valley, Arivaca Junction, the Town of Sahuarita and the Santa Rita Experimental Range and Wildlife Area. Population is generally concentrated along the Interstate 19 corridor in Green Valley and the Town of Sahuarita. The remaining areas of the sub region are sparsely settled but development is expanding in Madera Highlands, Quail Creek, and in rural lot split areas. This sub region is bordered by Pima Mine Road on the north to Santa Cruz County on the south, the Cyprus Sierrita mines west of I-19 and the foothills of the Santa Rita Mountains on this east.



ROADWAYS



Pima County maintains 239 miles of roads in this sub region, of which 194 miles are paved. The majority of roads in this sub region (335 miles) are not maintained by Pima County. These include private roads, Forest Service roads, and unimproved public road easements.

Interstate 19 is the primary road serving this sub region. The Old Nogales Highway runs parallel to the interstate as far south as Green Valley. Major roads serving this area include Mission, Twin Buttes, La Canada, Country Club, Pima Mine, Helmet Peak/Sahuarita, Duval Mine, Continental, White House Canyon, Elephant Head and Canoa.

TRAFFIC CONGESTION

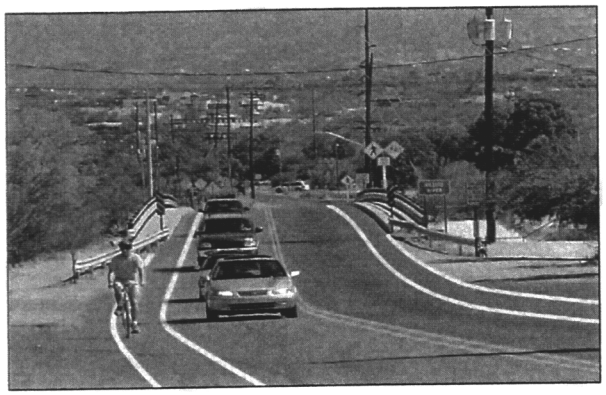
Traffic congestion is typically measured by how many seconds a vehicle must sit at an intersection during peak commuting hours. One way to compare levels of congestion among several roadways is to divide the existing traffic volumes by the capacity of the roadways. These calculations are shown in the table at right. Average daily traffic volumes and generalized congestion ratios are shown for selected major streets in this sub region. The volumes and congestion ratios listed represent the most traveled portions of these roadways in this sub region. Volumes vary on other segments. As shown, traffic volumes and congestion levels are relatively light.

Selected Roadways	Traffic Volumes	Traffic Congestion
La Canada	12,400	0.85
Continental	9,800	0.67
Duval Mine	2,400	0.16
Helmet Peak/Sahuarita	2,000	0.14
Pima Mine	1,900	0.13
White House Canyon	1,700	0.12
Mission	1,600	0.11

PUBLIC TRANSIT

Pima County does not currently operate public transit service in this sub region, however a community dial-a-ride pilot project is planned for the Green Valley/Sahuarita area during winter 2001-2002.

BICYCLE/MULTI-USE LANES



In the community of Green Valley, multi-use lanes are provided on La Canada Drive from Continental Road to Duval Mine Road and on Esperanza Boulevard as far east as Interstate 19. Some local streets are appropriate for bicycle travel, but most roads do not have paved shoulders or bicycle lanes.

FUTURE PLANNED IMPROVEMENTS

Several major roadway capacity projects in this sub region were funded by the 1997 Transportation Bond and are currently under design. These include:

- In Green Valley, the intersection of Continental Road and the Interstate 19 east Frontage Road will be redesigned.
- The interchange of Duval Mine Road and Interstate 19 will be redesigned in conjunction with the Arizona Department of Transportation.
- In Green Valley, the Interstate 19 east Frontage Road will be extended south of the Esperanza Wash to link to the Canoa Road interchange.
- In the Town of Sahuarita, the intersection of Abrego Drive and the Interstate 19 west Frontage Road will be redesigned.

TRANSPORTATION ISSUES AND OPPORTUNITIES

- Environmental constraints may limit future residential development and roadway expansion in some areas of this sub region.
- Unregulated lot splits continue to create a demand for paved local roads.
- The major County roadways in this region are primarily two-lane rural roadways and traffic volumes are relatively light compared to more urbanized areas. Some future roadway capacity exists on portions of the roadway system.
- Most roadways in this sub region lack bike lanes.

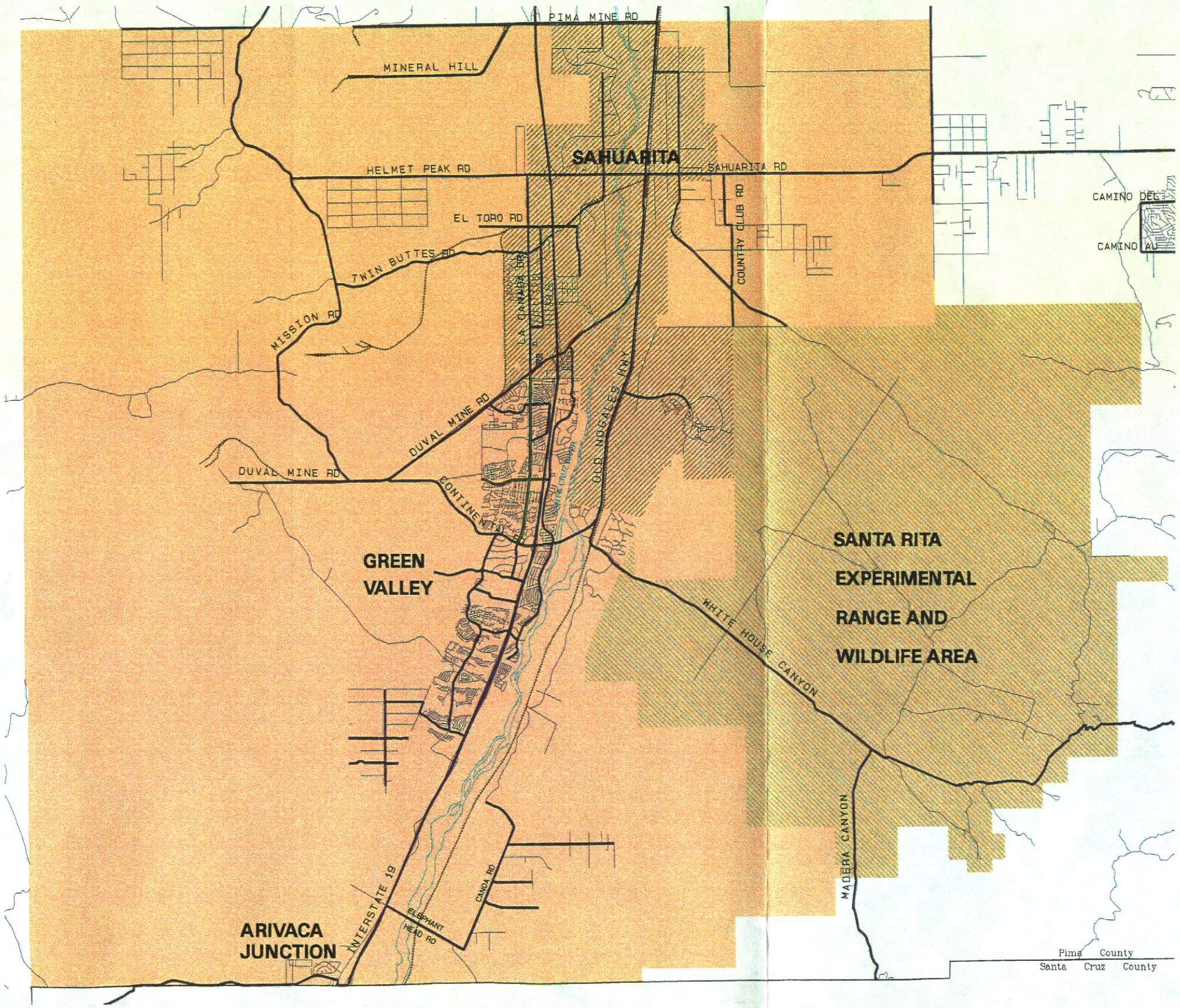
For more information, contact:
Jonathan L. Crowe, AICP
Pima County Department of Transportation, 201 N. Stone Avenue, 5th Floor
Tucson, AZ 85701
Phone: 520-740-6383 email: jcrowe@dot.co.pima.az.us

Pima County Comprehensive Land Use Plan

Upper Santa Cruz Subregion

Transportation System

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION



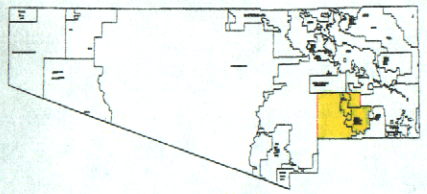
- Minor Streets
- Major Streets
- Major Washes
- Railroad
- Bike Routes, Paved Shoulders
- National Park, National Monument, Mountain Park, State Park, County Park
- Sahuarita Town Limits
- Subregion Extents

Statistics:

Not maintained by Pima County 335

Maintained by Pima County
Paved 194
Dirt 45

Pima County Index Map



Index Map Scale 1:1,500,000

The information depicted on this display is the result of digital analyses performed on a variety of databases provided and maintained by several governmental agencies. The accuracy of the information presented is limited to the collective accuracy of these databases on the date of the analysis. The Pima County Department of Transportation Technical Services Division makes no claims regarding the accuracy of the information depicted herein.

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N

Scale 1: 42,000

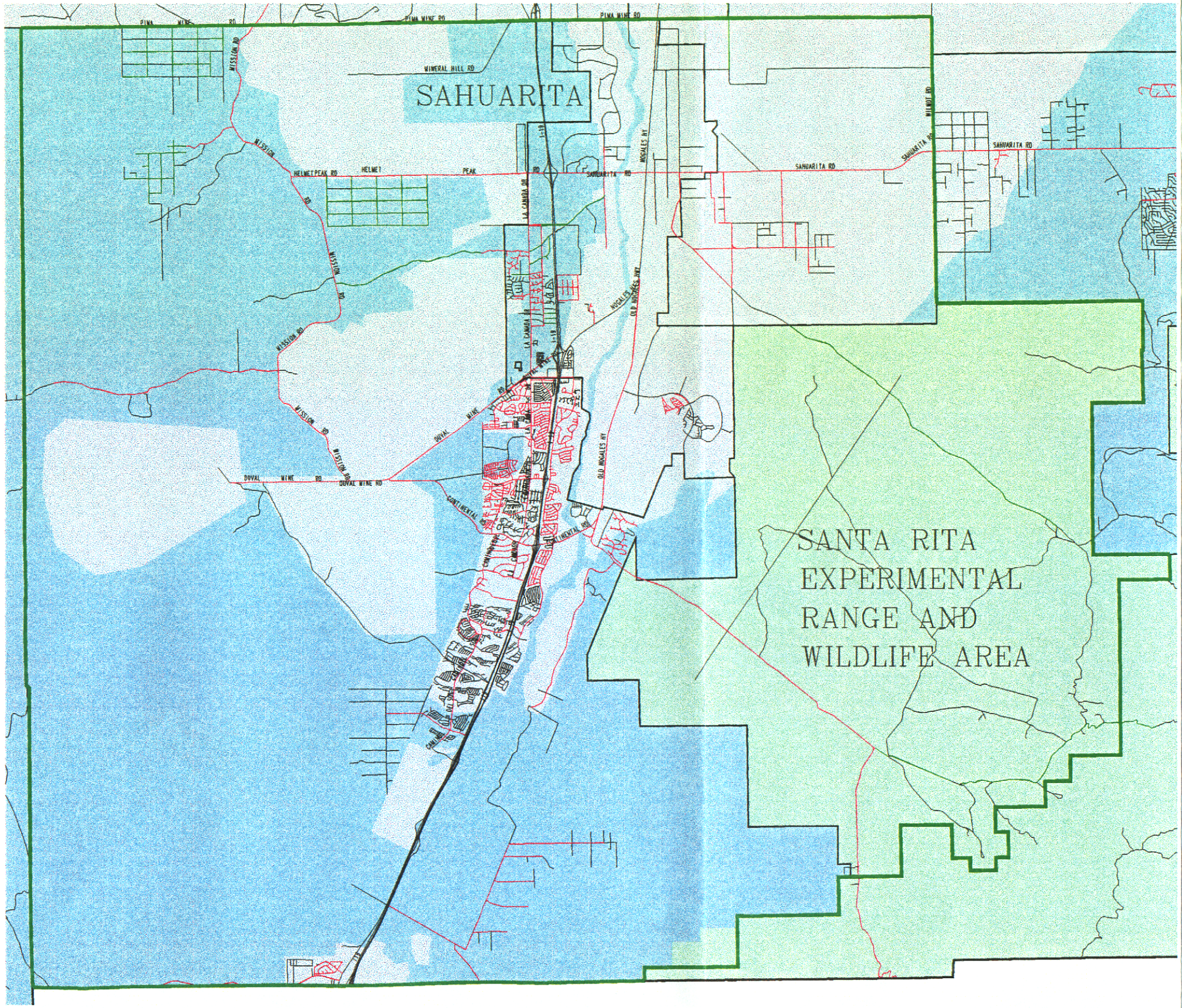
07-AUG-2001

/pygmyow13/cplan/usc/amls/roads_sc2.aml

Pima County Comprehensive Land Use Plan

Upper Santa Cruz Subregion

Biological Reserves



ROADS NOT MAINTAINED BY PIMA COUNTY
Existing Reserves 47.7 Miles
Preliminary Biological Reserves 117.2 Miles
Other 180.0 Miles

ROADS MAINTAINED AS PAVED
Existing Reserves 8.7 Miles
Preliminary Biological Reserves 59.2 Miles
Other 128.3 Miles

ROADS MAINTAINED AS DIRT
Existing Reserves 12.4 Miles
Preliminary Biological Reserves 32.7 Miles
Other 1.6 Miles

Administrative Boundaries

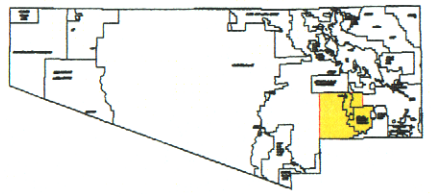
Subregion Extents

Preliminary Biological Reserves

Existing Reserves

Inholdings - Private or Other Ownership

Pima County Index Map



Index Map Scale 1:1,500,000

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N

Scale 1: 42,000

15-MAY-2001

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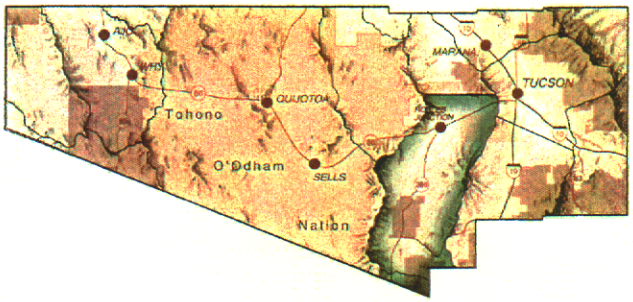
PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

PIMA COUNTY 2001 COMPREHENSIVE PLAN

SOUTHWEST
SUB REGION
TRANSPORTATION SUMMARY

The southwest sub region makes up the southwest-central portion of Pima County including Three Points, Diamond Bell Ranch, San Xavier, Sasabe and Arivaca. This sub region includes southwest metropolitan Tucson and extends from Ajo Highway in the north to Sasabe and the Mexican border in the south. The western limits are the Baboquivari Moutains and the Tohono O'odham Nation and the eastern limit is Green Valley and Santa Cruz County.



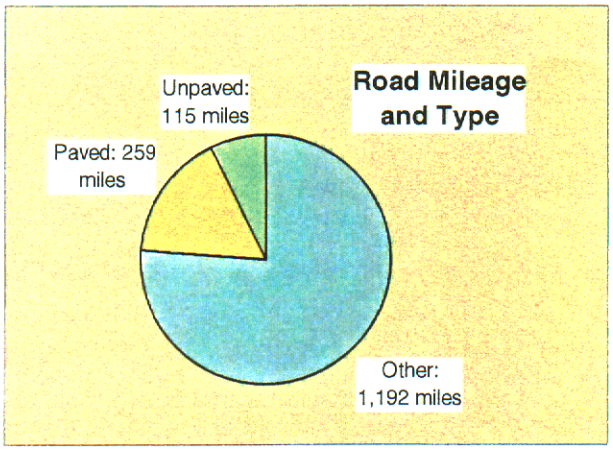
This sub region includes the San Xavier District of the Tohono O'odham Nation, the Pasqua Yaqui Reservation, Altar Valley, the Buenos Aires National Wildlife Refuge and Coronado National Forest lands.

ROADWAYS

Pima County maintains 254 miles of paved roads and 115 miles of dirt roads in this sub region. Most of the roads in this sub region (1,192 miles) are not maintained by Pima County. These include private roads, Forest Service roads, and unimproved public road easements.

With the exception of Interstate 19 and Ajo Highway, the primary roads serving this area are all two-lane arterials. They include Sasabe Road (State Route 286), Arivaca–Sasabe Road, Arivaca Road and Mission Road. In the Three Points area, major roads include Diamond Bell Ranch, Sierrita Mountain Road, Sandario Road and Hermans Road. Major roads that serve the metropolitan portion of this sub region include Kinney, Bopp, San Joaquin, Irvington, Valencia, Wade, Camino Verde, Mark/Joseph, Cardinal, Los Reales, Hermans, Mission, and Old Nogales Highway.

Average daily traffic volumes on selected major streets in this sub region are shown in the table below. These volumes represent the most traveled portions of these roadways in this sub region. Traffic volumes vary on other segments. The most congested roadway in this sub region is Valencia Road east of Mark Road.



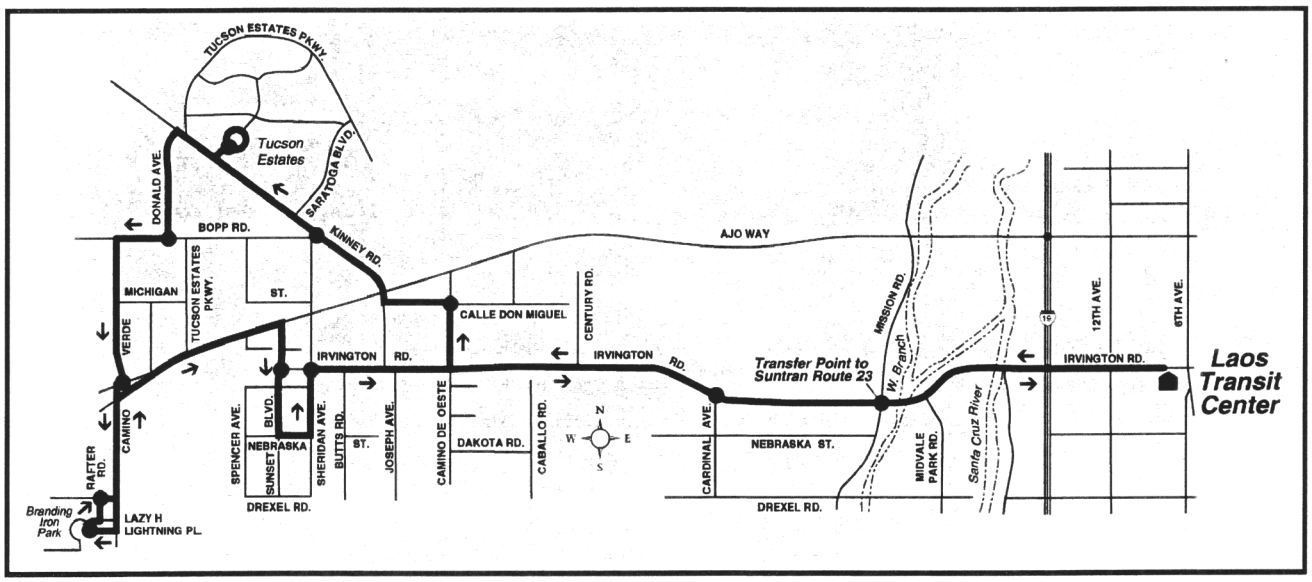
Selected Roadways	Traffic Volumes
Valencia Road	33,100
Ajo Way	27,000
Mission Road	23,500
Kinney Road	12,200
Cardinal Avenue	8,400
Irvington Road	7,500
Bopp Road	5,800
Mark Road	4,000
Sierrita Mountain Road	3,400
Sandario Road	2,200
San Joaquin Road	2,100
San Xavier Road	2,100
Diamond Bell Ranch Rd	500

PUBLIC TRANSIT

Pima County operates three rural transit routes in this sub region, the Tucson Estates, San Xavier and Ajo routes. SunTran also provides service to portions of this sub region. Route 29 provides transit service to the Pasqua Yaqui Pueblo Center south of Valencia on Camino de Oeste. Route 27 circulates from the Laos Transit center along Irvington Road, Drexel Road and Valencia Road as far west as Camino de la Tierra.

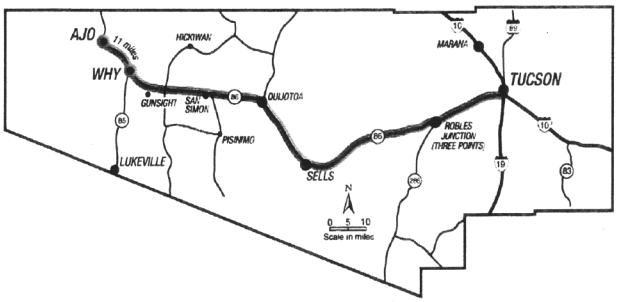
TUCSON ESTATES BUS ROUTE

The Tucson Estates/Irvington Road route provides hourly service Monday through Friday between Tucson Estates and the Laos Transit Center. This route provides access from residential areas west of the Tucson Mountains to shopping areas along Irvington Road and central Tucson. This route makes eight scheduled trips per day with stops at the Branding Iron Park and Smith's Supermarket. One-way fare is $0.50.



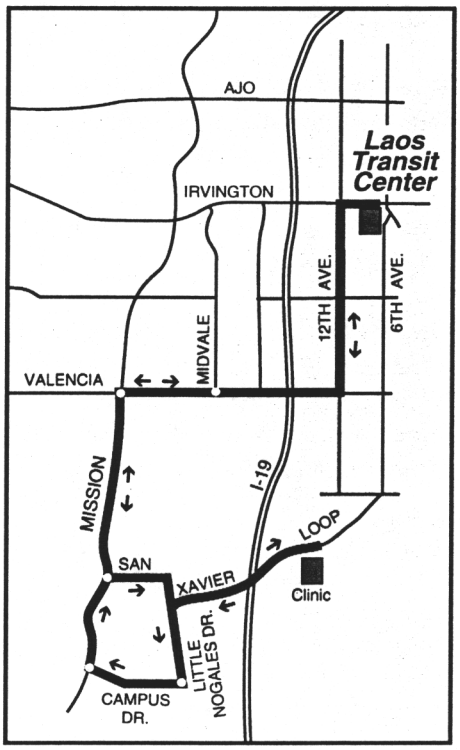
AJO BUS ROUTE

The Ajo route serves the communities of Ajo and Why on State Route 85, traverses the Tohono O'odham Nation on State Route 86, continues to Robles Junction (Three Points) and on into Tucson to the Laos Transit Center. This service operates one round-trip per day on Monday, Wednesday and Friday. The bus leaves Ajo, Arizona at 6:15 am arriving Tucson 9:05 am, and departs Tucson at 3:20 pm, arriving in Ajo at 6:15 pm. One-way fare varies by destination. The maximum fare from Tucson to Ajo is $7.50. This route stops in Robles Junction, Sells, Quijotoa, San Simon, Hickiwan Turnoff, Gunsight Turnoff, Why and Ajo.



SAN XAVIER TRANSIT ROUTE

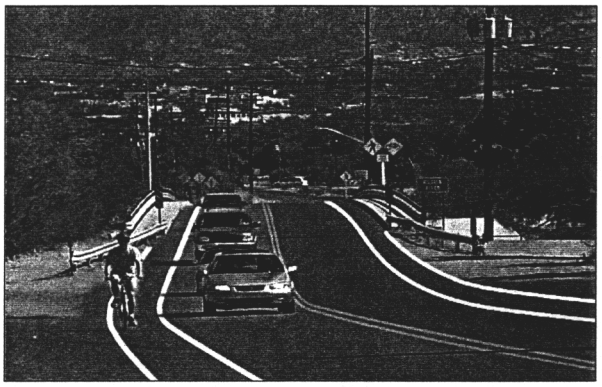
The San Xavier route circulates hourly Monday through Saturday between the San Xavier del Bac Mission and School, Tribal offices, the Health Clinic and the Laos Transit Center. This route follows 12th Avenue, Mission Road, Valencia Roads and San Xavier Loop Road. It operates 10 round trips per day Monday through Friday and 9 round trips on Saturday. One-way fare is $0.50.



AIRPORT

Ryan Airfield is located just north of Ajo Highway approximately 6 miles west of Kinney Road.

BICYCLE



Signed bicycle lanes are provided along Mission Road as far south as Holladay Street and on Valencia Road between Mission Road and Sorrel Lane. Paved roadway shoulders exist on Ajo Way as far west as Sandario Road, on Kinney Road as far north as Tucson Mountain Park and on Irvington Road from Mission Road to Camino de Oeste. Some local streets are appropriate for bicycle travel, but most roads do not have paved shoulders or bicycle lanes.

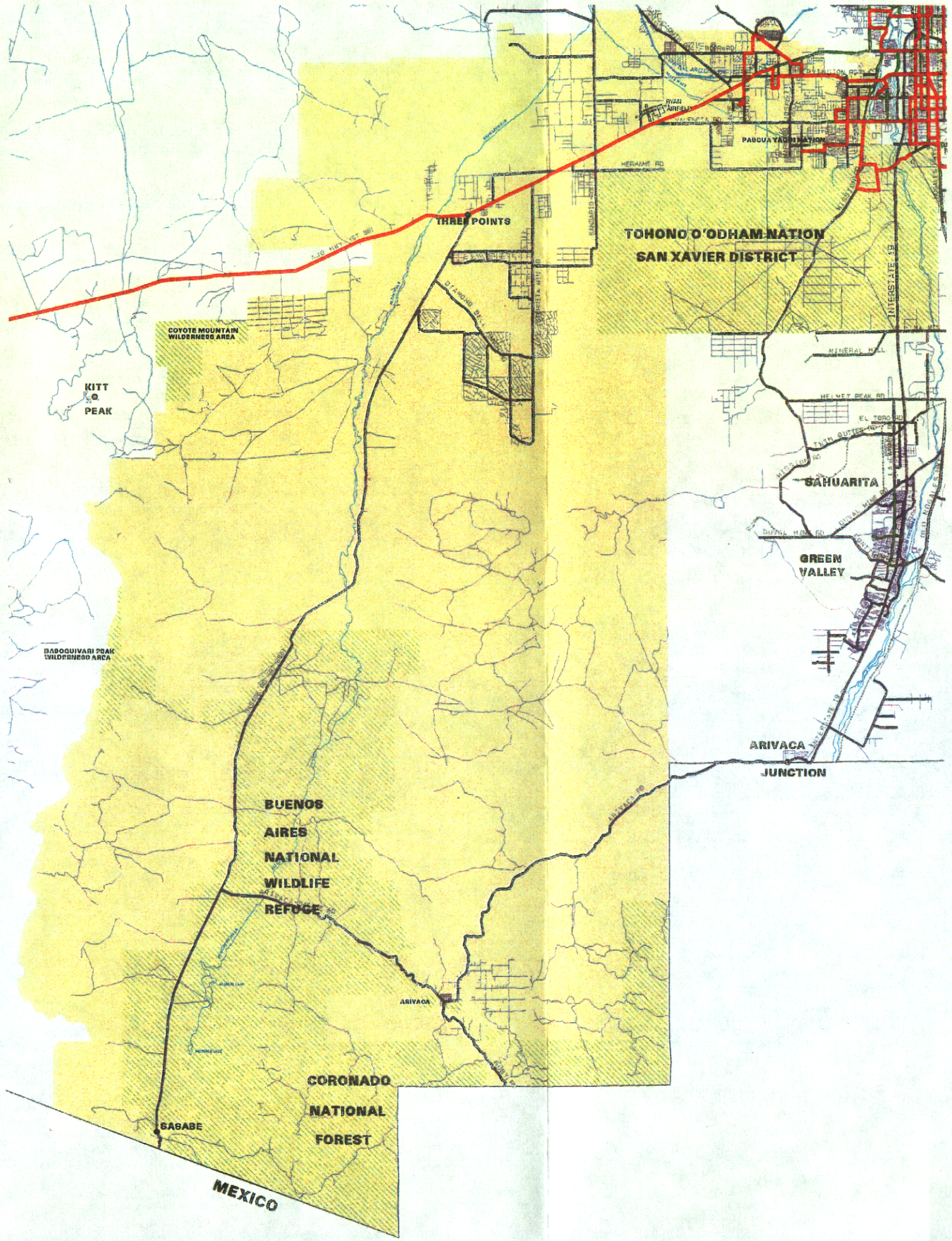
FUTURE PLANNED IMPROVEMENTS

The 1997 Transportation Bond will fund two major capacity projects in this sub region:

- Valencia Road will be widened from Camino de la Tierra to approximately 1 mile west of Mark Road.
- Kinney Road will be widened from Ajo Way to Tucson Estates Parkway. This project will also realign the Bopp Road/Kinney Road intersection to provide for better traffic circulation.
- Other minor safety and drainage improvements are also planned in this sub area.

Pima County Comprehensive Land Use Plan
Southwest Subregion
Transportation System

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION



- Minor Streets
- Major Streets
- Major Washes
- Railroad
- Bike Routes, Paved Shoulders
- Bus Routes
- National Park, National Monument, Mountain Park, State Park, County Park, Tribal Land
- Subregion Extents

Statistics:

Not maintained by Pima County ... 1,192

Maintained by Pima County
Paved 254
Dirt 115

Pima County Index Map

Index Map Scale 1:1,500,000

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N

Scale 1: 100,000

08-AUG-2001

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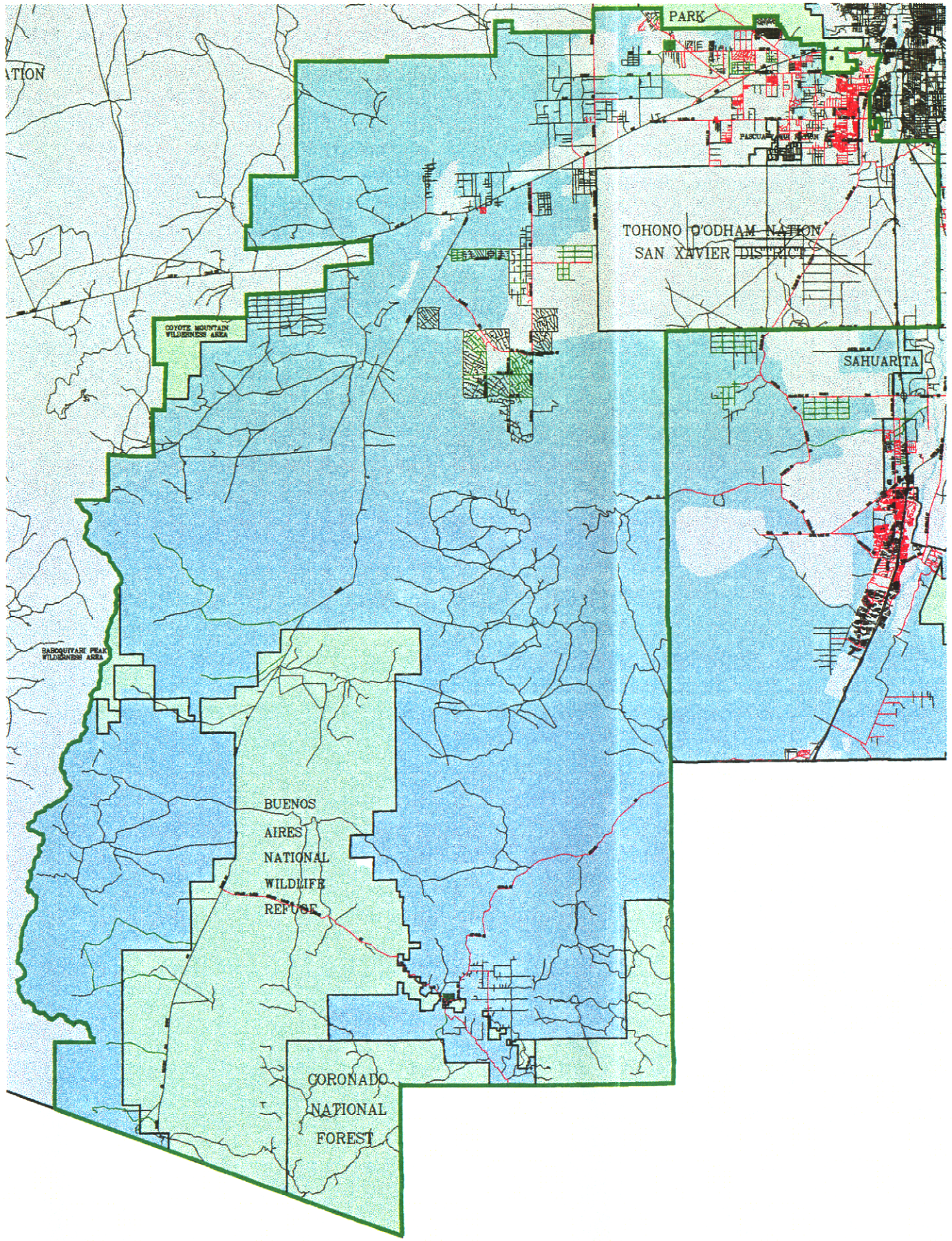
Pima County Comprehensive Land Use Plan

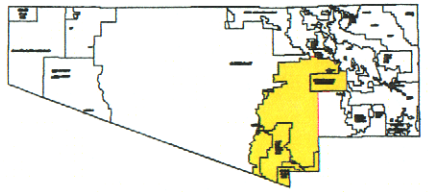
Southwest Subregion

Biological Reserves



- ROADS NOT MAINTAINED BY PIMA COUNTY
  Existing Reserves 166.9 Miles
  Preliminary Biological Reserves 643.2 Miles
  Other 382.2 Miles
- ROADS MAINTAINED AS PAVED
  Existing Reserves 9.1 Miles
  Preliminary Biological Reserves 54.9 Miles
  Other 191.9 Miles
- ROADS MAINTAINED AS DIRT
  Existing Reserves 7.5 Miles
  Preliminary Biological Reserves 65.7 Miles
  Other 42.6 Miles
- Administrative Boundaries
- Subregion Extents
- Preliminary Biological Reserves
- Existing Reserves
- Inholdings - Private or Other Ownership

Pima County Index Map



Index Map Scale 1:1,500,000

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This product is subject to the Department of Transportation Technical Services Division's Use Restriction Agreement.

N

Scale 1: 110,000

14-MAY-2001

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PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

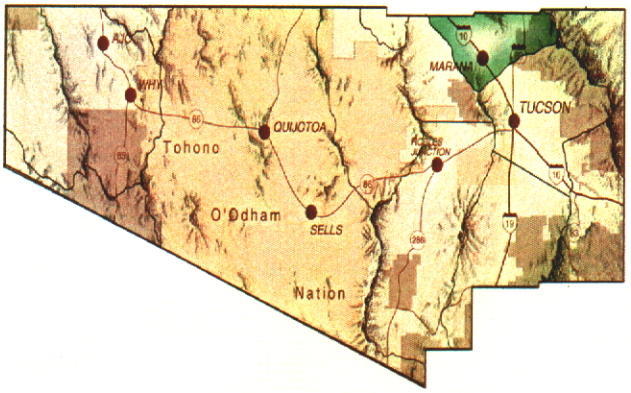
PIMA COUNTY 2001 COMPREHENSIVE PLAN

NORTHWEST

SUB REGION

TRANSPORTATION SUMMARY

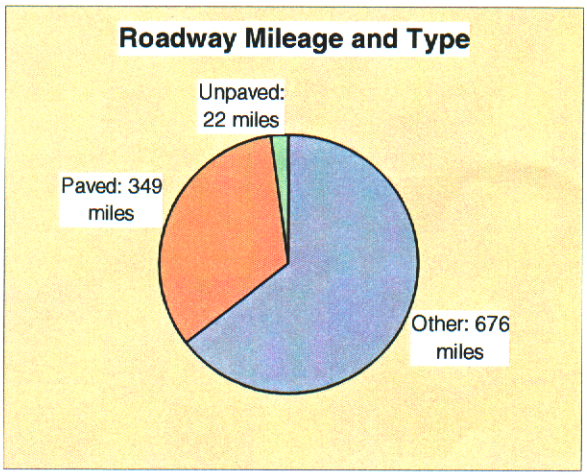
The Northwest sub region makes up the north-central portion of Pima County including the Town of Marana, the Town of Oro Valley, the proposed incorporated area of Tortolita, and the unincorporated communities of Catalina and Casas Adobes. This sub region extends from Silverbell Road and the Interstate 10 corridor on the west to Oracle Road and the Santa Catalina mountains to the east, and from Wetmore Road on the south to Pinal County on the north. This sub region includes the foothills of the Tortolita Mountains, Tortolita Mountain Park, Catalina State Park and the lower slopes of the Pusch Ridge Wilderness.



ROADWAYS

Roadways in the Northwest sub region are primarily two-lane arterial streets, many of which are the most congested in unincorporated Pima County. This is due to rapid growth in recent years that outpaced transportation improvements. As a result, many of the roadway capacity projects approved by voters in the 1997 Transportation Bond Program are located in this sub region

Pima County maintains 349 miles of paved roads and 22 miles of dirt roads in this sub region. Most of the roads in this sub region (676 miles) are not maintained by Pima County. These include private roads, Forest Service roads, and unimproved public road easements



Interstate 10 and Oracle Road provide primary access to this sub region. Other major north-south roads include Silverbell, Camino de Manana, Hartman, Camino De Oeste, Thornydale, Camino de la Tierra, Shannon, Mona Lisa, La Cholla, La Canada and First Avenue. Major east-west roads include Moore, Tangerine, Naranja, Lambert, Linda Vista, Hardy, Overton, Cortaro Farms, Magee, Massingale, Ina, Orange Grove, River, Ruthrauff and Wetmore.

TRAFFIC CONGESTION

Several streets in the Northwest sub region are some of the most congested streets in unincorporated Pima County. Traffic congestion is typically measured by how many seconds a vehicle must sit at an intersection during peak commuting hours. For some intersections, vehicles must wait through several cycles of the traffic signal. One way to compare levels of congestion among several roadways is to divide the existing traffic volumes by the capacity of the roadways. This is shown in the table at right. Average daily traffic volumes and generalized congestion ratios are shown for selected major streets in this sub region. The volumes and congestion ratios listed represent the most traveled portions of these roadways in this sub region. Volumes vary on other segments. The most congested roadways in this sub region are La Cholla, La Canada, and Orange Grove roads. With the exception of Ina Road, the most congested roadways in this sub region will be widened as part of the 1997 Transportation Bond Program.

Selected Roadways	Traffic Volumes	Traffic Congestion
La Cholla	27,400	1.88
La Canada	24,300	1.66
Orange Grove	19,800	1.36
Magee	18,900	1.29
Cortaro Farms	18,400	1.26
Wetmore	18,200	1.25
Ina	38,500	1.21
River	37,700	1.19
Ruthrauff	29,800	0.94
Thornydale	29,100	0.92
Silverbell	12,200	0.84
Camino De Oeste	11,700	0.80
Tangerine	10,800	0.74
Shannon	9,800	0.67
Overton	8,200	0.56
Linda Vista	7,700	0.53
Lambert	6,300	0.43
Camino de la Tierra	6,100	0.42
Hardy	6,000	0.41
Mona Lisa	4,600	0.32

PUBLIC TRANSIT

Pima County and SunTran provide public bus service in this region. The Marana Service Route, operated by A & K Transportation, circulates through residential areas west of Interstate 10, through the Town of Marana, and provides access to commercial and business centers along Ina and Thornydale roads. This route enables transfers to SunTran bus system. SunTran Route 16 provides service north on Oracle Road to Allied Signal in Oro Valley, with branching service west on Ina Road. Route 61 is a new route that will serve La Cholla Boulevard as far north as the Foothills Mall, with circulation on Magee Road and Mona Lisa Road. This route is scheduled to begin service in August 2001. Routes 102 and 103 provide service along Ina Road to downtown Tucson and the University of Arizona. Route 186 provides express service from Ina Road to the AeroPark industrial area near Tucson International Airport. Route 17 provides service along Ruthrauff and Romero roads to Davis, Curtis and Kain roads. Route 10 serves Wetmore Road, Tucson Mall and the Tohono Tadai Transit Center.

AIRPORT

La Cholla Airpark is a private airport located just north of Moore Road just west of Rancho Vistoso.

TRANSPORTATION ISSUES AND OPPORTUNITIES

- Traffic congestion levels in this sub region are some of the highest in unincorporated Pima County, however the most congested roadways will be widened under the 1997 Transportation Bond Program.
- Continued development in this sub region will continue to result in higher traffic volumes.
- Environmental constraints limit future residential development and roadway expansion in some areas of this sub region.
- Because many roadways cross jurisdictional boundaries, costs for improvements must be coordinated.
- Although this sub region has the largest amount of transit service among all the sub regions, many local areas still lack convenient transit access.
- Most roadways in this sub region lack bike lanes.

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

For more information, contact:

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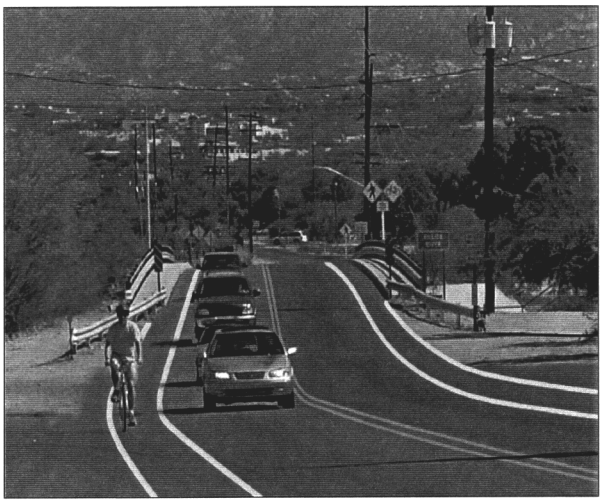
201 N. Stone Avenue, 5th Floor
Tucson, AZ 85701
520-740-6383
jcrowe@dot.co.pima.az.us

BICYCLE

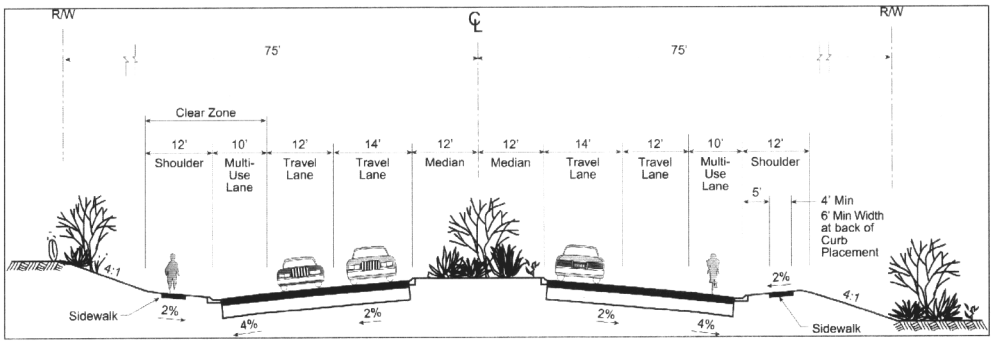


Bike routes exist on Ina Road and portions of La Canada Drive, Chapala, and River Road from Oracle Road to La Cholla Boulevard. Oracle Road has paved shoulders from Orange Grove Road to Tortolita Street in Catalina. In the Town of Marana, there are bike routes on Thornydale Road from Massingale Road to Arthur Pack Park, Cactus Canyon Pass, and Silverbell Road from Cortaro Farms Road to Scenic Drive. In Oro Valley, bike routes exist on Rancho Vistoso Boulevard, Dell Webb Boulevard, La Canada Drive from Lambert Lane to Naranja Drive, Northern Avenue, Paseo Del Norte and Calle Concardia. In Catalina, bike routes exist on Wilds Road and there is a bike path along Oracle Road from Wilds Road to Mainsail Boulevard.

FUTURE PLANNED IMPROVEMENTS

Several major roadway capacity projects were funded by the 1997 Transportation Bond and are currently under construction or design. These include:

- River Road will be extended from La Cholla Boulevard to Thornydale Road.
- Orange Grove Road will be widened from Thornydale Road to Oracle Road.
- La Cholla Boulevard will be widened from I-10 to Magee Road.
- Cortaro Farms Road will be widened from the Union Pacific Rail Line to Thornydale Road.
- Thornydale Road will be widened from River Road to Linda Vista Boulevard.
- La Canada Drive will be widened from Ina Road to Lambert Lane.
- Magee Road will be widened from La Canada Drive to Oracle Road.
- Mainsail Road will be extended across Twenty-seven Wash.
- Shannon Road will be widened from Ina Road to Magee Road.
- Other minor safety and intersection improvements are planned.

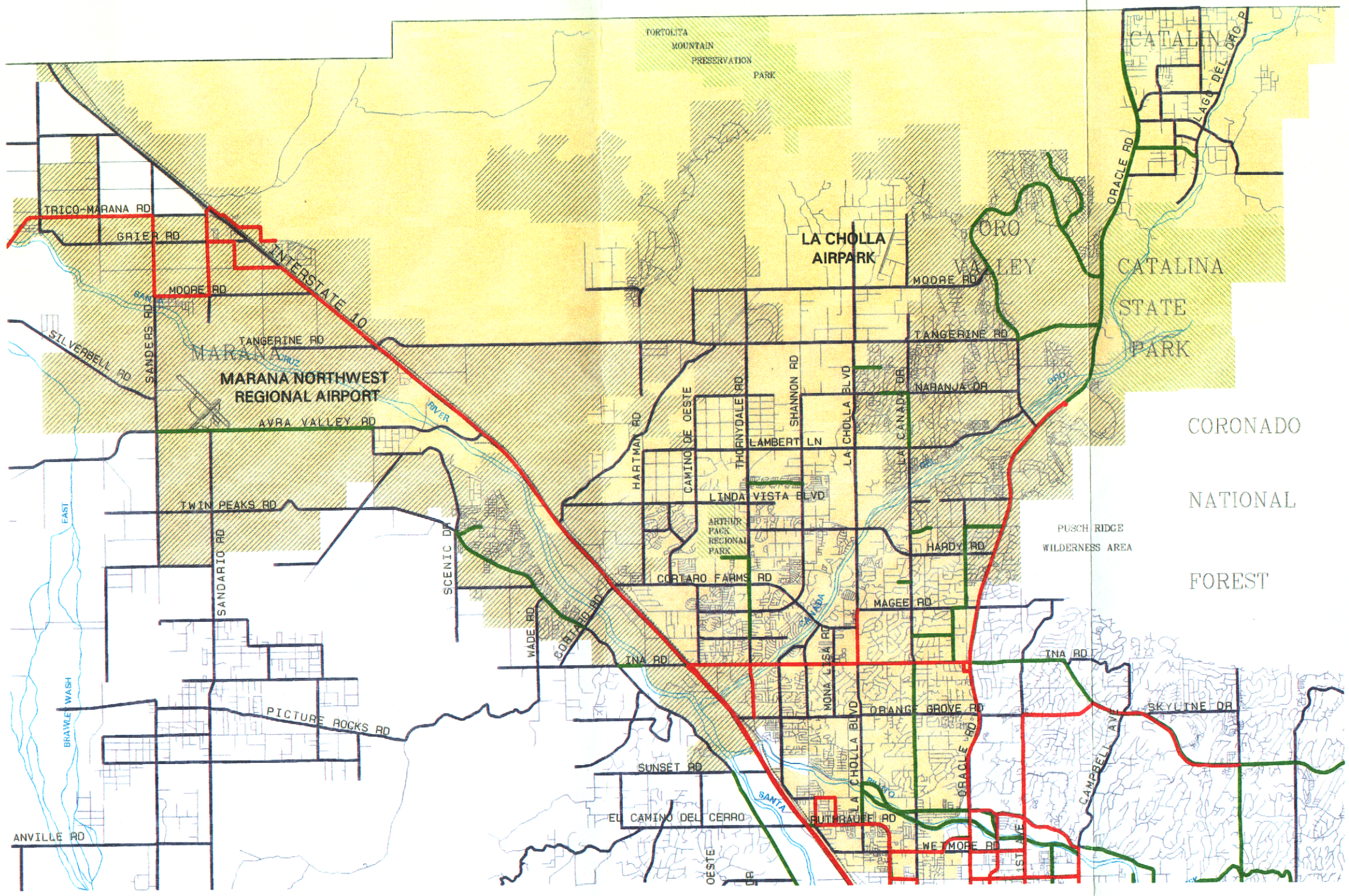


Pima County Comprehensive Land Use Plan

Northwest Subregion

Transportation System

PIMA COUNTY DEPARTMENT OF
TRANSPORTATION



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- Minor Streets
- Major Streets
- Major Washes
- Railroad
- Bike Routes, Paved Shoulders
- Bus Routes
- National Park, National Monument, Mountain Park, State Park, County Park
- Marana, Oro Valley Town Limits
- Subregion Extents

Statistics:

Not maintained by Pima County 676

Maintained by Pima County
Paved 349
Dirt 22

N

Scale 1: 40,000

Pima County Index Map

Index Map Scale 1:2,750,000

07-AUG-2001

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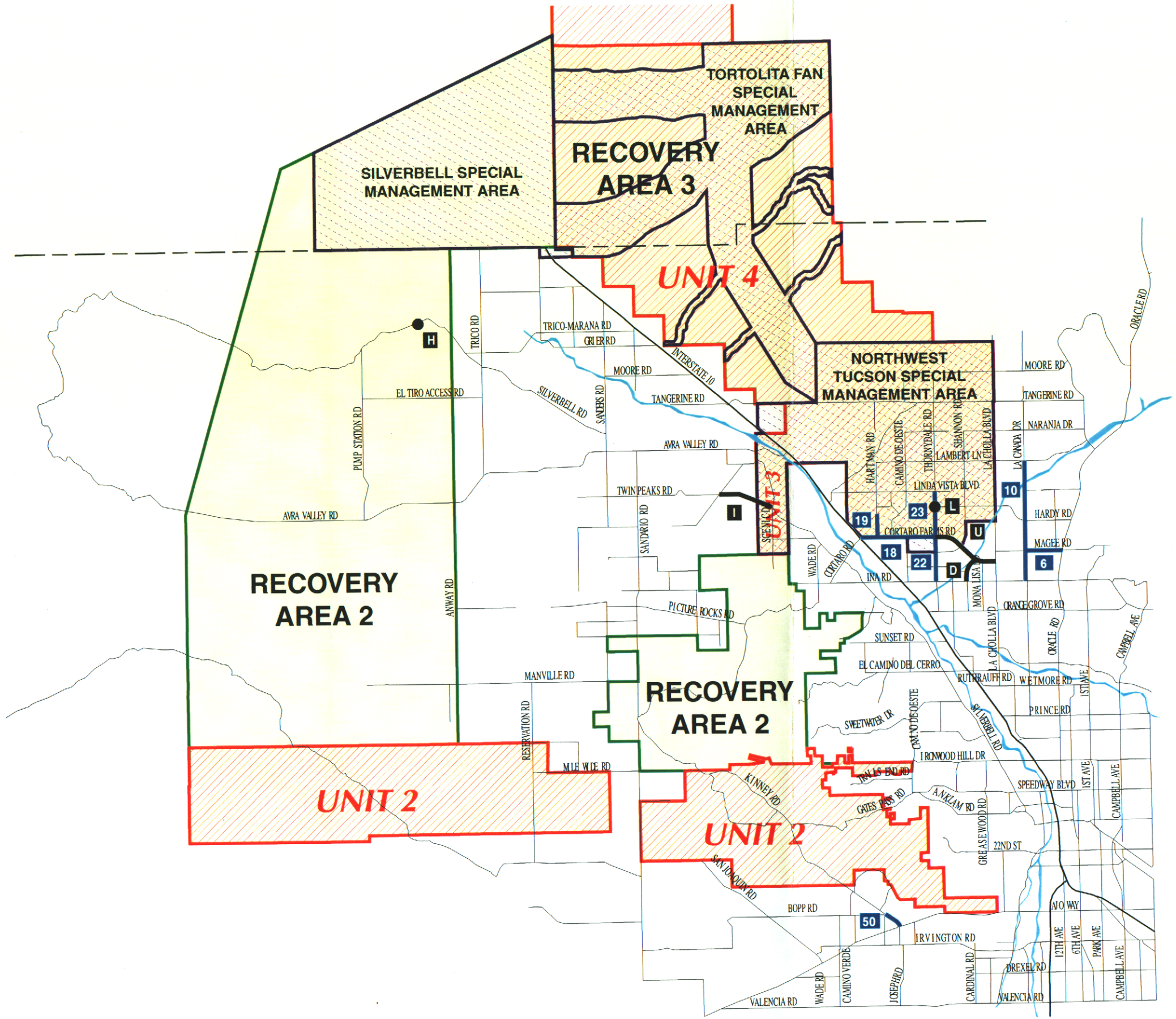
Transportation Projects that fall within Recovery Areas and Designated Critical Habitat



Streets

Recovery Area

FWS Designated Critical Habitat

Special Management Areas

Under Development

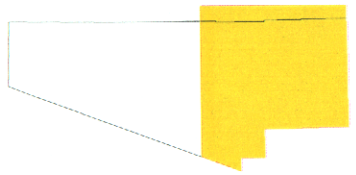
Bond Projects:

DOT-6. Magee Rd.– La Cañada Dr. to Oracle Rd.
DOT-10. La Cañada Dr.– Ina Rd. to Lambert Ln.
DOT-18. Cortaro Farms Rd.– UPRR Crossing to Thornydale Rd.
DOT-19. Hartman Ln.– Cortaro Farms Rd. to north
DOT-22. Thornydale Rd.– Ina Rd. to Cortaro Farms Rd.
DOT-23. Thornydale Rd.– Cortaro Farms Rd. to Linda Vista Blvd.
DOT-50. Kinney Rd.– Ajo Way to Bopp Rd.

Non-Bond Projects:

D. TR-98-058 Shannon Rd.: Ina Rd. to Magee Rd.
H. TR-94-006 Silverbell Rd. at Blanco/Brawley Washes
I. TR-97-041 Twin Peaks: Sidewinder Rd. at Marana Limits
L. TR-98-049 Hardy Rd. and Thornydale Rd.
U. TR-00-006 Magee/Cortaro Farms Rd. – Thornydale to La Canada

Pima County Index Map



Index Map Scale 1:1,500,000

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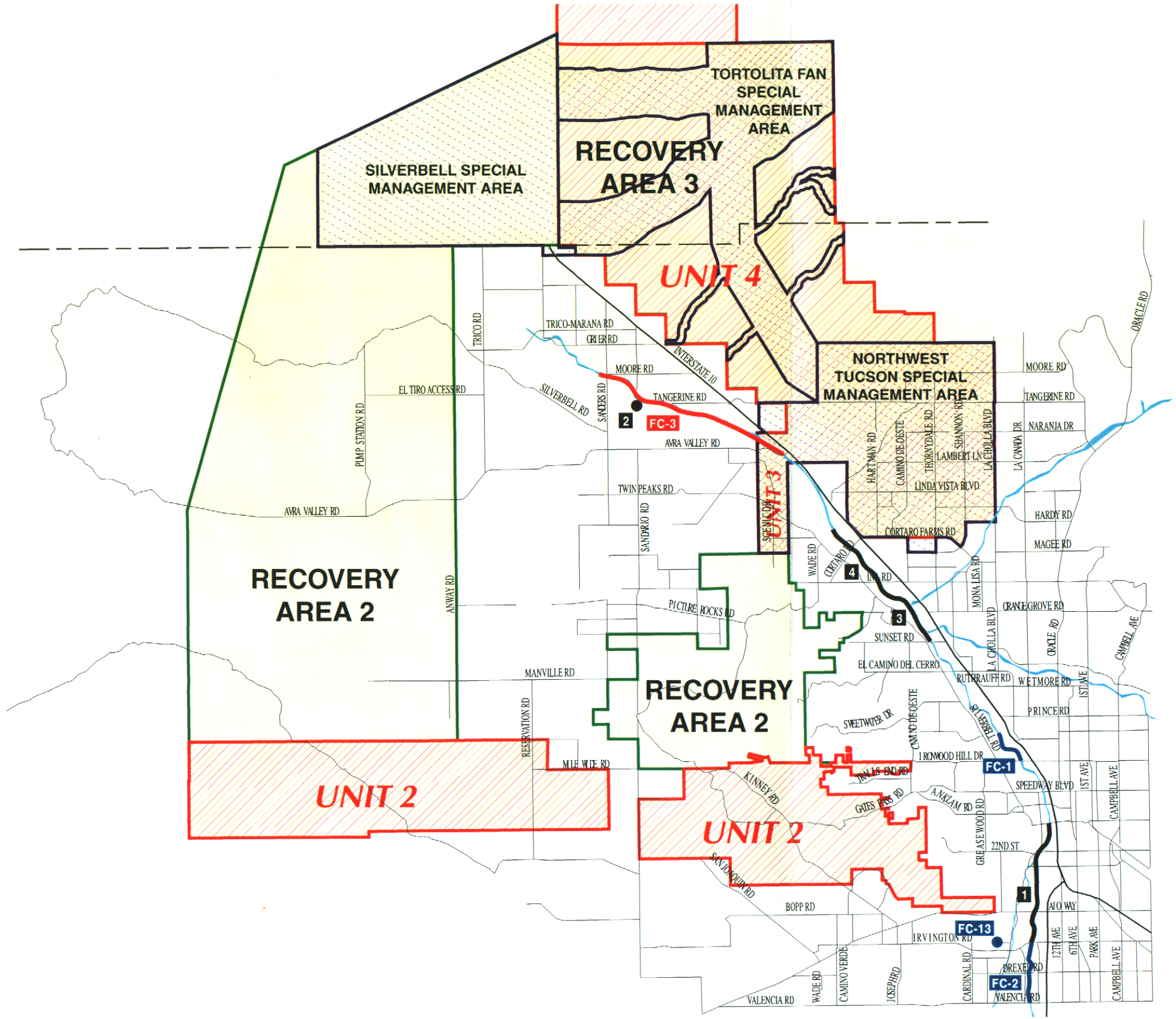
PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES

THE SEAL OF PIMA COUNTY ARIZONA

Pima County Graphic Design 12/00 ep

Flood Control Projects that fall within Recovery Areas and Designated Critical Habitat

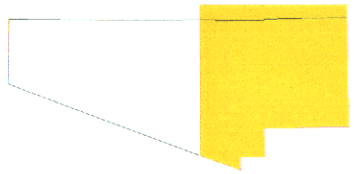


Streets
Recovery Area
FWS Designated Critical Habitat
Special Management Areas
Under Development
Completed

Bond Projects:
FC-1. SCR Bank Stabilization: Grant-Ft. Lowell
FC-2. Santa Cruz River: Valencia to Irvington
FC-3. Lower Santa Cruz Flood Control Levee
FC-13. Holladay/Forrest Drainage Improvements

Non-Bond Projects:
1. FC-98-003 Santa Cruz River Park: Paseo de Las Iglesias Restoration
2. FC-97-003 Northwest Replenishment Project
3. FC-00-003 Tres Rios del Norte
4. FC-00-004 Cortaro Mesquite Bosque

Pima County Index Map



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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES

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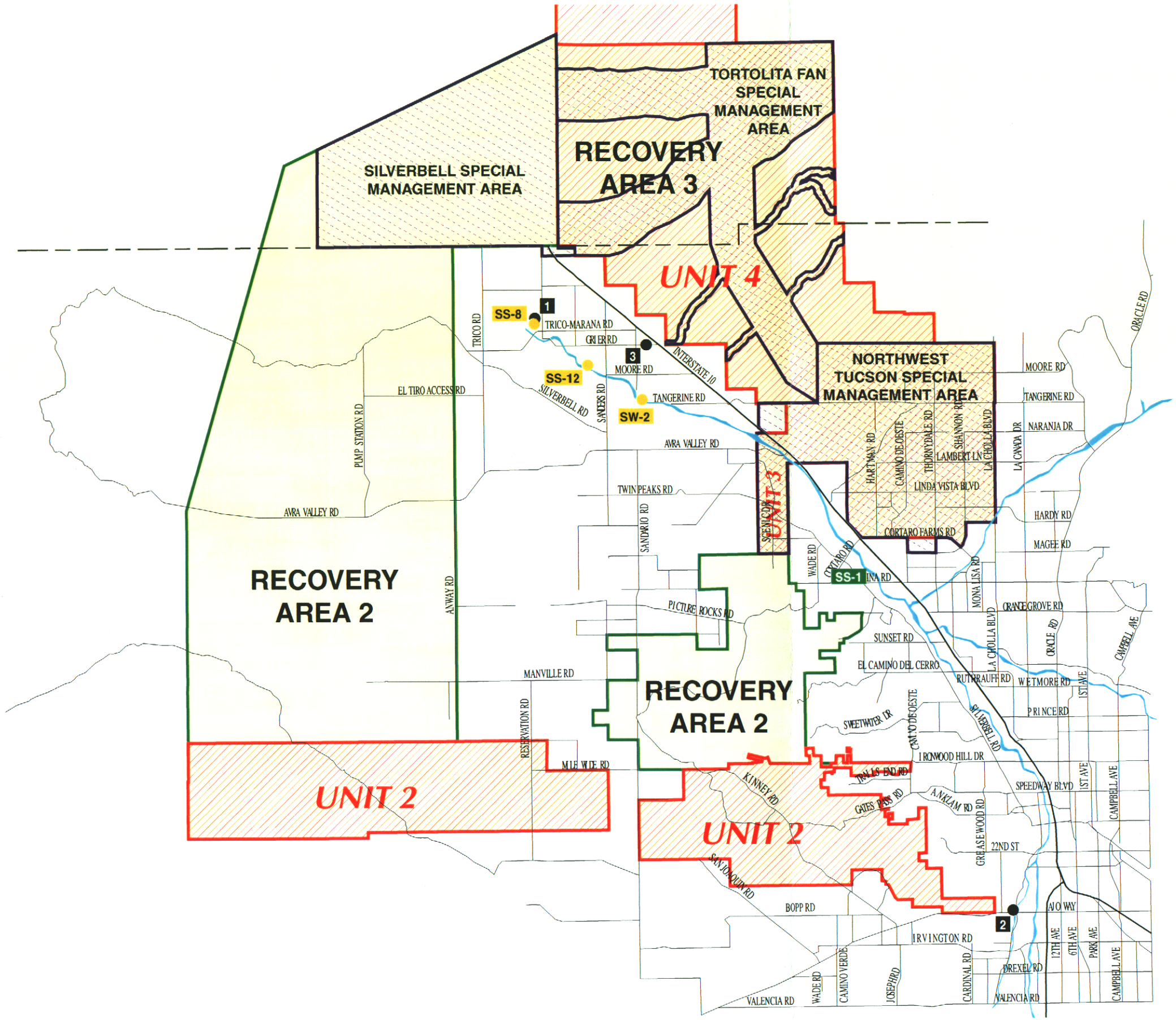
Pima County Graphic Design 12/00 ep

Wastewater and Solid Waste Projects that fall within Recovery Areas and Designated Critical Habitat

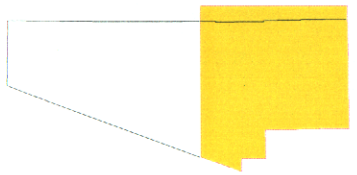


Streets
Recovery Area
FWS Designated Critical Habitat
Special Management Areas
Under Construction
Future

Bond Projects:
SW-2. Tangerine Closure - concurrent with regional landfill
SS-1. Ina Road WPCF Process Change and Expansion
SS-8. Marana WWTF Wastewater Treatment Facility
SS-12. Marana Interceptor

Non-Bond Projects:
1. WL-97-3L1 Marana WWTF Expansion
2. WL-94-5L6 New 8 inch Sewer - W. Branch Santa Cruz River at Guadalajara Wash
3. WL-00-3L1 Marana Colonia/Honea Heights Sewer Redevelopment - I-10 and Grier Rd.

Pima County Index Map



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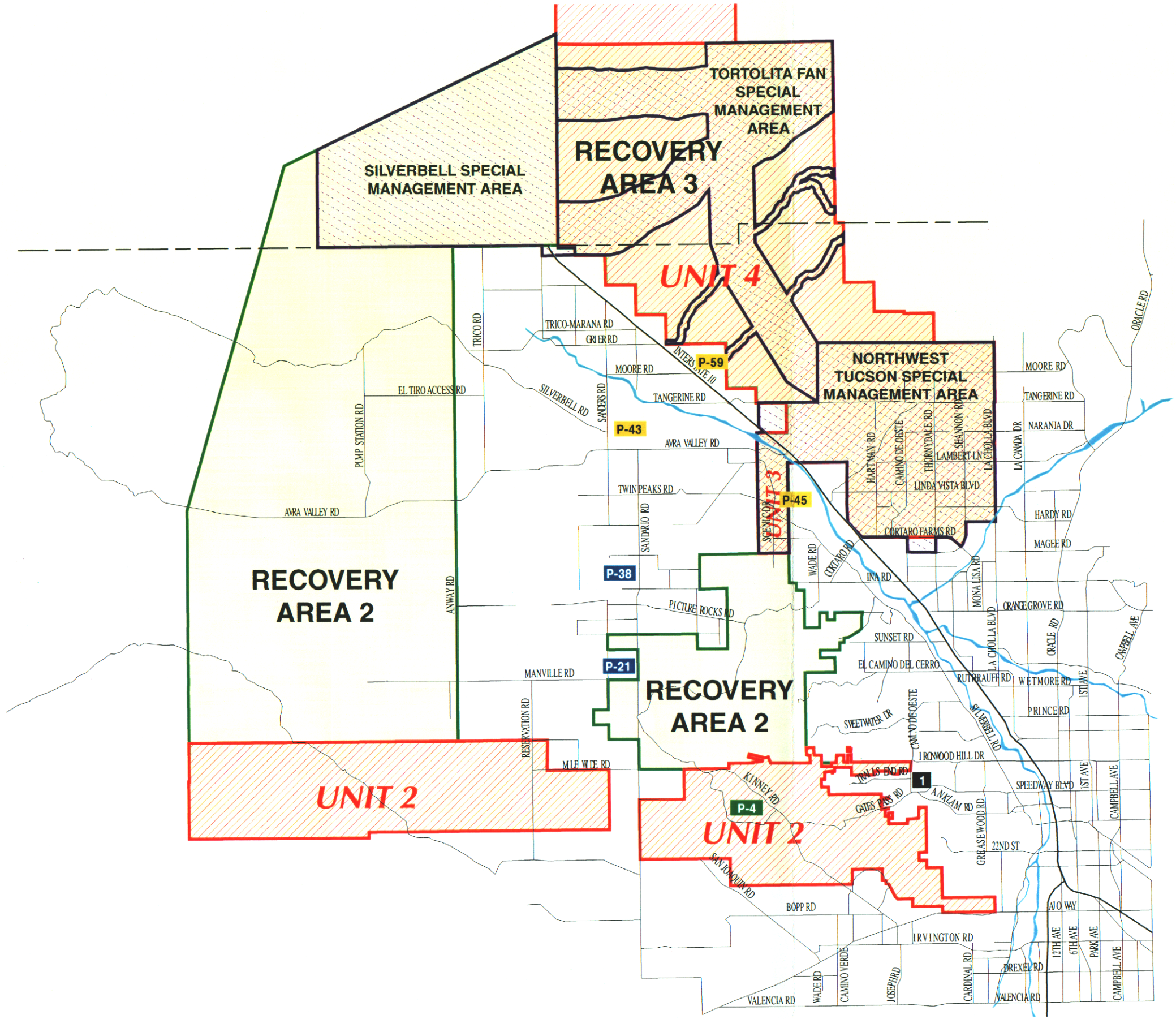
Parks Projects that fall within Recovery Areas and Designated Critical Habitat



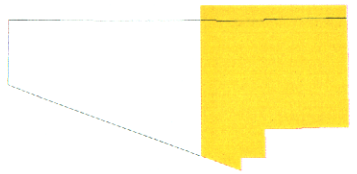
Streets
Recovery Area
FWS Designated Critical Habitat
Special Management Areas
Under Development
Under Construction
Future

Bond Projects:
P-4. Tucson Mountain Park Renovation
P-21. Picture Rocks Park Improvements
P-38. Northwest Pool/Marana and Marana USD
P-43. Roadrunner School/Community Park
P-45. Marana Rattlesnake Park (Continental Ranch)
P-59. Tortolita Shooting Range

NOTE: P-59 on hold due to Pygmy Owl studies

Non-Bond Projects:
1. BOS-98-1 Feliz Paseos Universal Access Park

Pima County Index Map



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PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES

THE SEAL OF PIMA COUNTY ARIZONA

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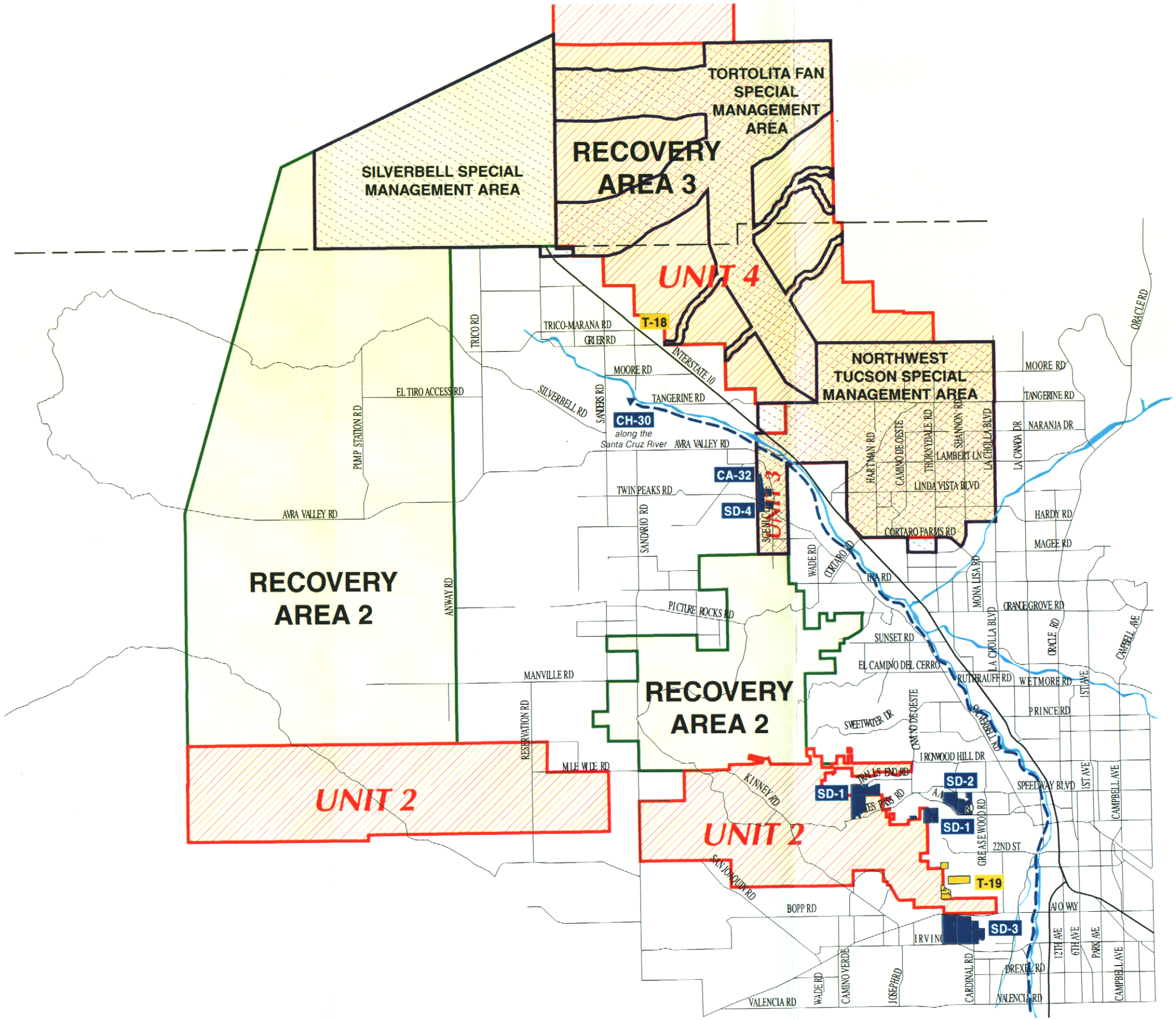
Cultural Resources, Trails and Open Space Projects that fall within Recovery Areas and Designated Critical Habitat

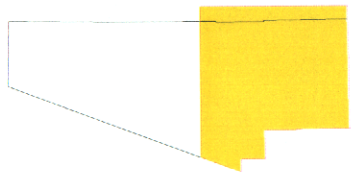


Streets
Recovery Area
FWS Designated Critical Habitat
Special Management Areas
Under Development
Future

Bond Projects:

CA-32	Los Morteros
CH-30	Anza National Trail and Campsites
SD-1.	Tucson Mountain Park - General
SD-2.	Tucson Mountain Park - Painted Hills
SD-3.	Tucson Mountain Park - Robles Pass
SD-4.	Tucson Mountain Park - Los Morteros
T-18.	Central Arizona Project (CAP) Trailhead
T-19.	36th Street Trailhead

Pima County Index Map



Index Map Scale 1:1,500,000

PIMA COUNTY DEPARTMENT OF TRANSPORTATION
TECHNICAL SERVICES

Pima County Graphic Design 12/00 ep

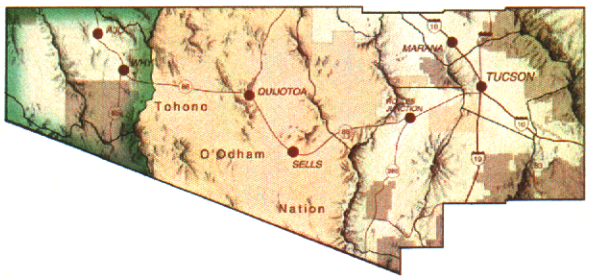
PIMA COUNTY DEPARTMENT OF
TRANSPORTATION

PIMA COUNTY 2001 COMPREHENSIVE PLAN

AJO

SUB REGION

TRANSPORTATION SUMMARY



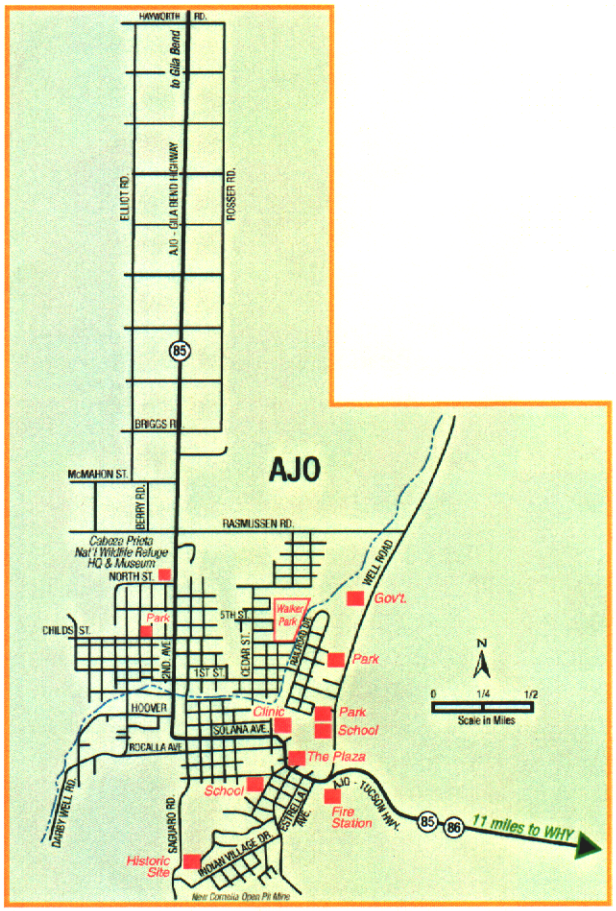
The Ajo sub region makes up the westernmost portion of Pima County including the communities of Ajo, Why, Lukeville and Organ Pipe National Monument. This sub region is bordered to the north by Maricopa County, to the west by Yuma County, to the south by Mexico, and to the east by the Tohono O'odham Nation.

ROADWAYS

The primary roads serving this sub region are state routes: Ajo-Tucson Highway (SR 86) and Ajo-Gila Bend Highway (SR 85). In central Ajo, the Ajo-Tucson Highway becomes North Taladro Street, North Pizal Street, North Yermo Street, and West Solana Avenue. The Ajo-Gila Bend Highway becomes North Second Avenue before turning east and becoming West Solana Avenue.

Other major streets in the community of Ajo include North Well No. 1 Road, which serves the Ajo Municipal Airport, and Rasmussen Road that is located approximately 1 mile north of downtown Ajo. Rocalla Avenue becomes Alley Road, which circles around the New Cornelia Mine to the south and west of town.

Pima County maintains 50 miles of roads in the vicinity of Ajo and Why, of which 44 miles are paved. The majority of roads in this vicinity (246 miles) are not maintained by Pima County. These include private roads and unimproved public road easements.



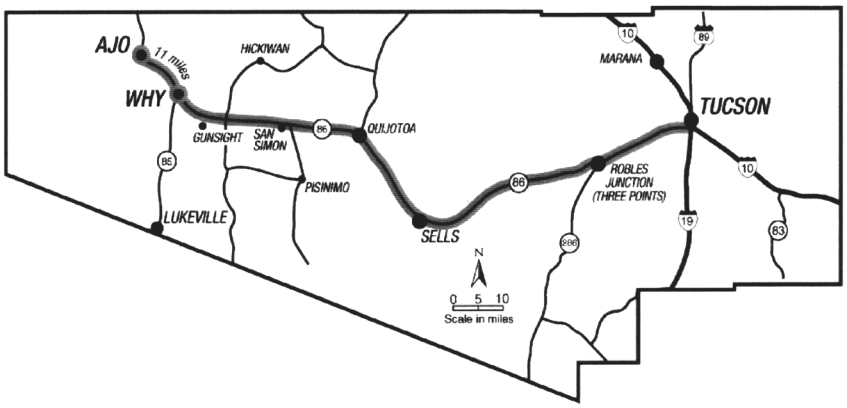
AIRPORT

The Ajo Municipal Airport is located approximately five miles north of downtown Ajo on North Well No. 1 Road.

PUBLIC TRANSIT

AJO-TUCSON SERVICE

Pima County Rural Transit provides service to and from the communities of Ajo, Why and Tucson. The Ajo route traverses the Tohono O'odham Nation on State Route 86, continues to Robles Junction (Three Points) and on into Tucson to the Laos Transit Center. This service operates one round-trip per day on Monday, Wednesday and Friday. The bus leaves Ajo, Arizona at 6:15 am arriving Tucson 9:05 am, and departs Tucson at 3:20 pm, arriving in Ajo at 6:15 pm. One-way fare varies by destination. The maximum fare from Tucson to Ajo is $7.50. This route stops in Robles Junction, Sells, Quijotoa, San Simon, Hickiwan Turnoff, Gunsight Turnoff, Why and Ajo.

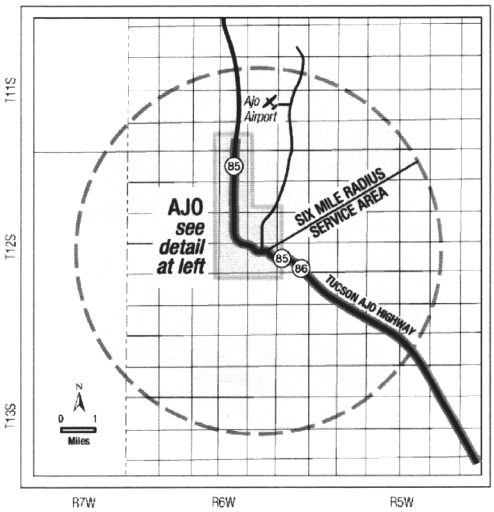


AJO-PHOENIX SERVICE

Pima County Rural Transit provides public service between Ajo, Gila Bend and Phoenix, with stops in Buckeye and Avondale. This service operates three round-trips Monday-Friday and two round-trips on Saturday. One-way fare is $7.00 from Ajo to Phoenix.

AJO DIAL-A-RIDE SERVICE

The Ajo Dial-a-Ride van provides demand-responsive, "first come, first served" public transit in the community of Ajo. The service area, shown at right, extends six miles from the Ajo Plaza. This service operates five days a week, Monday through Friday, from 8:00 a.m. until 5 p.m. This service uses a 15-passenger handicapped-accessible van. The one-way fare for this service is $0.75.



For more information, contact:
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Pima County Department of Transportation
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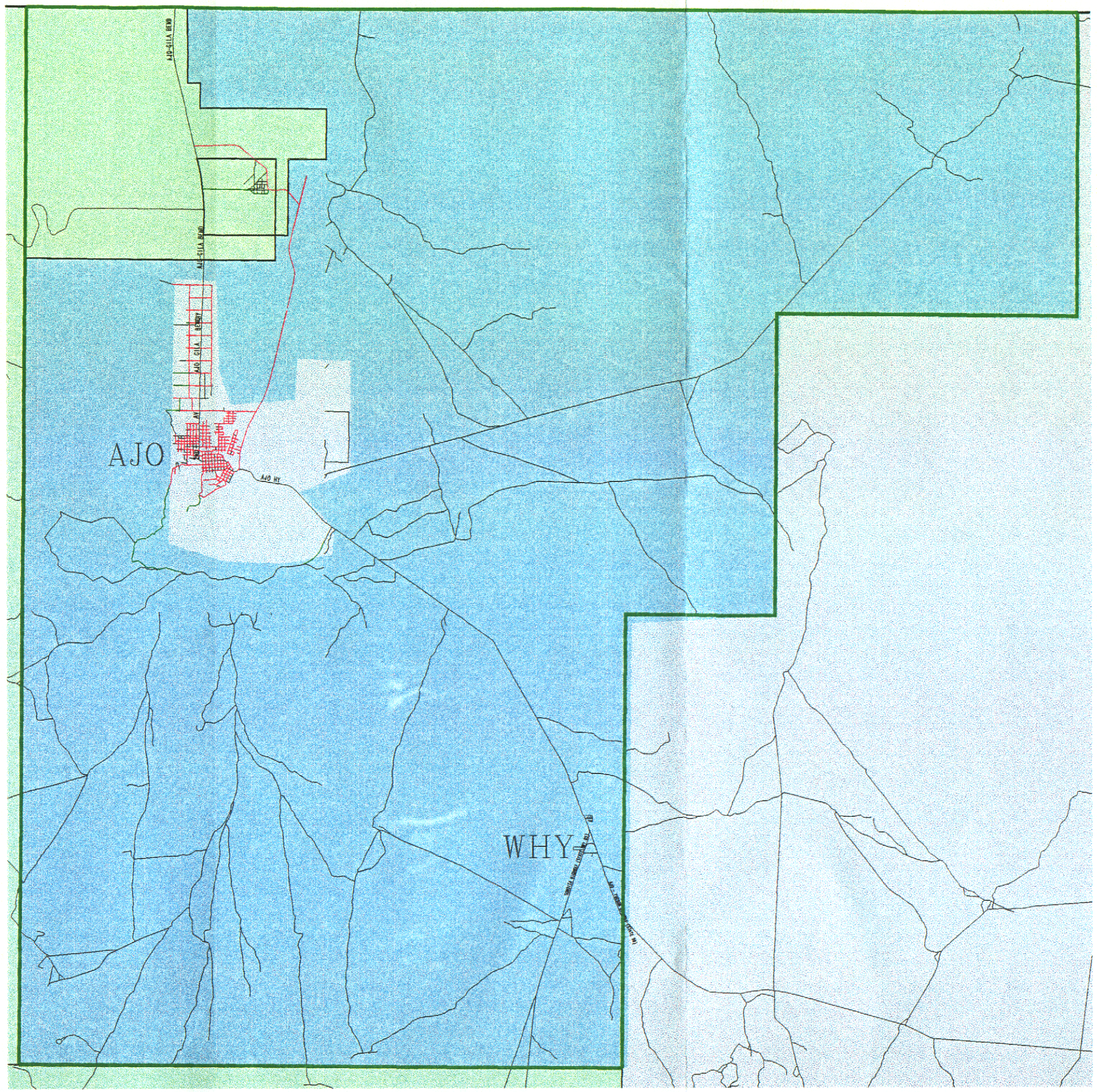
Tucson, AZ 85701
520-740-6383
jcrowe@dot.co.pima.az.us

Pima County Comprehensive Land Use Plan

Ajo/Why Subregion

Biological Reserves



ROADS NOT MAINTAINED BY PIMA COUNTY
Existing Reserves 10.1 Miles
Preliminary Biological Reserves 219.2 Miles
Other 17.0 Miles

ROADS MAINTAINED AS PAVED
Existing Reserves 1.5 Miles
Preliminary Biological Reserves 5.9 Miles
Other 37.5 Miles

ROADS MAINTAINED AS DIRT
Existing Reserves 0.0 Miles
Preliminary Biological Reserves 4.8 Miles
Other 2.0 Miles

Administrative Boundaries

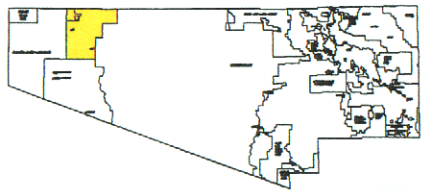
Subregion Extents

Preliminary Biological Reserves

Existing Reserves

Inholdings - Private or Other Ownership

Pima County Index Map



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Scale 1: 42,000

14-MAY-2001

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