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Town of Sahuarita, Arizona  
Small Area Transportation Study

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*Final Report  
(Amended)*



Prepared for:

Town of Sahuarita, AZ  
Arizona Department of Transportation

Prepared by:



Curtis Lueck & Associates  
5780 West El Camino del Cerro  
Tucson, AZ 85745

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September 1999

CLA Project # 99102

## NOTICE

This study has been prepared using available traffic data and forecasts, as well as field data collected specifically for this study. It is intended for use in making a determination regarding the transportation infrastructure needs of the study area. It is not intended for use as a design document, nor does it represent a standard or specification. The document is copyrighted by the Town of Sahuarita and Curtis Lueck & Associates, 5780 West El Camino del Cerro, Tucson, AZ 85745, telephone 520-743-874. All rights are reserved pursuant to United States copyright law. The document may not be reproduced digitally or mechanically, in whole or in part, without the prior written approval of CLA or the Town of Sahuarita, Arizona. Limited quotations may be made, for technical purposes only, as long as proper citation to the authors is provided.

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## **Acronyms and Abbreviations**

ADOT	Arizona Department of Transportation
ADT	Average Daily Traffic
CBD	Central business district
CIP	Capital Improvement Program
CLA	Curtis Lueck & Associates
CLT	Continuous Left Turn Lane
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
GVCC	Green Valley Coordinating Council
HELP	Highway Expansion and Extension Loan Program
HURF	Highway User Revenue Fund
ISTEA	Intermodal Surface Transportation Efficiency Act
LOS	Level of Service
LTAf	Local Transportation Assistance Fund
NHS	National Highway System
PAG	Pima Association of Governments
QRSII	Quick Response System, Version 2
ROW	Right-of-way
RR	Railroad
SR	State Route
SATS	Small Area Transportation Study
STIP	State Transportation Improvement Program
STP	State Transportation Plan, <i>also</i> Surface Transportation Program
TE	Transportation Enhancement
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TI	Traffic interchange
TOS	Town of Sahuarita
VPD	Vehicles per day

## 1. Introduction

### Project Purposes

The purpose of this Small Area Transportation Study is to evaluate the transportation system requirements for Sahuarita, Arizona. The primary goals of the study are to define the current circulation system, evaluate its performance, forecast future needs, and prepare a plan for fulfilling the identified needs. The study is prepared for the Town of Sahuarita, pursuant to an intergovernmental agreement with the Arizona Department of Transportation through the auspices of ADOT's small area transportation studies program.

The Town of Sahuarita General Plan was adopted in November 1996 to guide development within the town and its sphere of influence. The circulation element contained in the General Plan identifies specific objectives for consideration in the planning and development process. They are:

- Establish responsibility and fair share pay back standards for the installation and maintenance of roads and streets,
- Ensure sufficient right-of-way for future expansion of roadways,
- Provide alternative modes of transportation and ensure access to local and regional trails,
- Establish an alternative location for the Sahuarita Corridor,<sup>1</sup>
- Establish scenic routes throughout the community.<sup>2</sup>

These objectives have been used as a guide to address the future transportation needs of the Town to the year 2020.

### Community Overview

The Town is located in the historic Santa Cruz Valley, in Pima County. It incorporated in September 1994, and is one of Arizona's newest jurisdictions. The Town has an area of about eleven square miles and is bordered on the north by the San Xavier Indian Reservation, on the south by the unincorporated community of Green Valley, on the west by copper mining operations, and on the east by the Santa Cruz River.

Sahuarita has a current population of about 2,500 residents and is expected to grow to over 10,000 by 2020.<sup>3</sup> The majority of employed residents work in Tucson or Green Valley. Major employers in and around Sahuarita include two mines, the Sahuarita School District, the Wal-Mart/Bashas retail center, Farmers Investment Company, and the home-building industry in Green Valley.

The town is in a semi-rural setting and is comprised mostly of low- to medium-density housing. Two hundred apartment units are being constructed near the Town's commercial center, located along Duval Mine Road. Two major retail centers provide consumer services to the residents of Sahuarita and attract Green Valley residents.

The Town is poised for growth. New businesses are being developed along Duval Mine Road, and construction has begun on the first phase of Rancho Sahuarita, a 2800-acre master planned community that will be the future home to 20,000 residents. The town has

<sup>1</sup> ADOT is addressing this in a separate study, which is an update of the 1990 Environmental Assessment of the Sahuarita Corridor.

<sup>2</sup> This activity will be undertaken separately by the Town of Sahuarita

<sup>3</sup> Source: Arizona Department of Economic Security, 1999

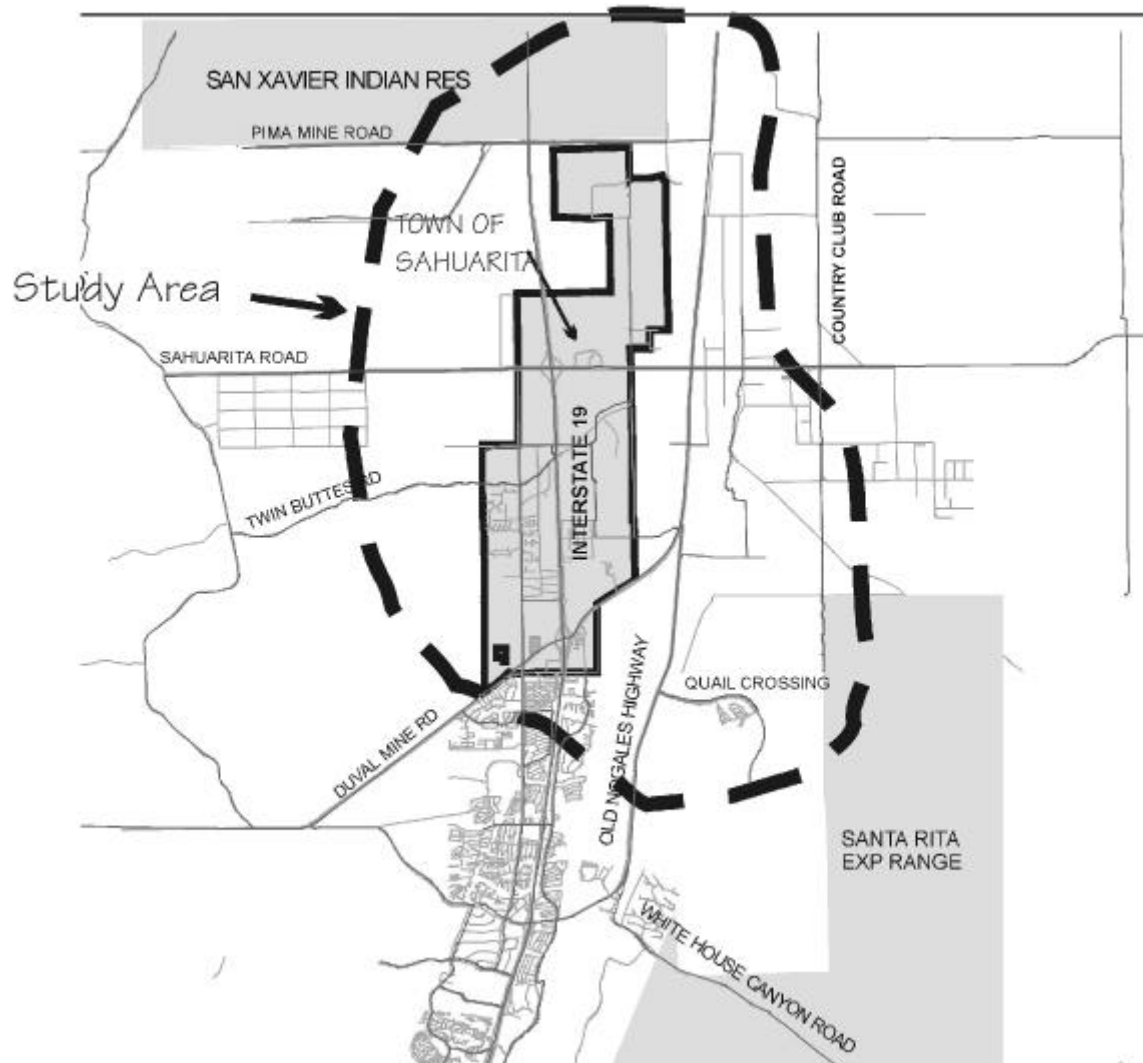
also recently annexed two square miles south of Duval Mine Road along Old Nogales Highway and plans are being developed for another master planned community -- Madera Highlands-- in this area.

Green Valley, directly south of the town limits is a retirement community with a population of 25,000 residents, many of whom are part-time (winter) residents. The community provides employment and consumer services to the residents of Sahuarita. The interaction between these two communities is important to the existing and future transportation system. Green Valley is in unincorporated Pima County.

## Study Area

The study area includes the current Town limits, its sphere of influence as defined by the General Plan, and the newly annexed section located in the southeastern area of the town. The study area is illustrated below in Exhibit 1.

**Exhibit 1 Study Area**



## 2. Current Conditions

### Land Use

The Town of Sahuarita currently contains about 8100 acres, of which about 75 percent are vacant or undeveloped. About 15 percent of the property within the town limits is residential development, about seven percent is commercial/industrial, and the remaining three percent is government-owned property. Property surrounding the Town within the study area is largely agricultural and mining property with the exception of Green Valley to the south. The existing land uses surrounding the town are shown in Exhibit 2, on the following page.

Existing residential development in the Town is mostly low- to medium- density. Two hundred apartment units are being constructed in The Quorum near the town's south boundary. Major commercial development within the Town limits includes the Wal-Mart/Bashas shopping center that also contains several small retail shops and restaurants and the Quorum that contains a motel, restaurants, a bowling center, an automobile dealership, and miscellaneous retail establishments to serve local residents and attract I-19 traffic. A retail center located in the northwest quadrant of the Duval Mine/I-19 traffic interchange has been vacant for several years and is now being planned for new commercial uses, including a theater. Existing land uses within the town limits are shown in Exhibit 3.

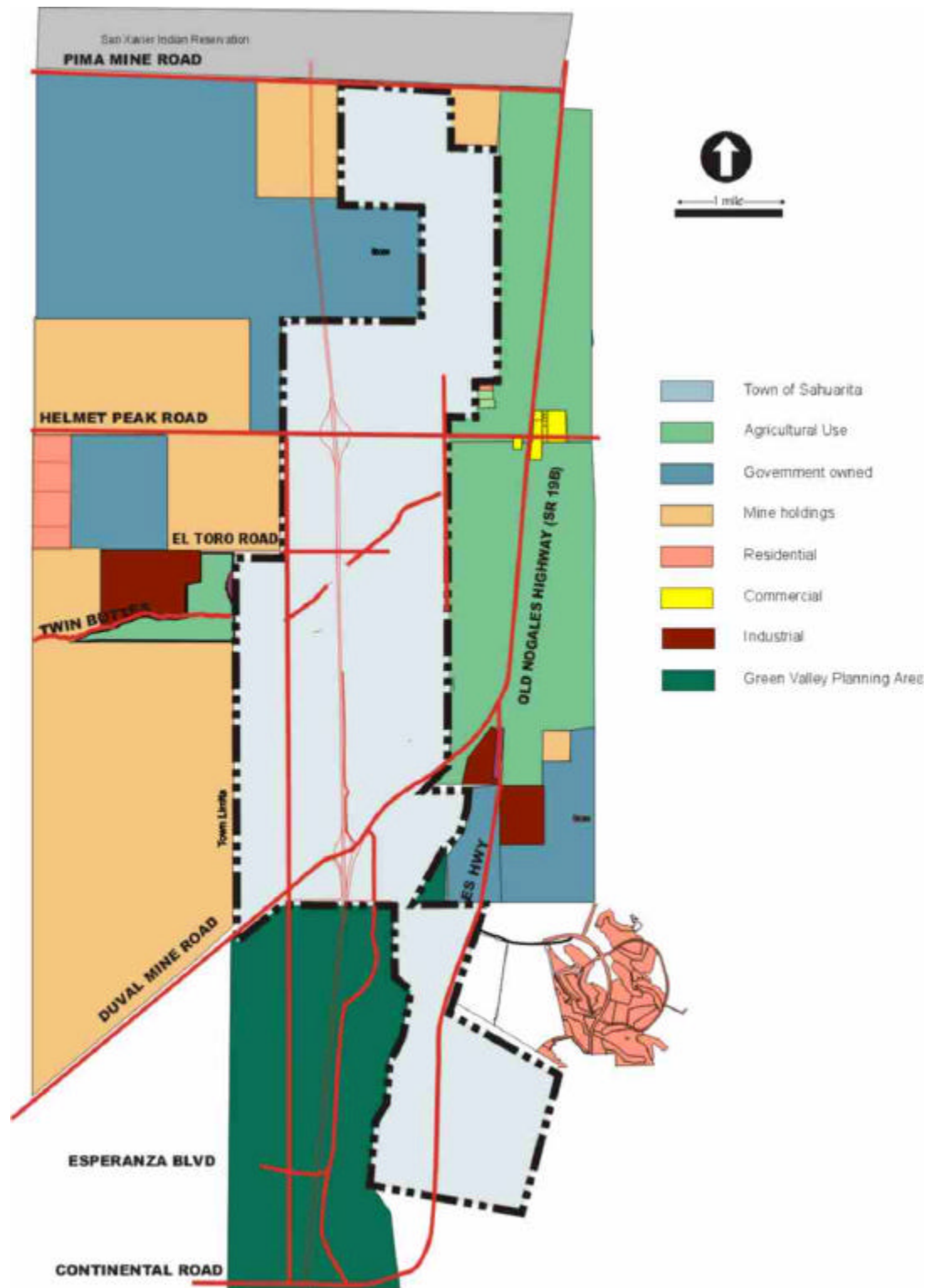
### Existing Roadways

The roadways reviewed in this study include state highways, Interstate 19, Pima County roads, and Town of Sahuarita roads that are shown on the circulation plan contained in the General Plan. The existing transportation system within the study area is illustrated in Exhibit 4. Exhibit 5 provides an inventory of these roadways including the physical characteristics, average daily traffic (ADT), and level of service for each segment. The functional classification, as contained in the General Plan, circulation plan is also provided in the table. Recommendations for reclassification of certain roads are included in the table.<sup>4</sup> Following Exhibit 5 is a brief description of the roadways.

<sup>4</sup> These recommendations are based on the findings discussed later in this study.



## Exhibit 2 Existing Land Use Surrounding the Study Area

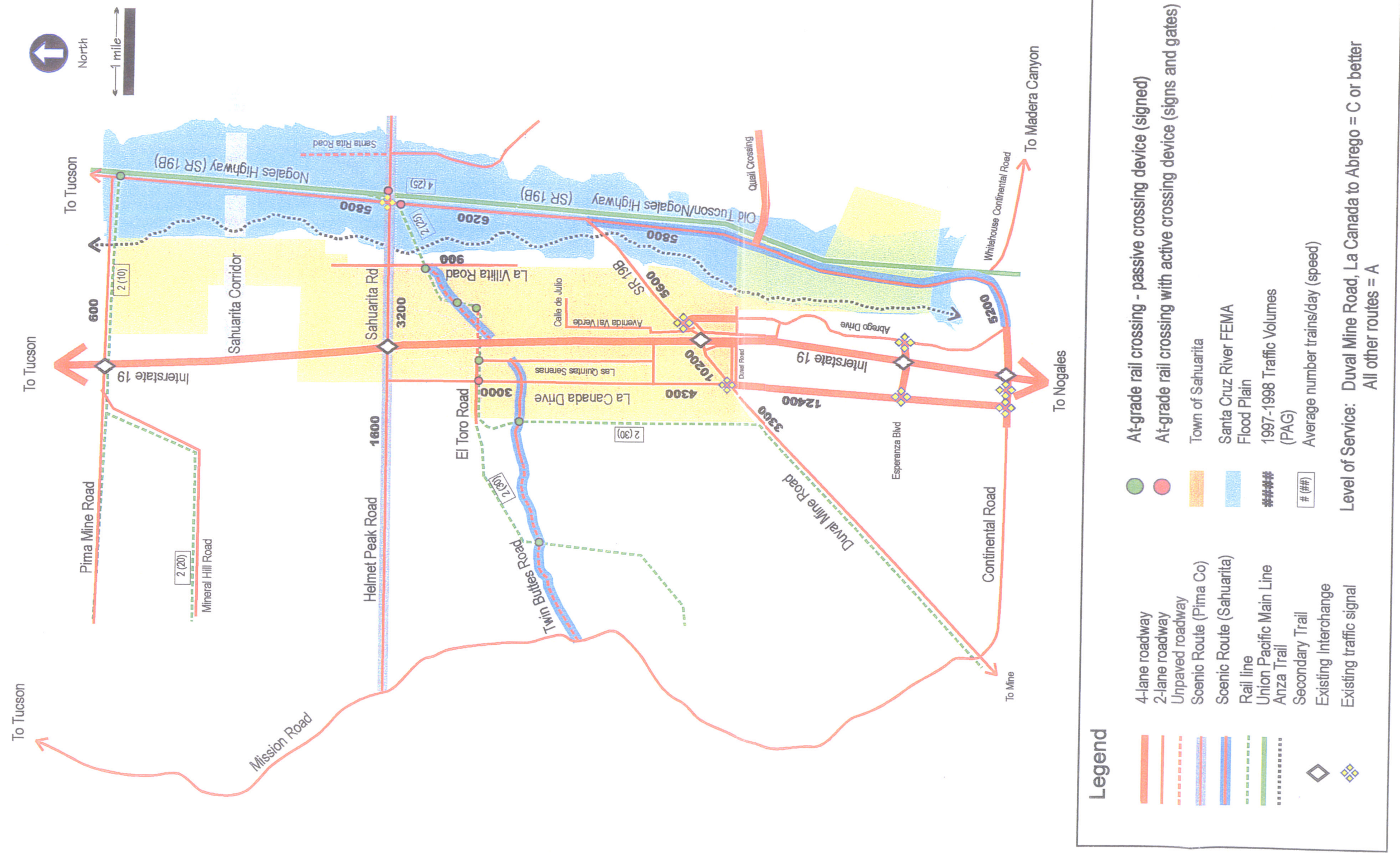


**Exhibit 3**  
**Existing Land Use Within the Town Limits**





Exhibit 4  
Existing Transportation System



### Exhibit 5 Roadway Inventory

Roadway Name Segment	ADT	Source	Capacity @ D	Level of Service	R/W	Paved	Speed Limit	Bike / Ped Facilities	No. Lanes	Divided	Functional Classification Town General Plan	Recommended Classification
<b>STATE HIGHWAY SYSTEM</b>												
<u>Nogales Hwy (SR19B)</u>												
Pima Mine Rd to Duval Mine Rd	6200	1	13685	A	100-200	Yes	50	No	2	No	RTC	
<u>I-19 Frontage Road (West)</u>												
Duval Mine Road to Duval Road	2300	3	11390	A	N/A	Yes	NP	No	2	No	N/C	Collector
<u>I-19 Frontage Road (East)</u>												
Duval Mine Rd to Ave Val Verde	N/A	4	11390	N/A	N/A	Yes	N/A	No	2	No	N/C	Collector
<u>Interstate 19</u>												
Pima Mine Rd to Sahuarita Rd	21800	1	68900	A	300	Yes	65	No	4	Yes	Freeway	
Sahuarita Rd to Duval Mine Road	24500	1	68900	A	300	Yes	65	No	4	Yes	Freeway	
<b>PIMA COUNTY ROADS</b>												
<u>Sahuarita Road</u>												
West of La Canada	1600	1	11390	A	150	Yes	50	No	2	No	Arterial	
La Villita to Nogales Highway	3200	1	11390	A	60-150	Yes	35-50	No	2	No	Arterial	
<u>La Canada</u>												
El Toro to Sahuarita	3000	1	11390	A	150	Yes	50	No	2	No	Arterial	
<u>Pima Mine Road</u>												
Mineral Hill Rd to I-19	600	1	11390	A		Yes	50	No	2	No	Collector	
I-19 to Nogales Hwy (SR19)	1300	4	11390	A		Yes	50	No	2	No	Collector	Arterial
<u>Sahuarita Road / Helmet Peak Road</u>												
Mission Road to La Canada	1600	1	11390	A	150	Yes	50	No	2	No	Arterial	
<u>Old Nogales Highway</u>												
Nogales Highway (B19) to town limit	5800	1	11390	A		Yes	50	No	2	No	Collector	Arterial
<b>TOWN OF SAHUARITA ROADS</b>												
<u>Abrego Drive</u>												
Duval Mine Road to Duval Road	1600	4	11390	A	120	Yes	35	No	4	No	N/C	Collector
<u>Avenida de Augusto</u>												
El Toro to Calle de Julio	Private Property - this road does not exist as a public facility										Collector	N/A
<u>Duval Mine Road</u>												
La Canada to I-19	9800	1	14070	B/C	175	Yes	45	No	3	CLT	Collector	Arterial
I-19 to Old Nogales Hwy	5600	1	14070	B	175	Yes	45	No	2	No	RTC	
<u>El Toro Road</u>												
La Canada to Las Quintas de Serenas	200	4	11390	A	200	Yes	35	No	2	No	Collector	
Las Quintas to La Villita	200	4	11390	A	60	No	35	No	2	Yes	Collector	
<u>La Canada</u>												
Duval Mine Road to Twin Buttes	4300	1	11390	A	150	Yes	50	No	2	No	Arterial	
Twin Buttes to El Toro	3000	1	11390	A	150	Yes	50	No	2	Yes	Arterial	
<u>La Villita</u>												
South end to Sahuarita Road	500	4	11390	A	60	Yes	40	No	2	No	Collector	
Sahuarita to north end (.5 miles)	100	4	11390	A	60	Yes	40	No	2	No	Collector	
<u>Sahuarita Road</u>												
La Canada to I-19	3200	1	11390	A	150	Yes	45	No	2	No	Arterial	
I-19 to Nogales Hwy	3200	1	11390	A	60-150	Yes	35-50	No	2	No	Arterial	
<u>Twin Buttes Road</u>												
Town Limit to La Canada	800	4	11390	A	60	Yes	45	No	2	No	Collector	
La Canada to I-19	200	4	11390	A	N/A	No	35	No	2	No	Collector	
El Toro to La Villita	200	4	11390	A	None	No	35	No	2	Yes	Collector	

CLT = Continuous center left turn lane  
TOS = Town of Sahuarita  
RTC = Regional Transportation Corridor  
N/C = Not Classified  
N/A = Information is not available  
Sources:

- (1) PAG Traffic Volumes in Metropolitan Tucson, 1997- 1998
- (2) Pima County 1997 Roadway System Map
- (3) Recent traffic studies
- (4) Derived from Sahuarita SATS Existing Conditions Model

## Regional Transportation Corridors

Interstate 19 - This is a four-lane, divided, controlled access freeway that begins in Nogales, Arizona at the United States/Mexico border and extends north to Interstate 10 near Ajo Way (State Route 86), in Tucson. This is the primary access route between Sahuarita and Tucson.

Nogales Highway (SR 19B) - This roadway parallels the Union Pacific rail line located east of the town limits. It is a two-way, two-lane roadway that traverses the study area in a north-south direction. The road provides access from the city of Tucson to the north and continues through the area to Interstate 19. This road intersects with Old Tucson Nogales Highway about two miles south of Sahuarita Road. From this junction, it proceeds in a southwesterly direction to end at the I-19/Duval Mine Road traffic interchange. The intersections with Sahuarita Road and Abrego Drive are signalized. At-grade rail spur crossings are located at Pima Mine Road at the north boundary of the study area and just south of the Sahuarita Road intersection. The portion within the study area is from milepost 44 to milepost 50.



## Arterial Roads

La Canada Drive - This is a two-way, two-lane, paved roadway from Sahuarita Road on the north to Duval Mine Road on the south. The intersection with Duval Mine Road is signalized and the roadway widens to a four-lane cross section at this location. There is an at-grade rail spur crossing at El Toro Road. The road serves several residential areas along both sides of the roadway between El Toro Road-- one mile south of Sahuarita Road and Via Santo Tomas -- about one mile north of Duval Mine Road. There are also several churches located along this segment of roadway. Property north and south of this segment is mostly undeveloped. The road continues south from Duval Mine Road as a major arterial through Green Valley.

Sahuarita Road (Helmet Peak Road) - This is a two-way, two-lane, paved roadway that extends 24 miles from Mission Road west of the study area to the Sonoita Highway east of Tucson. Through the study area, this road is named Helmet Peak Road and Sahuarita Road. This road has an interchange with Interstate 19 and is located in the northern half of the town where major development has not yet occurred. The Sahuarita town center and schools are located on the north side of this road, east of I-19. An at-grade signalized crossing of the Union Pacific main rail line is located on the east leg of the intersection with Nogales Highway.

Duval Mine Road - This roadway traverses the study area in a northeasterly direction from Continental Road on the south to I-19 on the east and continues from I-19 as Old Nogales Highway (SR 19B). It is a paved, two-way roadway that is primarily a two-lane roadway with the exception of segments between La Canada Drive and the I-19 interchange. This is a three-lane section with a center left-turn lane. The majority of the town's commercial uses have access along this roadway. The Quorum, a commercial subdivision nearing build-out, is located on the south side, and the vacant K-mart shopping center is located on the north side, west of I-19. The intersection with La Canada Drive is signalized. The portion of Duval Mine Road between La Canada Drive and the I-19 interchange are slated for improvements in the next five years.



## Collector Streets



*El Toro Road looking west from Twin Buttes*

**El Toro Road** - This roadway begins as a two-way, two-lane, paved roadway about one-half mile west of La Canada Drive where it provides access into the industrial/ranch property owned by Kerley Chemical and then continues east parallel with a rail spur line to Avenida de las Quintas about one-half mile east of La Canada Drive. It continues east as an unpaved roadway with one lane on each side of the rail line and crosses under I-19 continuing one-half mile to Avenida de Augusto.

**La Villita Road** - This is a two-way, two-lane paved roadway along the east boundary of the town

limits. It extends about one-half mile north and one and one-half miles south of Sahuarita Road providing access into residential areas.

**Old Tucson Nogales Highway** - This road continues from Nogales Highway (SR 19) to Continental Road in Green Valley. Land use along this section of roadway is mostly agricultural from Nogales Highway to Quail Crossing Boulevard, where residential development is now occurring. This roadway will serve as the primary access to two major residential subdivisions – Quail Creek and Madera Highlands.



*La Villita looking south across Sahuarita Road*

**Pima Mine Road** - This is a two-way, two-lane, paved roadway that extends from the Asarco mine on the west side of I-19 to Nogales Highway (SR 19) on the east end. The San Xavier Indian Reservation is located adjacent to the roadway along the north side. The property along the south side is owned by Asarco mines with the exception of the Farmers Investment Company's pecan orchard located near the Nogales Highway. Asarco recently opened its Mineral Discovery Center on the west side of I-19 to provide tours of the mine complex.

**Twin Buttes** - This road begins as an unpaved roadway at Mission Road on the west and continues in an east-west direction to La Canada Drive. It is paved as a two-lane roadway for about one mile west of La Canada Drive. From La Canada Drive it continues in a northeasterly direction as an unpaved roadway to Camino Cartegena, about one-eighth mile west of I-19. It continues in this direction as an unpaved roadway on the east side of I-19 to La Villita, currently the east boundary of the Town of Sahuarita. There are four at-grade rail spur crossings along this roadway. Research of Pima County records indicates that this is not a dedicated road.

### **Avenida de Augusto**

This road is identified in the general plan as a collector roadway east of I-19. Pima County records show that the road does not exist as a dedicated roadway and is currently private property.

**I-19 Frontage Road (West)** - This roadway extends from Duval Mine Road south about one-half mile to Duval Road where it ends. This is a two-way, two-lane, paved roadway that provides the primary access into the Quorum. This roadway and intersection with Duval Mine Road will be included in ADOT's Duval Mine TI Design Concept Report (DCR). The frontage road/Duval Mine Road intersections are in need of realignment and more separation from the freeway ramps. Transfer of ownership of this section of frontage road from ADOT to the Town of Sahuarita will also be studied in conjunction with the DCR.

**I-19 Frontage Road (East)** - This frontage road, on the east side of Interstate 19, extends north and south of Duval Mine Road. North of SR 19B the road extends about three-quarters of mile to intersect with Calle de Marzo, an east-west local street. Avenida Valle Verde Norte continues north from the intersection. The intersection with Old Nogales Hwy (SR 19B) is stop-controlled at a "T" intersection.

South of SR 19B the road intersects with Abrego Drive, about 900 feet east of the north frontage road, runs west to the north frontage road alignment, and continues south about three-quarters of a mile to terminate in a cul-de-sac south of Camino de Diana. At this time, the road is closed to southbound traffic between Duval Road and Abrego Drive because of the proximity of the Abrego Drive intersection to the signalized intersection of Abrego Drive and Old Nogales Hwy. The southbound access remains open because of the need to allow school busses to access properties north of Duval Road. This issue will be resolved during an ADOT interchange improvement project discussed later in the study. Transfer of ownership of the road from ADOT to local jurisdictions will also be considered.

### Road Name Discrepancies

Some of the roadways within the study area have had name changes over the years or are recorded with different names along certain segments. This is a situation that causes confusion, particularly to a visitor to the area. Known problems are:

- Sahuarita Road (east of La Canada) also called Helmet Peak (west of La Canada)
- East Frontage Road also called Avenida Valle Verde
- Duval Mine Road (west of I-19) also called Old Nogales Highway (east of I-19)
- Nogales Highway also called Old Nogales Highway
- Old Nogales Highway also called Old Tucson Nogales Highway

### Roadway/Intersection Inventories

Exhibit 6, below shows the geometrics at major intersections in the study area. The letter "S" indicates that the turning movement is shared with a through lane. Intersections that have a "T" configuration are indicated by the three approaches shown in the exhibit. These roadway and intersection geometrics were used in the study to establish the existing conditions roadway network for the travel demand model.

**Exhibit 6 Intersection Geometrics**

INTERSECTION	Northbound			Southbound			Eastbound			Westbound		
	Left Lns	Thru Lns	Right Lns	Left Lns	Thru Lns	Right Lns	Left Lns	Thru Lns	Right Lns	Left Lns	Thru Lns	Right Lns
La Canada /Sahuarita	S	N/A	1	N/A	N/A	N/A	N/A	1	S	S	1	N/A
La Canada /El Toro	S	1	S	S	1	S	S	1	S	S	1	S
La Canada / Twin Buttes	S	1	S	S	1	S	S	1	S	S	1	S
La Canada / Duval Mine Road	1	2	S	1	2	S	1	2	S	1	2	S
Cmo de las Quintas / Santo Tomas	S	1	S	S	1	S	S	1	S	S	1	S
Camino de las Quintas / El Toro	S	1	S	S	1	S	S	1	S	S	1	S
I-19 FRW / Duval Road	N/A	N/A	N/A	N/A	N/A	1	1	N/A	N/A	N/A	N/A	N/A
I-19 FRW / Duval Mine Road	1	N/A	1	1	N/A	1	N/A	1	S	1	1	N/A
I-19 FRE / Duval Mine Road	N/A	N/A	N/A	1	N/A	1	1	1	N/A	N/A	1	1
Abrego / Duval Mine Road	1	1	S	1	1	S	1	1	S	1	1	S
La Villita / El Toro	S	1	S	S	1	S	S	1	S	N/A	N/A	N/A
La Villita / Sahuarita	S	1	S	S	1	S	S	1	S	S	1	S
Old Nogales Hwy / Sahuarita	1	1	S	1	1	S	S	1	S	S	1	S

## Traffic Signalization

There are currently three signalized intersections in the study area. These are Duval Mine Road / La Canada, Sahuarita Road / Old Nogales Highway (SR 19B), and Abrego Drive / Old Nogales Highway (SR 19B).

## Levels of Service

Level of service is a qualitative description of how well a roadway or intersection operates under prevailing traffic conditions. A grading system of A through F, similar to academic grades, is utilized. LOS A is free flowing traffic, whereas LOS F is forced flow and extreme congestion or delay. The region has adopted the LOS assessment methods prepared by the Florida Department of Transportation, as incorporated in the Pima Association of Governments Mobility Management Plan. The regionally adopted performance standard is LOS D for up to two hours during peak traffic periods on typical weekdays. This standard applies to Pima County roads in the study area.

The Town of Sahuarita's engineering staff has decided to utilize LOS C as its standard in this initial transportation study. The decision is based on an analysis of the cost differential between the two standards and the perception of congestion in more rural communities. The current performance of major roadways in the area is included in Exhibit 5, Roadway Inventory. The exhibit shows that the roadways currently perform at an acceptable level.

## Alternate Modes

The Town roadways lack sidewalks, primarily due to the low development density and general rural/suburban conditions of development. Currently, residents walk along the side of the roadway, along shoulders where they exist, or along parallel paths created by pedestrian use rather than by design. This situation is very typical of smaller and more rural communities where walking is not a convenient mode of travel due to long trip lengths. The Town and its sphere of influence, does however, contain segments of the Juan Bautista de Anza National Historic Trail, which is a national historic route connecting the early Mission sites and Spanish settlements of the 1700s.

The Anza Trail is administered by the National Park Service in partnership with other federal, state, and local agencies, non-profit organizations, and private landowners. Non-federally owned trail sites, segments, and interpretive facilities are added to the national historic trail through certification agreements between the owner or managers and the National Park Service. Additional information about the Trail is available at the National Park Services web site at <http://www.nps.gov/juba/>.

Public transit is not provided in the Sahuarita area, and so most trips are made by private vehicle. The area is not presently served by SunTran (the regional bus service in nearby Tucson) or by Pima County's rural transit program, which does serve San Xavier to the north of Sahuarita and interconnects with SunTran service in Tucson. There is no intercity bus service by Greyhound or other carriers directly to Sahuarita. There are no officially-designated park-and-ride lots in the study area for use by carpools.

Bike routes are also absent from the study area. The Tucson Bicycle Map indicates portions of La Canada Drive and Esperanza in Green Valley as having bike lanes. Abrego Drive from Continental Road to Old Nogales Hwy (SR 19B) is shown as a bikeable route for more experienced riders.



## Safety Issues

### Railroad Facilities

The Union Pacific rail line traverses the study area running parallel and adjacent to the Old Nogales Highway/SR 19B. Several spur lines connecting to the UP mainline serve the mining operations located west of the town limits. These rail lines and the road crossings are identified in Exhibit 4, Existing Transportation System. All of these rail crossings are at-grade.

### Drainage and all-weather Access

The Town does not have an extensive storm drainage system to convey runoff to the Santa Cruz River. Instead, runoff flows across the surface of roadways, which can cause disruptions to traffic flow and potential risk to motorists who try to drive through the flowing water. This problem is most prevalent during the summer "monsoon" season, when high-intensity, short duration storms cause flooding on small watersheds. Runoff from major summer storms flows across the surface of the roadway at wash crossing and depressions. Drainage issues, although important to the circulation system, are not discussed further in this report because they are addressed in the capital improvement program of the Town.

### Traffic Safety

The Town of Sahuarita Police Department has provided accident data for the period beginning January 1998 and ending in March 1999. ADOT has provided accident data for Old Nogales Highway (SR B19). This information is summarized in Exhibit 7, below. The data do not show any high accident locations. However, SR 19B should be monitored as a potential problem area. Duval Mine Road T.I. and frontage road accidents are not included because this intersection is the subject of another study being performed by ADOT.<sup>5</sup>

#### Exhibit 7 Accident Summary 1/98 through 3/99

Location	No. of Accidents	Injury accidents	Daylight	Dark	Single Vehicle	Bike/ Ped	Rear End	Angle	Side Swipe	Other
<u>Intersections</u>										
SR 19B /Abrego	3	3	3					3		
Duval Mine Rd/La Canada	1	0	1		1					
La Canada/Paseo del Comdare	1	1	1					1		
La Canada/Woodacre	1	0	1				1			
La Canada/Via de Chapala	1	1		1				1		
Sahuarita/La Canada	3	2	3				1	2		
Sahuarita/SB Off Ramp	1	0		1	1					
Sahuarita/NB Off Ramp	1	0	1		1					
Valle Verde del Norte/Calle de Marzo	1	0		1	1					
<u>Segments</u>										
La Canada - Duval Mine Rd to Sahuarita	2	0	2		2					
La Villita - north of Sahuarita	1	1	1			1				
SR B19 - Pima Mine Rd to I-19	15	8	12	3	8		3	1	2	1

<sup>5</sup> Duval Mine Road T.I. Design Concept Report

### 3. Adopted Roadway Plans and Programs

This chapter describes each agency's proposed roadway improvement projects within the study area.

#### Arizona Department of Transportation

ADOT's FY 2000 – 04 Five-Year Highway Construction Program projects include:

- Duval Mine Road/ I-19 interchange reconstruction, including ramp reconfiguration, frontage road improvements, and potential turnback of portions of the west frontage road to Sahuarita. ADOT has programmed \$5000,000 for project design for FY 2000 and \$4,700,000 for project construction in FY 2001. A design concept report is underway for this project.
- Remove and replace travel and passing lanes on I-19 from Pima Mine Road to Valencia Road. Funding in the amount of \$5,270,000 is programmed for FY 2000

#### Pima County

Several Pima County bond projects are programmed within the study area. The bond program uses the County's Highway User Revenue Fund (HURF) as a committed revenue source to retire the bonds. No property taxes or general funds are being used. The construction period depends on the priority placed on the project by Pima County, and the availability of bond proceeds for project improvements. Following are their descriptions.

- Pima County Bond Project Number 34 - Camino del Sol, Continental Road to Ocotillo Wash

*Scope:* This project is the construction of a new Camino del Sol/West Parkway, west of the Canoa Land Grant, from existing Camino del Sol in the vicinity of Ocotillo Wash, north to Continental Road. In addition, improvements to Continental Road from the new Camino del Sol intersection east to existing Camino del Sol will be constructed. The project will be constructed initially as a two-lane roadway with capability for future expansion when warranted. The project corridor will be substantially wider than that typically required for the roadway to allow for increased buffering from residential areas east of the roadway and to provide for pedestrian and bicycle facilities off the road. The project will allow for future development of a parkway from Ocotillo Wash north to Duval Mine Road.

*Benefit:* Proposed project will obviate the need to widen existing Camino del Sol south of Continental Road. This section of Camino del Sol has a constrained right-of-way and is developed with residential structures having direct access to the roadway. The project will reduce congestion and enhance safety along Camino del Sol.

*Bond Funding:* \$2,500,000

*Other Funding:* None Proposed

*Implementation Period:* 1/2

*Future Annual Operating & Maintenance Costs:* \$25,500

- **Pima County Bond Project Number 36 - Camino del Sol/West Parkway, Continental Road to Duval Mine Road**  
*Location:* Unincorporated County (Green Valley)  
*Scope:* Proposed project is the acquisition of right-of-way only for the future construction of a Camino del Sol extension/West Parkway on existing state lands west of developed Green Valley. The right-of-way acquisition will be sufficiently wide to accommodate the planned future road, separate pedestrian and bicycle facilities, linear park features and separation from existing and planned neighborhoods. Exact width will be determined through future study.  
*Benefit:* The benefit of the right-of-way acquisition at this time is to assure that there is a complete right-of-way for future construction of the road, to assist area developers to appropriately plan and site their projects to account for this future roadway and to provide an opportunity for construction of the road and parkway elements with future funding.  
*Bond Funding:* \$450,000  
*Other Funding:* None Proposed  
*Implementation Period:* 3/4  
*Future Annual Operating & Maintenance Costs:* None
- **Pima County Bond Project Number 48 Project DOT-48 - Duval Mine Road, La Canada Drive to Abrego Drive**  
*Scope:* The project will widen and improve Duval Mine Road in the vicinity of the I-19 interchange. Project includes widening existing roadway and the overpass structure at I-19, modifying the ramp geometry and improving the intersection connections at La Canada Drive and Abrego Drive. The project will include provisions for improved drainage, landscaping, and pedestrian and bicycle movements across the freeway and related elements. The median treatment is yet to be determined pending evaluation of local area access and circulation needs and a structural evaluation of the existing overpass.  
*Benefit:* The project will reduce congestion and enhance safety along Duval Mine Road in the vicinity of this interchange.  
*Bond Funding:* \$2,000,000  
*Other Funding:* \$10,000,000 (3,000,000 ADOT; 1,500,000 Impact Fee Funds; 5,500,000 Urban Area HURF)  
*Implementation Period:* 2 through 4  
*Future Annual Operating & Maintenance Costs:* \$22,500
- **Pima County Bond Project Number 51 Project DOT-51 - La Canada/Camino de las Quintas Highway Drainage Improvements**  
*Scope:* Proposed project consists of transverse and parallel drainage improvements along La Canada Drive and Las Quintas to provide improved roadway drainage, to alleviate ponding and drainage diversions within existing neighborhoods and to increase roadway safety.  
*Benefit:* The project will maintain traversable roadways during wet weather and alleviate roadway-induced drainage problems in the adjacent neighborhoods.  
*Bond Funding:* \$1,500,000  
*Other Funding:* None Proposed  
*Implementation Period:* 2  
*Future Annual Operating & Maintenance Costs:* No Increase

## PAG Metropolitan Transportation Plan

The recently adopted MTP Roadway Capacity Improvements include reconstruction of La Canada Drive from Sahuarita Road to Duval Mine Road and Duval Mine Road from La Canada Drive to Abrego Drive to four lanes. Also included on the MTP is reconstruction of the I-19 interchange. The Transportation Improvement Program for 1999 - 2003 includes several drainage improvements in Sahuarita, but does not include any roadway capacity improvement projects.

## Town of Sahuarita

The Town currently has no transportation projects in its Capital Improvement Program. The major problem in Sahuarita is stormwater drainage and provisions for all-weather access on major roadways. Accordingly, the Town's CIP emphasizes drainage improvements, and the first major project is a multi-cell box culvert under La Canada Drive, between Duval and Sahuarita Road. The project is being completed with engineering and construction support from ADOT. Additional drainage projects will be completed in the coming years.

This Transportation Study includes a list of transportation projects for inclusion in the Town's next CIP, which should be identified as the Sahuarita Transportation Improvement Program.

## Related Transportation Plans

Myriad transportation plans and programs have an impact on the Town. The following section provides a brief overview of some of the more important documents.

### Sahuarita Corridor

The Sahuarita Corridor is potentially one of the most important transportation projects in the study environs. The corridor is intended to be a freeway-type facility connecting I-19 with I-10 near Vail Road, about 17 miles to the east. The alignment, selected in 1990, is approximately one-half mile north of the Sahuarita Road section line. Unfortunately, there has been little progress in the last ten years to implement the new route. The original concept was for the local agencies to fund and build the project, after which it would be transferred to ADOT as a part of the State System.

To date, the corridor has no dedicated right-of-way and lies partly in Sahuarita, Tucson, and unincorporated Pima County. It was once shown on the regional transportation plan, but was excluded from the most recent Metropolitan Transportation Plan due to a lack of funding. The relevance of the corridor is being reassessed by ADOT, PAG and the Town through the PAG Transportation Planning Committee. ADOT has funded an update of the original Environmental Assessment, which may be completed within the next year.

### Pima Association of Governments Metropolitan Transportation Plan

As a member of the PAG region, Sahuarita participated in the Metropolitan Transportation Plan, and voted on its acceptance by the regional council. The PAG plan provides a financially constrained transportation plan for the year 2020. It identifies future improvements and funding strategies, including three new revenue sources. The plan is expected to be updated again within two years.

### I-19 Tucson to Nogales Multimodal Corridor Profile Review

This study, completed by ADOT in 1996, addresses I-19 from Tucson to Nogales. It identifies the current facility, in depth, and makes some recommendations for system improvements. The profile is part of ADOT's implementation of the State Transportation Plan, completed in 1994.

#### Related PAG Studies

*Pima Association of Governments Transportation Improvement Program:* This annual document by PAG consolidates the programmed and funded transportation projects for a five-year period. It includes design, construction, and major rehabilitation projects by PAG's member jurisdictions, including ADOT.

*Pima Association of Governments Mobility Management Plan (underway):* This plan identifies congested locations and identifies ways to mitigate and manage congestion.

*Pima County Bond Projects:* As mentioned, Pima County voters approved a series of roadway improvements, some of which are in or near Sahuarita. Additional information is available at the County's web page at <http://www.dot.co.pima.az.us/bonds/>.

*Pima Association of Governments Bike and Pedestrian Plan:* This regional plan, now underway, will establish a comprehensive system of bike and pedestrian improvements throughout the region. Additional information is available at PAG's web site at [www.pagnet.org](http://www.pagnet.org).

## 4. Traffic Forecasts and Proposed Roadways

A travel demand model was developed based on the existing and committed land uses in the study area. The committed uses are assumed to be completely built-out at 2020. Traffic forecasts for intermediate years assume that growth will occur linearly through the analysis period.

The committed land uses included in the model are:

- Rancho Sahuarita Master Planned Development - this project contains 2,810 acres in the north half of the existing town limits. Proposed land uses include 10,680 homes, 302 acres of regional commercial development, 122 acres of town center development, 170 acres of industrial development, 59 acres for schools, and about 250 acres for parks and open space. Construction has recently begun on the first phase of the project-- Rancho Resort, located west of I-19, north of Sahuarita Road.
- Madera Highlands - this is a proposed Master Planned Development located west of Old Tucson Nogales Highway, south of Quail Creek in the newly annexed portion of the Town. This project proposes 1,750 homes and two town center pods on about 920 acres.
- Duval Commerce Center - this project is the development of about 25 acres of light industrial/commercial uses west of La Canada Drive on the north side of Duval Mine Road. Construction has begun on the project and it is expected that it will be fully built by 2020.
- The Quorum - this project, a mix of commercial and high-density residential uses, is about 70 percent complete at this time. The project is located south of Duval Mine Road, west of the west frontage road and is expected to be built out around 2005.
- Reutilization of the vacant K-mart center - this center is located west of I-19 on the north side of Duval Mine Road. Plans are currently underway to convert the vacant buildings into various commercial uses including a multi-plex theater.
- La Joya Verde - this project is the development of residential subdivisions east of I-19 and south of Old Nogales Highway. This project is expected to be complete within the next few years.
- Santa Cruz Meadows - this is a platted subdivision (M&P 46/62) located east of Camino de las Quintas, north of Calle Privada. It contains 239 residential lots and is currently vacant.
- Quail Creek - this age-restricted project, located outside the Town limits, has been included as 2,000 lots (about one-half of the proposed development) by the year 2020. This development was recently purchased by Robson Communities.
- Tohono O'odham Casino – A new casino is proposed on the San Xavier Indian Reservation. Development plans are in process, but the construction date is unknown. The project proposes access from Pima Mine Road about 200 feet east of the I-19 northbound ramps<sup>6</sup>.

<sup>6</sup> Source: Seaver Franks Architects, Tucson, Arizona

Other miscellaneous commercial and residential projects are currently in the pre-development phase and are included in general in the 2020 model. They include a new supermarket and shopping center at the southwest corner of Duval Mine Road and the West Frontage Road and a six unit per acre housing project north of the K-Mart site.

The roadway network is based on the circulation system identified in the current land use proposals (identified above) and the General Plan. The land uses and roadway system that were input into the model are shown in Exhibit 8.



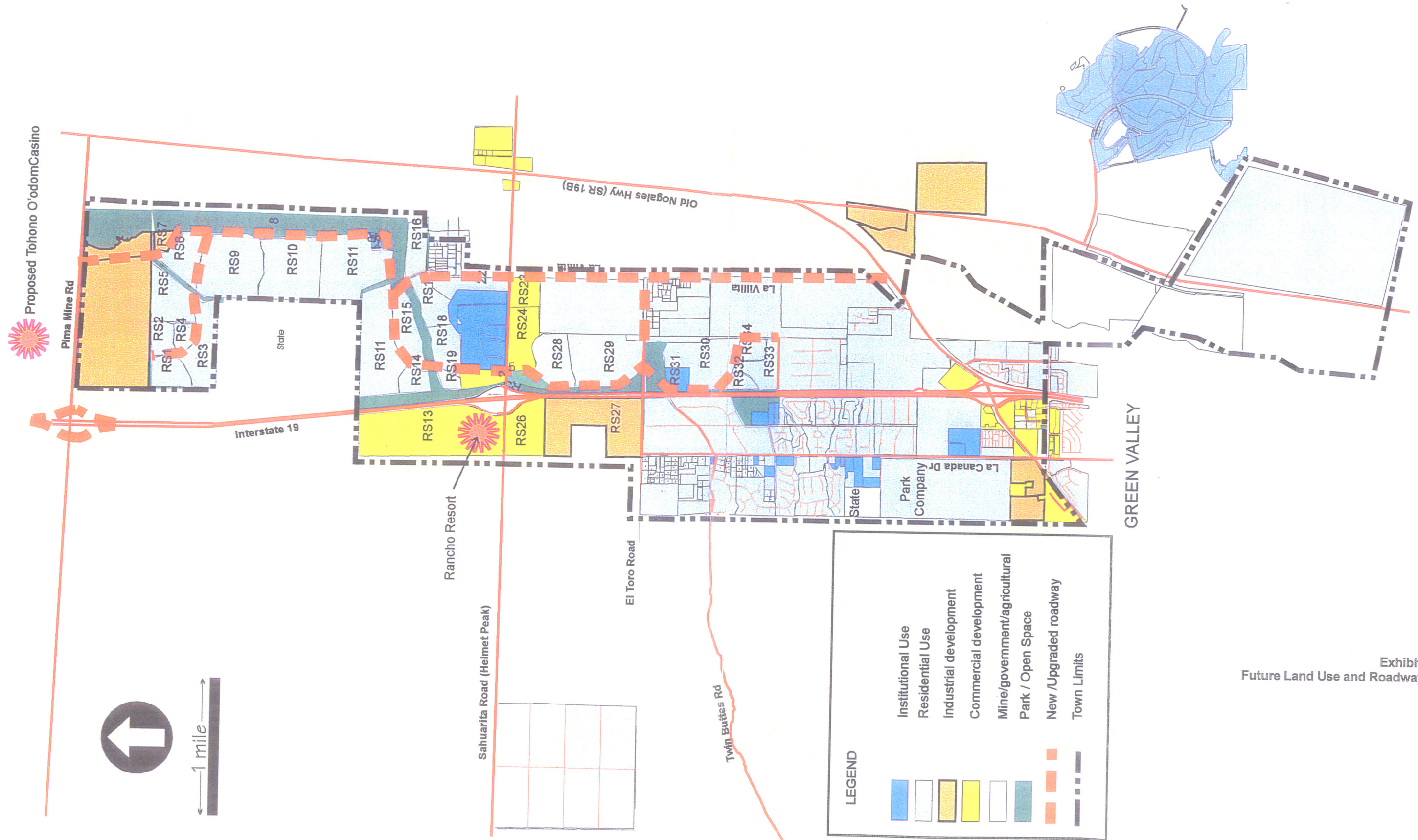


Exhibit 8  
Future Land Use and Roadways



## 5. Traffic Forecasting

### Overview

This study utilizes a computer-based simulation model of travel in the study area rather than the more traditional manual forecasts used for small-scale analysis projects. The model used is QRSII, developed originally for the United States Department of Transportation by AJH Associates. The model has been used widely in Southern Arizona by CLA and others. Detailed information about the model is available at [www.uwm.edu/dept/cuts/](http://www.uwm.edu/dept/cuts/) and related links. The user manual is also available on the Internet.

### Travel Demand Model

The Quick Response System II (QRSII) for Windows is a computer program for forecasting impacts of urban developments on highway traffic and for forecasting impacts of highway projects on travel patterns. In addition, QRSII has complete transit ridership forecasting capabilities. The 300-zone edition of QRSII is intended for small area analysis—either small to medium-sized cities taken as a whole or smaller parts of large cities, including site developments. The larger zone editions of QRSII (600, 900, and 1500 zones) are capable of comprehensive analysis for cities up to two million in population. This study uses the 600-zone version.

QRSII has two components - QRSII, the numerical model, and the General Network Editor (GNE). GNE is a graphical user interface that permits the user to draw a network on the monitor screen, enter verbal descriptions and numerical data about each element of the network, edit the network and its data, compute intermediate results through a series of worksheets, and search for network elements that meet certain criteria. GNE can also be used for displaying results from QRSII. All data for QRSII are entered through GNE. There are two editions of the General Network Editor for Windows.

QRSII uses networks, nodes, and links to describe the transportation system and land use setting. The highway system is described by a network. A network consists mainly of representations of streets and intersections. Streets are shown as links. Intersections are shown as nodes. Streets and intersections have attributes that are important to QRSII. For example, the most important attribute of a street segment (or link) is the time it takes to drive from one end to the other.

The study area is described by a set of zones. Zones may vary greatly in size, but they cover the whole urban area without overlaps and without leaving any gaps. Zones should be smallest near areas of greatest impact. Zones, too, have attributes. Important attributes of a zone concern human activities: how many families live and work in the zone. Before any analysis can occur, the highway network and the set of zones must be integrated. This is accomplished by representing each zone as a special type of node, called a centroid. Centroids are attached to the highway network by a special type of link, called a centroid connector. Centroid connectors serve an additional purpose; they tell QRSII about the time and cost required to originate and terminate a trip at a specific zone. QRSII uses this integrated network to find the travel times and the exact sequence of links along the shortest paths between every pair of centroids.

Optionally, QRSII may be used to forecast impacts on transit ridership. A transit network consists of routes, regular stops, and transfer points. The most important attributes of a transit network are the headways and running times along the various routes. Transit is not used in the Sahuarita model because there is no transit service now, and none is planned for the immediate future. The model could readily be adapted to add transit, if needed, in the future.

## The Four-Step Process

QRSII utilizes a traditional four-step modeling process. The steps are (1) trip generation, (2) trip distribution, (3) mode split, and (4) traffic assignment.

### Trip Generation

QRSII accomplishes its forecast by first determining the number of person-trips that are produced at and attracted to each zone. This step in the model is called trip generation. QRSII separately determines trip productions and trip attractions for four purposes: home-based work; home-based nonwork; home-based question (QRSII's extra trip purpose, user-defined); and nonhome-based. Trip productions and trip attractions are estimated for a full weekday. As a general rule, trips with one end at the home are produced at the home. Trips with one end at the home are attracted to the nonhome end. These rules apply, regardless of the actual direction of travel (e.g., home-to-work or work-to-home). Special rules apply for nonhome-based trips.

### Trip Distribution

The second step in the forecast is to determine for each purpose the number of person-trips that go from any given production zone to any given attraction zone. Two such zones are referred to as an origin-destination pair. An origin-destination pair receives a relatively large allocation of trips if (1) the trip productions in the production zone are large, (2) the trip attractions in the attraction zone are large or (3) the travel time between the zones is small. This step in QRSII is called trip distribution. Trip distribution between origin-destination pairs may change in subsequent model runs if changes to the network or land use are made. In other words, travel patterns will change in response to changes in the transportation system or regional development.

### Mode Split

When transit ridership forecasts are needed, QRSII performs a third step, called mode split. At this step QRSII determines for each origin-destination pair the number of person-trips for transit and the number of person-trips for automobiles.

### Traffic Assignment to Roadway Network

The fourth step converts highway person-trips to vehicle-trips, which are then assigned to the links in the highway network following the shortest paths previously found. This step is called traffic assignment, which essentially loads traffic onto the roadway network.

Traffic volumes may be estimated for any part of a day. QRSII finds the number of person-trips for each origin-destination pair that occurs during each hour of a requested time period, converts these hourly person-trips to hourly vehicle-trips, and sums the vehicle-trips over all hours in the time period. As part of the traffic assignment step, QRSII estimates the amount of delay expected on each link and at each intersection. QRSII has delay relationships for both two-lane and multilane uncontrolled road segments. QRSII also has separate delay relationships for signalized intersections, two-way stop intersections, all-way stop intersections, and ramp meters. These delays can be incorporated into the forecast to assure that traffic volumes will be consistent with intersection geometry and traffic control.

## The Sahuarita Travel Demand Model

The model developed for this project is two-tiered. The first tier is a simple overview model to quantify the proportion of trips from the Town going to Tucson and Nogales. This step helps the analyst to understand the magnitude of trips to and from external locations into the study area. The simplified model has only a few links and centroids. The model shows that about 60-65% of the Town's traffic is to and from Tucson, about 20% is to Green Valley,

10% is internal, and less than 5% is to Nogales. Once these proportions were established, external stations in the more detailed sub-regional model are defined so that this travel pattern is replicated.

### Baseline Conditions

The baseline conditions include traffic volumes and land uses quantified in 1999. The traffic volumes are based on field counts by CLA, Pima County, and ADOT, as reported in the previous sections of this study. Land uses are quantified from zoning maps and community plans. Population and employment is derived from the 1995 special census, and updated by extrapolation using the current population forecast provided online by DES.

### Calibrated Subregional Baseline Model

The calibrated baseline model, shown in Exhibit 9, replicates traffic volumes close to the project within about 5%, and becomes somewhat less precise in locations that are more distant. Overall, the baseline model is considered well calibrated. The settings used for the model include the following: Trip generation – 14.1 person trips per household, or about 9.5 vehicle trips per day, including home-based work, home-based non-work, and non-home based travel. Retail jobs attract 13.7 trips per employee, and non-retail jobs attract 4.8 trips per employee per day.

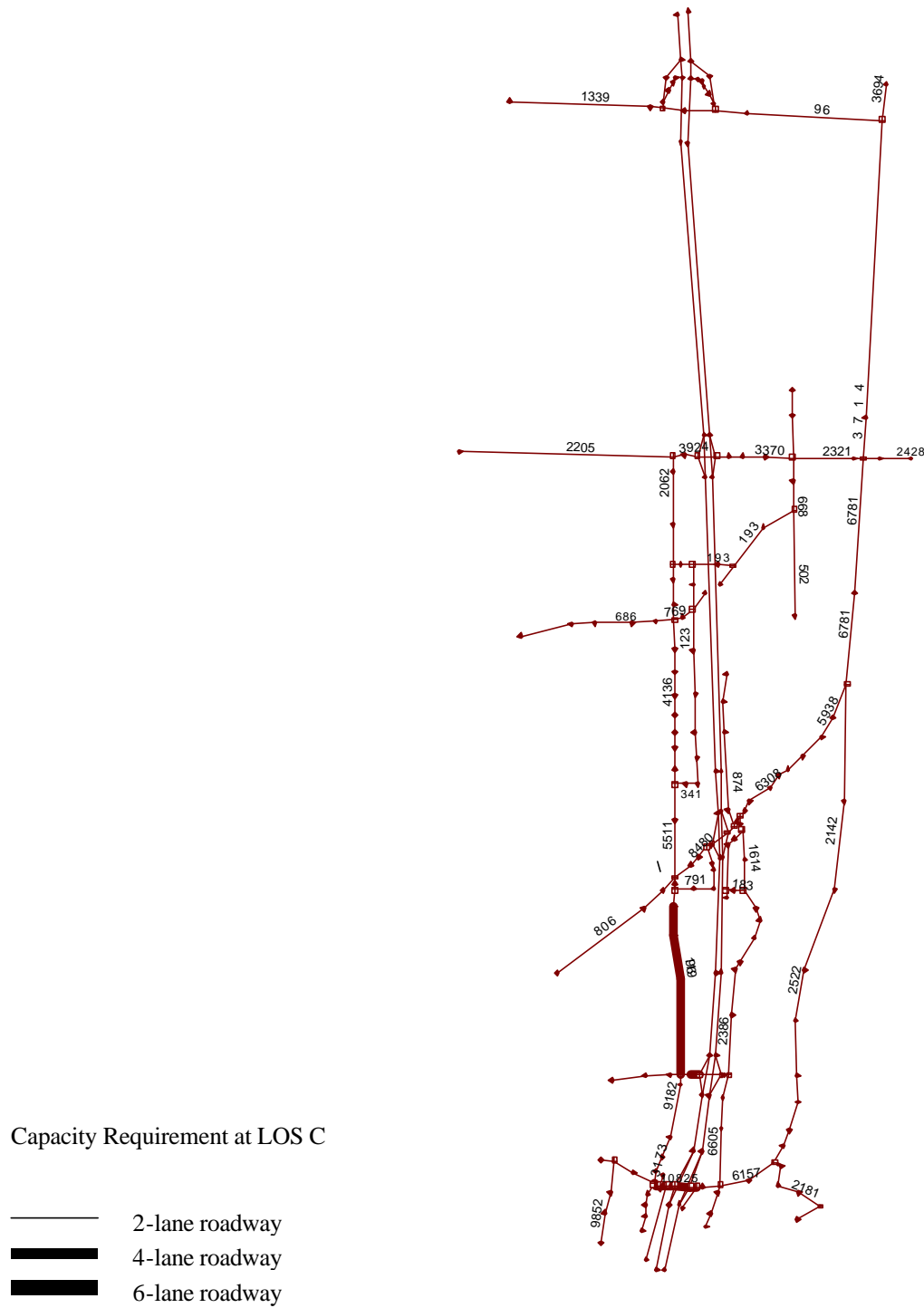
### Future Conditions Model

The future condition model includes the current conditions plus the new land uses listed earlier. The DES forecasts that the Town would grow to 10,500 residents in 2020, and proportionately more jobs than in 1999. This is based on the current Town limits, which will undoubtedly expand with future annexations<sup>7</sup>. Exhibit 10 shows the traffic volume forecasts for the future conditions model. Notice that the volumes forecast by the model **exclude** through travel, i.e., trips that have both an origin and a destination at an external station. Accordingly, the freeway traffic volumes show only those trips with one or both ends in the study area. The indicated volumes are substantially less than the actual volumes because the amount of inter-regional and international through trips is high along I-19.

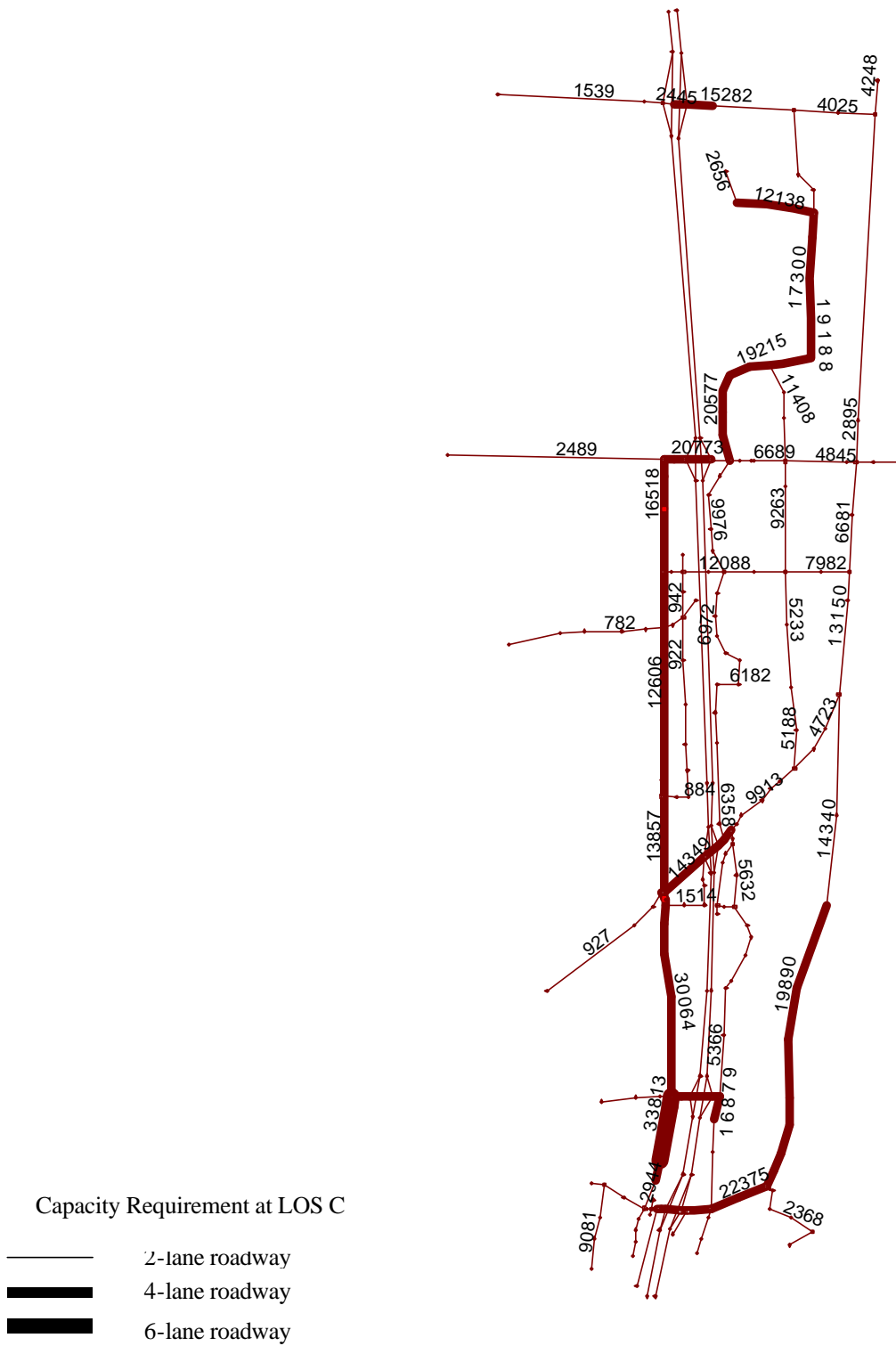
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<sup>7</sup> The DES uses this constraint statewide except in the Maricopa County forecasts, where the city limits expand into the unincorporated county over time.

## Exhibit 9 Existing Conditions Model



## Exhibit 10 Future Conditions Model



## Proposed Roadway Improvements

The future conditions model included the existing roadway system and the proposed roadways included within Rancho Sahuarita in the Master Plan, circulation element. Additionally, the El Toro alignment was extended east to Old Nogales Highway, and La Villita Road was extended south to Old Nogales Highway. The Pima Mine traffic interchange. was also reconfigured to a diamond interchange. The resulting volumes and lane requirements for the future conditions are contained in the table in Exhibit 11, below. Exhibit 12 contains the existing and future ramp volumes.

**Exhibit 11 Future Volumes and Lane Requirements**

		Existing	Future (2020)		
		Conditions	Volumes	Lanes	Length
ROAD SEGMENTS		Volumes			(miles)
Pima Mine Road	West of I-19	1340	1500	2	
	I-19 to Old Nogales Hwy	100	15300	2	2
Sahuarita Road	West of La Canada Drive	2200	2500	2	
	La Canada Drive to I-19	3900	21000	4	0.5
	I-19 to La Villita	3370	6700	2	1
	La Villita to Old Nogales Hwy	2320	4800	2	1
Duval Mine Road	West of La Canada Drive	800	900	2	
	La Canada to I-19	8500	14400	4	0.5
	Over I-19	9000	17400	4	
	I-19 to La Villita extension	6300	9900	4	1.25
	La Villita to Old Nogales Hwy	6300	4700	2	0.75
La Canada Drive	Sahuarita Road to El Toro Extension	2100	16500	2	1
	El Toro to Camino de las Quintas	4200	12600	2	2
	Camino de las Quintas to Duval Mine Road	10500	13900	2	1
La Villita	South of Sahuarita Road	700	10000	2	2.75
La Villita	North of Sahuarita	100	11400	2	
East Frontage Road	Duval Mine Road to Avenida Valle Verde	900	6400	2	0.75
Old Nogales Highway	Pima Mine to Sahuarita	3700	2900	2	3
	Sahuarita Road to El Toro Extension	6800	6700	2	1
	El Toro Extension to Duval Mine Road /(Old Nogales H	6800	13200	2	1
	Duval Mine Road to Quail Crossing	2100	14300	2	2.5
	Quail Crossing to Continental	2500	19900	4	2.5
El Toro Road	La Canada to Rancho Sahuarita	200	12100	2	0.75
	Rancho Sahuarita to La Villita	200	7100	2	0.75
	La Villita to Old Nogales Hwy	N/A	8000	2	1.25

## Exhibit 12 Future Ramp Volumes

<b>I-19 RAMPS AND CROSSOVERS</b>		Volumes	
		Existing Conditions	Future (2020)
Pima Mine Road	NB On	20	5700
	NB Off	950	2500
	SB On	1000	2800
	SB Off	20	4800
	Cross over	1050	8900
Sahuarita Road	NB On	800	4500
	NB Off	1850	2600
	SB On	1900	11200
	SB Off	900	700
	Cross over	3700	20800
Duval Mine Road	NB On	3700	6000
	NB Off	3700	2500
	SB On	5000	3800
	SB Off	2400	6700
	Cross over	11300	17400
Esperanza Boulevard	NB On	2600	3500
	NB Off	3200	10500
	SB On	4000	3800
	SB Off	4800	9700
	Cross over	10650	23900
Continental Road	NB On	4700	10100
	NB Off	800	550
	SB On	1300	2200
	SB Off	6400	6500
		16800	16100

Note: The forecasts in this table do not include through traffic from one external station to another. See discussion in text.

## Transit Considerations

Since there currently is no transit service in the area, trips made by transit do not occur. However, if service was provided, between two percent and 5 percent of all trips could be made on public transit. As an initial estimate of transit demand in Sahuarita, between 240 and 600 transit trips could be made.<sup>8</sup> If Green Valley's population of 25,000 is factored into the analysis, the number of trips could increase tenfold. These person-trips would result in a slight reduction of vehicular traffic and probably would have no effect on the future roadway system improvements. However, transit would provide an optional mode of travel for those who do not own or can not drive a car. This particularly impacts the transit-dependent population, which includes the elderly, young, low income, and persons with disabilities. Most of the transit trips would be made by these segments of the population.

Clearly, there is a need for transit service in the Sahuarita and Green Valley areas. Possible strategies for formally considering transit include the following:

- ✓ Establish a council-appointed committee on transit issues.
- ✓ Identify a staff member to coordinate transit development and implementation.
- ✓ Define transit goals and service needs through a public involvement process.
- ✓ Establish formal coordination with Pima County and Green Valley representatives.
- ✓ Prepare a transit plan through a consultant contract, with an expected cost of \$10,000.
- ✓ Submit an application to State and Federal agencies for capital (buses, etc.) and operating expenses.

## Environmental Justice Screening

Title VI of the Civil Rights Act of 1964 and related laws assure that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination on the basis of race, color, national origin, age, sex, and disability. Executive Order 12898 on Environmental Justice directs that programs, policies, and activities not have a disproportionately high and adverse human health and environmental effect on minority and low-income populations. Alternative transportation improvements should not adversely impact such groups disproportionately. Moreover, an array of alternatives should be developed which provide transportation services to all groups.

The Arizona Department of Transportation (ADOT) has issued the document Guidance on Title VI and Environmental Justice to provide information on insuring that Title VI and Environmental Justice factors are considered in project development, environmental assessments, and environmental impact statements. Although the guidance is for projects in the development and environmental stages, the general approach outlined in the Guidance is used herein to identify related issues for potential projects analyzed in the planning process.

In order to consider Environmental Justice issues, a screening analysis is conducted to determine the existence of low income or other protected populations. The analysis must consider the impacts on these populations. The following two questions must be answered in order to address Environmental Justice concerns.

1. **Does the potentially affected community include minority or low income populations?** The answer to the first question for Sahuarita is yes, as shown in data obtained from the 1995 special census and PAG's population handbook. This information is reproduced in the appendix.

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<sup>8</sup> This estimate is based on seven external vehicle trips per day per household, auto occupancy of 1.7, 2500 population, and 2.5 residents per household. Then, transit trips =  $(2500 \times 1.7 \times 7 \times 2\%) / 2.5 = 238$ , say 240.



2. **Are the environmental impacts likely to fall disproportionately on minority or low income members and communities?** The answer to the second question must consider the types of projects likely to be recommended and the improvements stemming from these recommendations. This study recommends roadway reconstruction, widening, interchange improvements, new roadway expansion, bicycle and pedestrian facilities, and transit considerations. None of these types of projects is expected to have an adverse impact. Instead, they will expand the availability of transportation services by all modes, thereby increasing access, accessibility, and economic development within the Town of Sahuarita.

If projects are recommended by this study that could have adverse impacts, the project development and environmental assessment phases must identify those impacts and consider how to avoid, minimize, and mitigate adverse effects and impacts.

### Public Notification and Participation

The public was notified at open houses and public hearings on this project through various media. This included advertisements in local newspapers, legal notices, and posting of announcements. Special interest groups and the Arizona Department of Economic Security were also notified. Examples of the notification process are reproduced in the appendix.

The public participated during open houses on March 24, 1999 and July 28, 1999. There were public information meetings in December 1998 (at project initiation by the Town Council), on September 2, 1999 (Planning & Zoning Commission), and on September 23, 1999 (Mayor & Council acceptance of the study). Finally, the findings of the study were presented to the PAG Transportation Planning Committee on October 6, 1999.

## 6. Potential Funding Sources

### Introduction

This section provides an overview of the funding sources and amounts potentially available for the construction of desired improvements within the Town of Sahuarita. The major source dedicated to the Town is the Highway User Revenue Fund (HURF), which is derived mostly from the state gas tax. HURF provides only about \$160,000 per year, which pays for operations and maintenance costs. The Town also receives a small amount – about \$12,000 per year -- of Local Transportation Assistance Fund from the state. The LTAF can be used for roadways or transit, whereas HURF can be used for roadway purposes only. The Town must compete with other agencies for regional funds distributed by the Pima Association of Governments and for limited amounts of one-time County funds distributed as transportation bonds projects.

Established federal, state, and local funding programs are identified and discussed. The discussion includes the project types that the funding can be used for; State match requirements; fund constraints; an estimate of the amount of funding available; and a funding strategy for each of the desired improvements.

### Existing and Potential Revenue Sources

Transportation improvements in Arizona are typically funded through federal, state, and local revenue sources, or through a combination thereof. The funding categories indicated with an asterisk in ***bold italics*** are the revenue sources now relied on by the Town. The remaining sources have potential for use by the Town if specific conditions (such as roadway type, project type, and successful competition for the funds) are met. The discussion is intended as a resource guide for the Town when deliberating future projects and how they could be funded.

#### Federal

- ***Transportation Enhancements (TE)***, used mostly for bike and pedestrian projects. ***This is a competitive grant program.***
- Transportation Equity Act for the 21st Century (TEA-21):
- Federal Highway Administration (FHWA) programs:
- Surface Transportation Program (STP)
- National Highway System (NHS)
- Infrastructure Safety
- Federal Lands Highways
- Federal Transit Administration (FTA) programs:
- Formula Grant Program
- Capital Investment Grants

#### State

- ***Highway User Revenue Fund (HURF)***, the Town's major source of transportation revenue. It is distributed by formula.
- ***Local Transportation Assistance Fund (LTAF)***, a minor source of revenue.
- Highway Expansion and Extension Loan Program (HELP), which is a loan program

## Local

- **Pima County Transportation Bonds**, being used for improvements to Duval Mine Road and La Canada Drive.
- Pima Association of Governments (PAG) regional funds.
- Flood Control District Taxes
- Tohono O'odham Indian Nation

## Federal Sources

On June 9, 1998, the President signed into law PL 105-178, the Transportation Equity Act for the 21st Century, authorizing highway, highway safety, transit and other surface transportation programs for the next 6 years. TEA-21 builds on the initiatives established in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), which was the last major authorizing legislation for surface transportation. This new Act combines the continuation and improvement of current programs with new initiatives to meet the challenges of improving safety as traffic continues to increase at record levels, protecting and enhancing communities and the natural environment as we provide transportation, and advancing America's economic growth and competitiveness domestically and internationally through efficient and flexible transportation.

Following is a description of the federal highway and transit funds that may be available for roadway improvements.

### Federal Highway Administration Sources

#### *Surface Transportation Program (STP)*

The STP provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the National Highway System, bridge projects on any public roads, transit capital projects, and public bus terminals and facilities. A new provision permits a portion of funds reserved for rural areas to be spent on rural minor collectors. Other changes ensure the consideration of bicyclists and pedestrians in the planning process and facility design.

The Act expands and clarifies STP eligibilities, such as environmental provisions (natural habitat mitigation, stormwater retrofit, and anti-icing and de-icing), programs to reduce extreme cold starts, modification of sidewalks to meet Americans with Disabilities Act (ADA) requirements, infrastructure-based intelligent transportation systems capital improvements, and privately owned intercity bus terminals and facilities. Funding flexibility features established by the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) are retained.

Total funding provided for the STP over the 6 years is \$33.3 billion. These funds are to be distributed among the States based on each State's lane-miles of Federal-aid highways, total vehicle-miles traveled on those Federal-aid highways, and estimated contributions to the Highway Account of the Highway Trust Fund. A State may augment its STP funds by transferring funds from other programs. In addition, a portion of the Minimum Guarantee funds is administered as if they were STP funds.

Once the funds are distributed to the States, 10 percent is set aside for safety construction activities (i.e., hazard elimination and railway-highway crossing improvements), and 10 percent is set aside for Transportation Enhancements, which encompass a broad range of environmentally related activities. State suballocations, including a special rule for areas with less than 5,000 population are continued. Of amounts reserved for rural areas, up to 15 percent may be spent on rural minor collectors.

States are authorized by law to transfer up to 50 percent of STP funds to the NHS program (100 percent if approved by the U.S. Secretary of Transportation). The Fiscal Year

1999 apportionment of STP funds to Arizona is \$111.4 million. The State typically allocates STP funds to roadways other than the Interstate System. The Federal share of STP project costs in Arizona is 94.3 percent.

#### *National Highway System (NHS)*

The National Highway System is composed of 163,000 miles of rural and urban roads serving major population centers, international border crossings, intermodal transportation facilities, and major travel destinations, and includes connections to terminals designated by TEA-21. It includes the Interstate System, other urban and rural principal arterials, highways that provide motor vehicle access between the NHS and major intermodal transportation facilities, the defense strategic highway network, and strategic highway network connectors.

The NHS funding level is \$28.6 billion for the 6 years of the Act. These funds will be distributed based on a formula which has been revised to include each State's lane-miles of principal arterials (excluding Interstate), vehicle-miles traveled on those arterials, diesel fuel used on the State's highways, and per capita principal arterial lane-miles. The Act expands and clarifies eligibility of NHS funding for certain types of improvements, such as publicly owned bus terminals, infrastructure-based intelligent transportation system capital improvements, natural habitat mitigation, and pedestrian and bicycle facilities.

The Fiscal Year 1999 apportionment of NHS funds to Arizona is \$99.5 million. The State typically allocates NHS funds to the Interstate System first and then to other NHS facilities statewide based on need. States are authorized by law to transfer up to 50 percent of NHS funds to the STP (100 percent if approved by the U.S. Secretary of Transportation). The Federal share of NHS project costs in Arizona is 94.3 percent.

Of the State Routes included in the study area, only I-19 is included on the NHS.

#### *Infrastructure Safety*

Reflecting the importance of safety throughout all surface transportation programs, TEA-21 designates "the safety and security of the transportation system for motorized and non-motorized users" as one of the seven newly established areas to be considered in the overall planning process, both at the metropolitan and statewide level.

TEA-21 continues the requirement that 10 percent of each State's STP apportionment be set aside for safety construction activities. This will total approximately \$3 billion over 6 years. Project eligibility is broadened to include off-roadway and bicycle safety improvements. The Hazard Elimination program is opened to Interstates (previously excluded), any public transportation facility, and any public bicycle or pedestrian pathway or trail. Traffic calming projects are specifically mentioned. States must now include danger to bicyclists in surveys of hazardous locations. The Fiscal Year 1999 Infrastructure Safety funds in Arizona are \$11.1 million.

#### *Federal Lands Highways*

The Federal Lands Highways (FLH) program authorizations total \$4.1 billion for FYs 1998-2003. Funding is provided for the three existing categories of Federal Lands highways—Indian Reservation Roads (IRR), Park Roads and Parkways, and Public Lands Highways (discretionary and Forest Highways)—and for a new category called Refuge Roads, which are federally owned public roads providing access to or within the National Wildlife Refuge System.

FLH funds can be used for transit facilities within public lands, national parks, and Indian reservations and can also be used as the State/local match for most types of Federal-aid highway funded projects. Procedures and a fund allocation formula for the IRR program shall be developed through negotiated rulemaking with Indian tribal governments. Tribes

may contract for IRR projects under the Indian Self-Determination and Education Assistance Act provisions.

A nationwide priority program for improving deficient bridges on Indian Reservation Roads is established; a minimum of \$13 million per year of IRR funds is reserved for this purpose.

#### *Transportation Enhancements (TE)*

Transportation enhancement activities continue to be funded through a 10 percent set-aside from STP funds. In order to maximize the use of available TE funding, TEA-21 provides innovative financing alternatives for meeting matching requirements. The list of activities eligible for transportation enhancement funds is expanded, but all projects must relate to surface transportation.

Newly eligible are safety education activities for pedestrians and bicyclists, establishment of transportation museums, and projects to reduce vehicle-caused wildlife mortality. Provision of tourist and welcome center facilities is specifically included under the already eligible activity "scenic or historic highway programs." In addition, 1 percent of the transit urbanized area formula funds distributed to areas with populations greater than 200,000 must be used for transit enhancement projects specified in the Act.

The Fiscal Year 1999 TE funds in Arizona are \$11.1 million (10 percent of STP funds). The State of Arizona reserves one-half of the annual amount for State-sponsored TE projects, with a 94.3 percent Federal share of project costs. The remaining half of the TE funds is available to local jurisdictions throughout the state on a competitive basis.

#### *Federal Transit Administration Sources*

The basic structure of the Federal transit programs remains essentially the same, but several new programs and activities have been added and new features have been incorporated. The funding flexibility features first incorporated in the ISTEA and similar matching ratios to the highway programs have been retained. The definition of a capital project has been revised to include preventive maintenance, the provision of nonfixed route paratransit service, the leasing of equipment or facilities, safety equipment and facilities, facilities that incorporate community services such as daycare and health care, and Transit Enhancements. TEA-21 provides \$41 billion over the 6 years for transit programs, with \$36 billion of this amount guaranteed.

#### *Formula Grants*

The various Formula Grants programs are authorized at \$19.97 billion for FYs 1998-2003. After set-asides for the Rural Transportation Accessibility Incentive Program, the Clean Fuels program, and the Alaska Railroad, the remaining funding is apportioned using three statutory formulas for urbanized areas, nonurbanized areas, and special needs of the elderly and persons with disabilities.

Rural transportation accessibility incentive program: This program provides \$24.3 million for the 5-year period of FYs 1999-2003 for over-the-road bus service. The purpose of the funding is to help public and private operators finance the incremental capital and training costs of complying with the DOT's final rule on accessibility of over-the-road buses. Funding may be used for intercity fixed-route over-the-road bus service and other over-the-road service such as local fixed route, commuter, charter, and tour service.

Formula grant program for urbanized areas: Authorizations totaling \$18.03 billion for the 6-year period are provided for the Urbanized Area Formula Grant Program. Under this program, 91.23 percent of the funding is made available to all urbanized areas with a population of 50,000 or more. For urbanized areas with populations less than 200,000, funding may be used for either capital or operating costs at local option and without limitation.

For urbanized areas with populations of 200,000 or more, the definition of "capital" has been revised to include preventive maintenance.

Operating assistance for these larger areas is no longer an eligible expense. Also, for these larger areas, at least 1 percent of the funding apportioned to each area must be used for Transit Enhancement activities such as historic preservation, landscaping, public art, pedestrian access, bicycle access, and enhanced access for persons with disabilities.

The Tucson urbanized area allocation for FY 1999 is \$7.5 million.

Formula grant program for other than urbanized areas: This program receives 6.37 percent (\$1.18 billion over 6 years) of the funding available for apportionment in proportion to each State's nonurbanized population. Funding may continue to be used for capital, operating, State administration, and project administration expenses.

Formula grant program and loans for special needs of elderly individuals and individuals with disabilities. This program receives 2.4 percent (\$456 million over 6 years) of formula funding available and is apportioned based on each State's share of population for these groups of people.

Fiscal Year 1999 nonurbanized area funding statewide in Arizona is \$1.86 million.

Known as the 5311 Program, it includes a ratio of 80 percent federal funds and 20 percent local match funds for capital outlay, and 50 percent federal funds for operating expenses. ADOT funds 13 cities, counties, Indian tribes and non-profit organizations to operate these systems at the local level.

#### *Capital Investment Grants*

Capital investment grants are potentially available through the following program:

Bus: A total of \$3.55 billion is authorized for bus and bus-related facilities over the 6-year transportation program. A number of bus projects throughout the United States are identified for funding in FYs 1999 and 2000. The Secretary of Transportation will allocate available funding throughout the U.S. via a competitive grant selection process.

### State Sources

#### Highway User Revenue Funds (HURF)

The State of Arizona taxes motor fuels and collects a variety of fees and charges relating to the registration and operation of motor vehicles on the public highways of the state. These collections include gasoline and use fuel taxes, motor carrier taxes, vehicle license taxes, motor vehicle registration fees, and other miscellaneous fees. These revenues are deposited in the Arizona Highway User Revenue Fund (HURF) and are then distributed to the cities, towns and counties and to the State Highway Fund. Sahuarita received only \$159,340 in FY 1997-1998, and the amount is expected to remain relatively constant when adjusted for inflation, even though the Town's needs are increasing.

These taxes represent the primary source of revenues available to the state for highway construction and improvements and other related expenses. HURF collections totaled \$887.5 million in FY 1998, compared to the estimate of \$925.8 million. The results lagged the forecast by 4.1 percent and represented a decrease of 1.1 percent compared to the FY 1997 total.

This is the first year since FY 1992 that revenues have fallen below forecast. Four major factors have impacted the results this year. First are the significant legislative changes mandated as a result of last year's Motor Carrier and Fuel Tax legislation (SB 1144 and 1398). Second are changes brought by the Motor Vehicle Division's (MVD) revenue acceleration programs and a Vehicle License Tax accounting revenue recognition change. Third is the change to a staggered registration program for commercial vehicles registered in the state. Fourth is a policy change from utilizing a more conservative revenue forecast (60

percent probability level) to a somewhat less conservative forecast (50 percent probability level).

The Arizona Highway Fund, which consists of ADOT Discretionary funding, is used to match available Federal funds, generally at a match proportion of 5.7 percent. Discretionary funds remaining after Federal match are generally used to fund projects in rural areas.

#### Highway Expansion and Extension Loan Program (HELP)

House Bill 2488, enacted into law on August 21, 1998, established a comprehensive loan and financial assistance program for eligible highway projects in Arizona. The new program designated as Highway Expansion and Extension Loan Program or HELP provides communities in Arizona a new financing mechanism to stretch limited transportation dollars and helps bridge the gap between the needs and available revenues. A 1995 statewide needs study identified an \$8.8 billion funding shortfall for state highways, country roads, and city streets over the ten year period from 1995 - 2005.

This new mechanism, often referred to as a State Infrastructure Bank (SIB), was initially authorized by Congress under the provisions of the National Highway System Designation Act of 1995. SIBs operate much like a bank, providing financial assistance in the form of loans or credit enhancement for eligible projects. Under the Federal program, the SIB can be capitalized with both Federal and state dollars, providing the equity capital for loans. As borrowers repay principal and interest on loans, the bank is replenished and monies can be reloaned so that the SIB becomes a self-sustaining mechanism to fund critical transportation projects. There is also the potential of attracting private capital through this financing mechanism. Over time a state's financing capacity is permanently increased through interest on loans and bank balances.

Arizona was one of the first states approved by the Secretary of Transportation to participate in the pilot program. As a pilot state, Arizona was authorized to allocate up to 10 percent of its apportioned Federal funds in certain categories for fiscal year 1996 and 1997 to capitalize the bank. HB 2488 incorporates the Federal SIB requirements.

It is important to note that, although state legislation was not enacted in 1996 at the time Arizona was selected to participate in the Federal SIB pilot program, the Attorney General's Office determined that ADOT had sufficient authority to implement a SIB with certain limitations. For the long term, it was recognized that State specific legislation would be needed for Arizona to fully realize the benefits of this new financing mechanism and to provide local communities expanded access to the program.

HB 2488 was significant legislation for Arizona as it will enable highway projects to be built sooner, more effectively utilize existing resources, make more projects viable, and contribute to economic development.

HB 2488 includes the following key provisions:

- Authority for cities, towns, counties, Indian tribes, and state agencies (including ADOT) to enter into loan agreements.
- Authority in state law for HELP (or SIB) program. No additional bonding at either the state or local level is authorized.
- Places program under authority of State Transportation Board. ADOT has administrative responsibility for the program. A seven-member Advisory Committee is established with appointments made by the Governor, Speaker of the House, and President of the Senate. The Director of ADOT or designee serves as chairperson for the Advisory Committee.
- Defines eligible projects to include projects that are both: (a) state highways, or state routes, or are on the federal aid system, or on the national highway system, and (b) in

the state highway construction plan, or transportation plan of a regional association of governments.

- Establishes criteria to be considered in evaluating proposed projects. Preference would be given for local or private participation.
- Provides that the HELP monies could be used to make eligible project loans; subsidize interest rates; provide other financial assistance subject to the Transportation Board's approval; and pay costs to administer the fund.
- Requires that all loans advanced with General Fund monies, if such monies are appropriated and available, be repaid within five years of opening a highway to traffic. Loans made under the Federal provisions would have a 10-year repayment period.
- Permits communities to advance funds to ADOT to accelerate project construction.
- Requires an Annual Report

Given its designation as a pilot state and the benefits to the state in terms of the ability to accelerate highway construction through loans and other forms of financial assistance, ADOT pursued implementation of the SIB program on a limited basis. The first step in the implementation process was to enter into a cooperative agreement with the U.S. Department of Transportation to charter the Arizona SIB. This positioned Arizona for receiving \$6.7 million in additional federal monies from a special U.S. General Fund appropriation of \$150 million.

The next steps taken were the establishment and capitalization of the bank with federal funds and state matching monies, as authorized under federal law. The bank was first capitalized in October 1996. To date, Arizona's bank has been capitalized with \$35.1 million in federal funds and \$2.4 million in state matching monies. With interest earnings of \$2.2 million, the SIB account as of October 31, 1998 reflected a balance of \$39.7 million.

#### Local Transportation Assistance Fund (LTAF)

The LTAF is funded from lottery revenues at a flat rate statewide of approximately \$23.0 million per year. Cities and towns receive a proportion of LTAF funding based on population, with a minimum guarantee of \$10,000 per year. Cities of 300,000 population or more must use LTAF entirely for transit purposes, while cities under 300,000 population may use LTAF on roads, streets, or transit. Real purchasing power of LTAF diminishes on an annual basis because there is no provision for inflation. Sahuarita's share of the LTAF was only \$12,000 in FY 1997-1998.

#### Local Sources

A variety of revenue sources administered by the Town, PAG, Pima County, and the Tohono O'odham Nation exist which can potentially be used for some improvements. The major sources include local share HURF, STP, PAG 2.6%,<sup>9</sup> FTA, LTAF, general fund revenues, and Pima County Flood Control District funds. Although available for improvements on major roadways, these funding sources are considered supplemental for project implementation.

#### Funding Strategies

Programmed and potential improvement projects for the study area have been identified and are presented in the following sections. The principal sources of funding for

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<sup>9</sup> The 2.6% funds were formerly known as 15% limited access corridor funds, as distributed by the allocation formula contained in state law.



these improvements will be from the Town's Highway User Revenue Fund and Surface Transportation Program. Funding is also potentially available from the Transportation Enhancements component of the STP for qualifying projects.

Although the State is authorized to use National Highway System funds on I-19 within urban Tucson and is also authorized to transfer NHS funds to the STP, based on past State practices this study assumes NHS funds will be unavailable for non-interstate highways. Also, it is unlikely that locally controlled funding will be made available in major amounts for these projects. Pima County may participate in needed drainage improvements, using Pima County Flood Control District funds. PAG 2.6% funds may also become available for the proposed widening Old Nogales Highway. Use of other locally controlled funding such as LTAF is unlikely due to the limited availability of these funds and competition by maintenance projects needs.

Most agencies typically allocate single revenue sources to specific projects when programming funds. The revenue strategy presented within this study recommends use of multiple sources for several of the proposed projects. It is likely that a single source such as HURF or STP will provide a majority of the funding for each project. However, additional sources are proposed which may help the funding feasibility of each project as well as help move the projects forward in scheduling. Specific funding ratios for multi-fund projects are not estimated. Funding ratios should be proposed as part of the project prioritization and programming process.

### Project Partnerships

Sahuarita has historically sought out partners to help fund its roadway improvements. Inviting other parties to financially participate could speed up the improvements or add project elements beneficial to all parties. The cost of many projects could be shared by the project beneficiaries, i.e., the jurisdictions or constituencies using the facilities and the agency owning the facility (i.e., the Town or ADOT).

The Town should continue seeking out partners for the improvements listed in this study. There is little to loose in the process. Even if no additional funding is achieved, the potential for project innovation creation of interest in the projects may make the attempt worthwhile.

## 7. Transportation Plan

The Sahuarita Transportation Plan includes three components. First is the roadway development plan, which includes recommendations for projects and project funding. The second is an alternate modes plan. Third is a policy and implementation plan for inclusion in the Town's General Plan.

### Roadway Development Plan

The travel demand model has helped to identify roadway improvements needed now and in the future. The recommended roadway improvements are shown graphically in Exhibit 13 and defined in tabular format in Exhibit 14. The cost of the improvements and the potential funding sources are also shown in Exhibit 14 and total almost \$51 million. The Town will need to spend about \$12 million in the next 20 years to implement the plan. An additional \$39 million will be needed from other sources, including cost sharing and public/private partnerships. Note that some of the listed projects will be built entirely by other agencies or by developers. Also, note that the costs are based on level of service C performance. The costs would be somewhat less if LOS D becomes the future performance standard.

The exhibit identifies project priorities. Priority 1 projects need to be planned now and constructed within the next 3 to 8 years. Priority 2 projects are needed within 8 to 15 years, and priority 3 projects are needed in the 20 + year time frame. Note that there are no projects that need to be constructed in the very near term because the overall performance of the roadway system is very good. The exception is Duval Mine Road/I-19 area, which is already under planning and design by ADOT.

### Alternate Modes Plan

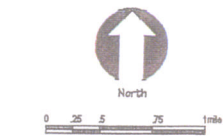
The key to good alternate modes planning is to have (1) adopted roadway cross sections and roadway development procedures that require alternate mode facilities, and (2) individual planning guidelines for trails, pedestrian facilities, and bike routes. Fortunately all of this information is already available for the Town to adopt and utilize.

The Town's roadways, in conjunction with parks and trails plans, need to better support alternate modes. All new roadways should have cross sections that consistently comply with regionally accepted practice. Since the Town does not currently have adopted roadway standards, it should consider formal adoption of the City of Tucson or Pima County development standards for major streets and for subdivision streets. Both of these sets of standards provide sufficient guidance on bicycle, pedestrian, and transit facilities within the roadway cross section without having to "reinvent the wheel."

PAG is currently completing a regional bike and pedestrian plan, which includes the Town of Sahuarita. Town staff needs to insure that the PAG plan meets its needs, and provide input to PAG over the coming months. In the future, the Town could consider preparing a more comprehensive plan of its own. In the meantime, however, the Town should take advantage of the ongoing efforts. This study recommends the bike system shown in Exhibit 15. Funding for the improvements can come from enhancement grants or from inclusion of bike and pedestrian elements into new roadway construction and reconstruction projects.

Regarding carpooling, the Town, in collaboration with ADOT, should consider providing park-and-ride lots or carpool lots at strategic locations along I-19. These could be at the Duval Mine Road interchange area, at Sahuarita Road, or as joint-use lots within new master planned or commercial developments near the freeway.

# Exhibit 13 Proposed Transportation System

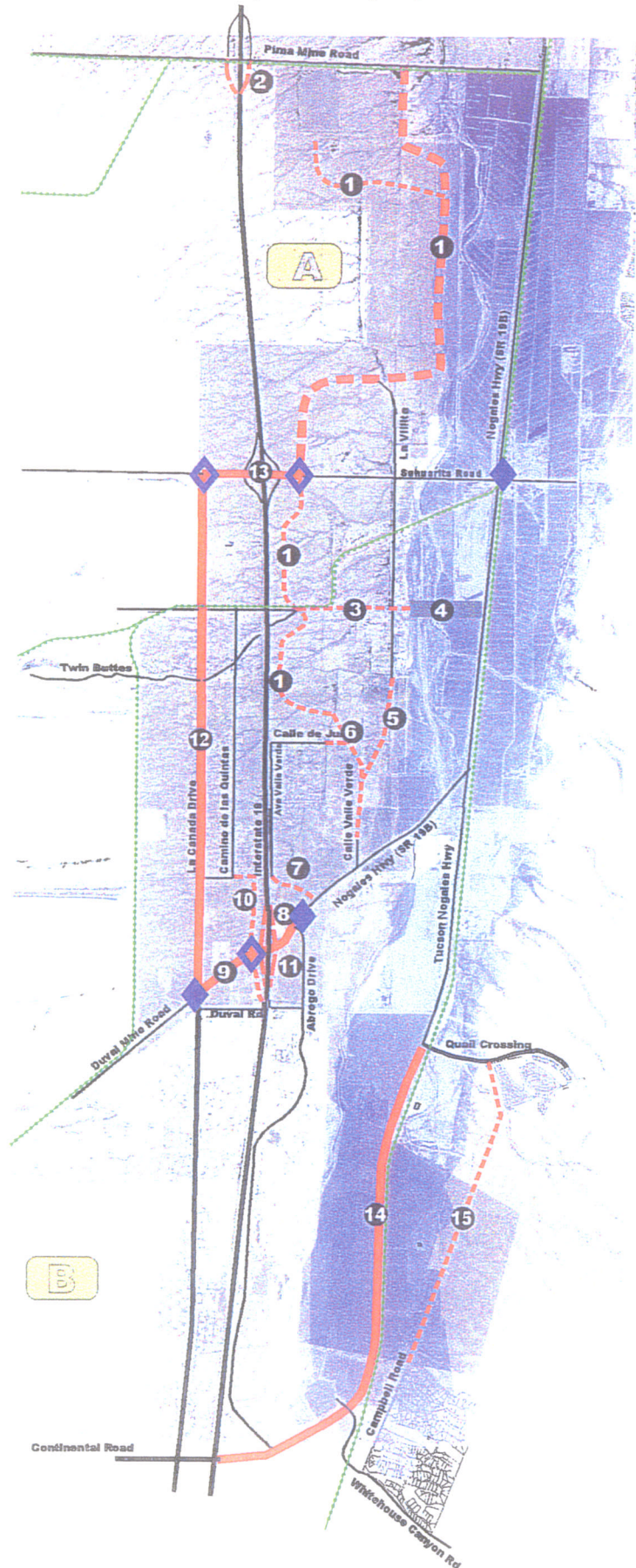


- Existing 2-lane Road
- Existing 4-lane Road
- Improved Roadway to 4 lanes
- - - New/Reconstructed Ramp
- - - New 4-lane Road
- - - New 2-lane Road
- - - Rail Line
- ◆ Existing Traffic Signal
- ◆ Future Traffic Signal

## FUTURE ROADWAYS AND IMPROVEMENTS

- 1 New Rancho Sahuarita roadways
- 2 Construct Northbound Off and Southbound On Ramps at Pima Mine Interchange
- 3 Extend El Toro Road to the Santa Cruz River
- 4 Reserve corridor for future extension of El Toro Road across the Santa Cruz River
- 5 Extend La Villita to Old Nogales Highway
- 6 Extend Rancho Sahuarita Road to La Villita
- 7 Abandon East Frontage Road north of Old Nogales Hwy and construct new roadway east of Walmart Center
- 8 Reconstruct and realign Duval Mine Road T.I. ramps
- 9 Improve Duval Mine/ Nogales Highway to 4 lanes from La Canada to Abrego Drive
- 10 Extend West Frontage Road north of Duval Mine
- 11 Abandon East Frontage Road south of Nogales Hwy
- 12 Improve La Canada to 4 lanes from Duval Mine Road to Sahuarita Road
- 13 Improve Sahuarita Road to 4 lanes from La Canada Drive to Rancho Sahuarita
- 14 Improve Old Tucson/Nogales Highway to 4 lanes from Continental Road to Nogales Highway
- 15 Extend Campbell Road from Madera Reserve to Quail Creek

- A Sahuarita Corridor
- B Future Camino del Sol Extension



**Exhibit 14 Project Descriptions and Funding Sources**

Map Key	Priority	Description	Recommended Improvement	Approximate Cost	Town Share (Estimate, %)	Other Sources	Comments
1	2	New Roadways in Rancho Sahuarita	Build new roads according to adopted standards.	N/A	0%	100%	Developer funded improvements
2	2	Pima Mine Road Ramps	Northbound on; southbound off ramps	\$2,000,000	0%	100%	Casino and/or ADOT funding
3	2	El Toro Road Extension Phase 1	Extend to Santa Cruz River, pave and reconstruct as two lane roadway.	\$1,500,000	60%	40%	Developer contributions
4	3	El Toro Road Extension Phase 2	Extend from Santa Cruz River to Nogales Highway	\$4,000,000	50%	50%	Developer contributions
5	2	La Vallita Extension	Extend and realign	\$2,500,000	50%	50%	Developer contributions
6	2	Rancho Sahuarita Extension	Extend to La Vallita	\$750,000	50%	50%	Developer contributions
7	1	East Frontage Road Abandonment	Abandon and remove portion of east frontage north of Duval Mine Road; replace with alternate, developer constructed route	\$250,000	0%	100%	Include in Duval TI project
8	1	Duval Mine Road Interchange Reconstruction	Build urban-style TI; reconfigure ramps and frontage roads	\$10,000,000	0%	100%	ADOT-funded planning, design, and construction
9	1	Duval Mine Road widening	Widen to 4-lane section from La Canada Drive to Abrego	\$4,000,000	10%	90%	Pima County bond project
10	1	West Frontage Road realignment	Realign WFR north of Duval Mine to access developing property	\$500,000	50%	50%	Feasibility to be determined during ADOT's TI design project.
11	1	East Frontage Road abandonment	Abandon and remove portion of east frontage from Duval Mine Road to Duval Road	\$200,000	0%	100%	Include in Duval TI project; frontage road function is replaced by newly constructed Abrego Extension through La Jolla Verde.
12	2	La Canada Drive widening	Widen to four lanes from Duval Mine Road to Sahuarita Road	\$7,000,000	10%	90%	County bond project
13	3	Sahuarita Road widening and overpass reconstruction	Widen to 4-lane section from La Canada to Rancho Sahuarita	\$8,000,000	20%	80%	ADOT and developer funding
14	2	Old Nogales Highway widening	Widen to four lanes from Quail Crossing Blvd to Continental Road	\$9,000,000	50%	50%	Developer co-funding
15	2	Campbell Avenue extension	Extend as collector road from Quail Creek to Madera Reserve	\$500,000	0%	100%	Developer funded exaction
A	3	Sahuarita Corridor	Environmental Assessment update and regional coordination	\$200,000	0%	100%	ADOT funded with Town participation
B	3	Camino del Sol Extension	Extend from Continental Road to Duval Mine Road	\$250,000	0%	100%	Pre-planning studies only.
<b>Totals</b>				<b>\$50,650,000</b>	<b>\$11,975,000</b>	<b>\$38,675,000</b>	

Exhibit 15 Proposed Bike System





## Transit Service

The Town of Sahuarita has a fairly large proportion of low income and elderly residents who could benefit from local transit service and service to the Tucson metropolitan area. Transit would provide an alternative mode of travel for those with a car and could be the only mode available for those without a car. Transit typically serves from 2% to 5% of the trips, which could be from 240 to 600 passenger trips per day now, and up to 3000 trips per day in the future. If Green Valley is included in the service area, then the number of trips could increase several times.

Transit service could be via an express route to Tucson from Green Valley and Sahuarita, with stops at the carpool/park-n-ride lots mentioned above. The service could also follow Old Nogales Highway, and provide a connection to major employment centers in the southern tier of the Tucson urban area. The type of service would need to be addressed in a feasibility study with project partners, but some type of transit service seems necessary now, and will certainly be needed in the future.

The Town residents and businesses would benefit from transit services, but Sahuarita clearly does not have enough funds (HURF or LTAF) to provide the service by itself. Instead, the Town should request Pima County to take the lead and provide transit service extensions to Green Valley and Sahuarita, with connections to SunTran service in the metropolitan area. The funding section identifies some revenue sources available for the service.

A discussion with PAG staff and Pima County, via the PAG Transportation Planning Committee is recommend as a way to initiate the service. The Town should also establish a citizen-based transit committee which would work with the Green Valley Coordinating Council and PAG to introduce transit to the area and to obtain necessary technical support and funding.

## Safety Projects

There are three types of safety projects suggested in this study. The first is drainage improvements to provide all weather access on major routes. The second is the consideration for railroad at-grade crossing improvements. PAG has completed a railroad crossing study that determined the Sahuarita Road/UPRR spur line crossing was the only problematic crossing in the study area. The problem is the proximity of the crossing to the intersection, which could cause longer vehicles such as school buses to be at risk. PAG has resolved the issue through interim measures such as allowing minor variation of State traffic laws for longer vehicles, and recommending alterations to the traffic control devices and striping. The remaining crossings have adequate safety devices and are in adequate condition.

Since there are no apparent immediate needs for grade separations, this plan does not include any. However, the need for grade separations should be reviewed periodically based on safety experience and traffic volumes. Major roadway projects, such as widening of La Canada should include consideration of a grade separation as part of the study efforts. If a grade separation is warranted, it should be included in the project development costs, and additional safety funding sought for the improvements.

Third, the need to standardize the street names discussed earlier is as much a safety issue as it is a way finding problem. The Town Council needs to resolve the problem, with cooperation from the Pima County addressing coordinator. There may be costs of name changes incurred by area residents with addresses along the affected streets. The Town may wish to provide financial assistance to some of the property owners to help facilitate the name standardization.

## Transportation Policies

The Town of Sahuarita should have the following items officially adopted and included (or at least referenced) in the General Plan.

1. A circulation element showing the major roadways, recommended minimum rights of way, and proposed roadway improvements.
2. An annual Transportation Improvement Program describing project scope, schedule, and funding sources.
3. Roadway Development Standards describing the planning and programming methods for major improvements and establishing design criteria for major roads. The Town can adopt the standards of another jurisdiction such as Pima County and the City of Tucson.
4. Subdivision Street Development Standards that describe how streets within residential and commercial areas are to be designed and built. Again, the Town can adopt standards from another local agency.
5. A public transit and alternate modes plan, in cooperation with PAG, Pima County, and SunTran.
6. A fair-share roadway policy or a development impact fee ordinance that obtains financial participation from developers for building offsite roadway improvements serving their developments. Such a policy is part of the Metropolitan Transportation Plan, to which the Town is already committed.
7. A transportation revenues plan and forecast that ties into the TIP and the land development process.
8. A comprehensive development traffic impact ordinance that involves other agencies such as ADOT and Pima County in the identification of project impacts. This is consistent with the requirements of the PAG Mobility management Plan.
9. A series of strategies to monitor and enhance transportation revenues to ensure that the needed projects and services are built or provided when needed. New revenue sources that could be considered include development impact fees, sales taxes, and property taxes. PAG will soon be updating its regional revenue forecasts, and the Town should be able to gain significant insight from PAG's efforts.

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# APPENDIX

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## Environmental Justice/Census Data

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## SOCIO-ECONOMIC OVERVIEW

### Summary of Population and Housing

Classification	Population	% of Total
White	1888	87%
Black	5	0%
American Indian	25	1%
Asian	19	1%
Other	236	11%
<b>Total</b>	<b>2173</b>	<b>100%</b>

Hispanic Origin of Any Race	516	24%
White, not of Hispanic Origin	1612	76%
<b>Total</b>	<b>2128</b>	<b>100%</b>

Data Source: 1995 Special Census, provide by PAG

Poverty Status in 1989						
Age	Above	% Above	% of Grand Total	Below	% Below	% of Grand Total
Under 5	162	6.2%	5.5%	75	20.1%	2.5%
5	25	1.0%	0.8%	10	2.7%	0.3%
6 to 11	262	10.1%	8.8%	49	13.1%	1.7%
12 to 17	300	11.6%	10.1%	48	12.8%	1.6%
18 to 24	178	6.9%	6.0%	28	7.5%	0.9%
25 to 34	291	11.2%	9.8%	74	19.8%	2.5%
35 to 44	401	15.5%	13.5%	21	5.6%	0.7%
45 to 54	417	16.1%	14.0%	49	13.1%	1.7%
55 to 58	153	5.9%	5.2%	7	1.9%	0.2%
60 to 64	175	6.7%	5.9%	6	1.6%	0.2%
65 to 74	168	6.5%	5.7%	0	0.0%	0.0%
75 and over	63	2.4%	2.1%	7	1.9%	0.2%
<b>Total</b>	<b>2595</b>	<b>100.0%</b>	<b>87.4%</b>	<b>374</b>	<b>100.0%</b>	<b>12.6%</b>
<b>Grand Total</b>	<b>2969</b>					

Data Source: 1990 Census, for Zip Code 85629

(URL reload)

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**1990 US Census Data**  
**Database: C90STF3B**  
**Summary Level: ZIP Code**

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**Pima County (pt.) : ZIP=85629****PERSONS**

Universe: Persons

Total.....2969

**MEANS OF TRANSPORTATION TO WORK**

Universe: Workers 16 years and over

Car, truck, or van:

Drove alone.....968

Carpooled.....175

Public transportation:

Bus or trolley bus.....0

Streetcar or trolley car.....0

Subway or elevated.....0

Railroad.....0

Ferryboat.....0

Taxicab.....0

Motorcycle.....5

Bicycle.....18

Walked.....30

Other means.....39

Worked at home.....49

**PRIVATE VEHICLE OCCUPANCY**

Universe: Workers 16 years and over

Car, truck, or van:

Drove alone.....968

In 2-person carpool.....152

In 3-person carpool.....14

In 4-person carpool.....9

In 5-person carpool.....0

In 6-person carpool.....0

In 7-or-more person carpool.....0

Other means.....141

**HOUSEHOLD INCOME IN 1989**

Universe: Households

Less than \$5,000.....41

\$5,000 to \$9,999.....62

\$10,000 to \$12,499.....52

\$12,500 to \$14,999.....30

\$15,000 to \$17,499.....73

\$17,500 to \$19,999.....112

\$20,000 to \$22,499.....62

\$22,500 to \$24,999.....42

\$25,000 to \$27,499.....66

\$27,500 to \$29,999.....38

\$30,000 to \$32,499.....64

\$32,500 to \$34,999.....15

\$35,000 to \$37,499.....18

\$37,500 to \$39,999.....25

\$40,000 to \$42,499.....35

\$42,500 to \$44,999.....23

\$45,000 to \$47,499.....14

\$47,500 to \$49,999.....	20
\$50,000 to \$54,999.....	30
\$55,000 to \$59,999.....	55
\$60,000 to \$74,999.....	51
\$75,000 to \$99,999.....	43
\$100,000 to \$124,999.....	0
\$125,000 to \$149,999.....	0
\$150,000 or more.....	26

**MEDIAN HOUSEHOLD INCOME IN 1989**

Universe: Households

Median household income in 1989.....25928

**AGE OF HOUSEHOLDER BY HOUSEHOLD INCOME IN 1989**

Universe: Households with householder of Hispanic origin

Under 25 years:

Less than \$5,000.....	0
\$5,000 to \$9,999.....	0
\$10,000 to \$14,999.....	0
\$15,000 to \$24,999.....	0
\$25,000 to \$34,999.....	6
\$35,000 to \$49,999.....	0
\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0

25 to 34 years:

Less than \$5,000.....	7
\$5,000 to \$9,999.....	7
\$10,000 to \$14,999.....	8
\$15,000 to \$24,999.....	23
\$25,000 to \$34,999.....	14
\$35,000 to \$49,999.....	7
\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0

35 to 44 years:

Less than \$5,000.....	0
\$5,000 to \$9,999.....	0
\$10,000 to \$14,999.....	0
\$15,000 to \$24,999.....	40
\$25,000 to \$34,999.....	0
\$35,000 to \$49,999.....	18
\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0

45 to 54 years:

Less than \$5,000.....	0
\$5,000 to \$9,999.....	0
\$10,000 to \$14,999.....	0
\$15,000 to \$24,999.....	13
\$25,000 to \$34,999.....	13
\$35,000 to \$49,999.....	0
\$50,000 to \$74,999.....	7
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0

55 to 64 years:

Less than \$5,000.....	0
\$5,000 to \$9,999.....	8
\$10,000 to \$14,999.....	0
\$15,000 to \$24,999.....	40
\$25,000 to \$34,999.....	0
\$35,000 to \$49,999.....	0

\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0
65 to 74 years:	
Less than \$5,000.....	0
\$5,000 to \$9,999.....	4
\$10,000 to \$14,999.....	6
\$15,000 to \$24,999.....	7
\$25,000 to \$34,999.....	6
\$35,000 to \$49,999.....	0
\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0
75 years and over:	
Less than \$5,000.....	0
\$5,000 to \$9,999.....	0
\$10,000 to \$14,999.....	0
\$15,000 to \$24,999.....	0
\$25,000 to \$34,999.....	0
\$35,000 to \$49,999.....	0
\$50,000 to \$74,999.....	0
\$75,000 to \$99,999.....	0
\$100,000 or more.....	0
<b>EARNINGS IN 1989</b>	
Universe: Households	
With earnings.....	868
No earnings.....	129
<b>AGGREGATE PERSONS IN HOUSEHOLDS BY PUBLIC ASSISTANCE INCOME IN 1989</b>	
Universe: Persons in households	
Total:	
With public assistance income:	
Under 15 years.....	18
15 to 64 years.....	77
65 years and over.....	13
No public assistance income:	
Under 15 years.....	724
15 to 64 years.....	1907
65 years and over.....	220
<b>FAMILY INCOME IN 1989</b>	
Universe: Families	
Less than \$5,000.....	21
\$5,000 to \$9,999.....	40
\$10,000 to \$12,499.....	34
\$12,500 to \$14,999.....	20
\$15,000 to \$17,499.....	73
\$17,500 to \$19,999.....	82
\$20,000 to \$22,499.....	39
\$22,500 to \$24,999.....	34
\$25,000 to \$27,499.....	50
\$27,500 to \$29,999.....	38
\$30,000 to \$32,499.....	45
\$32,500 to \$34,999.....	15
\$35,000 to \$37,499.....	12
\$37,500 to \$39,999.....	25
\$40,000 to \$42,499.....	35
\$42,500 to \$44,999.....	23
\$45,000 to \$47,499.....	14
\$47,500 to \$49,999.....	12
\$50,000 to \$54,999.....	30
\$55,000 to \$59,999.....	48

\$60,000 to \$74,999.....	51
\$75,000 to \$99,999.....	35
\$100,000 to \$124,999.....	0
\$125,000 to \$149,999.....	0
\$150,000 or more.....	26

**POVERTY STATUS IN 1989 BY AGE**

Universe: Persons for whom poverty status is determined

Income in 1989 above poverty level:

Under 5 years.....	162
5 years.....	25
6 to 11 years.....	262
12 to 17 years.....	300
18 to 24 years.....	178
25 to 34 years.....	291
35 to 44 years.....	401
45 to 54 years.....	417
55 to 59 years.....	153
60 to 64 years.....	175
65 to 74 years.....	168
75 years and over.....	63

Income in 1989 below poverty level:

Under 5 years.....	75
5 years.....	10
6 to 11 years.....	49
12 to 17 years.....	48
18 to 24 years.....	28
25 to 34 years.....	74
35 to 44 years.....	21
45 to 54 years.....	49
55 to 59 years.....	7
60 to 64 years.....	6
65 to 74 years.....	0
75 years and over.....	7

**POVERTY STATUS IN 1989 BY RACE BY AGE**

Universe: Persons for whom poverty status is determined

Income in 1989 above poverty level:

White:

Under 5 years.....	136
5 years.....	13
6 to 11 years.....	219
12 to 17 years.....	221
18 to 64 years.....	1364
65 to 74 years.....	148
75 years and over.....	63

Black:

Under 5 years.....	0
5 years.....	0
6 to 11 years.....	0
12 to 17 years.....	0
18 to 64 years.....	0
65 to 74 years.....	0
75 years and over.....	0

American Indian, Eskimo, or Aleut:

Under 5 years.....	0
5 years.....	0
6 to 11 years.....	0
12 to 17 years.....	0
18 to 64 years.....	10
65 to 74 years.....	0
75 years and over.....	0

## Asian or Pacific Islander:

Under 5 years.....	0
5 years.....	0
6 to 11 years.....	0
12 to 17 years.....	0
18 to 64 years.....	0
65 to 74 years.....	0
75 years and over.....	0

## Other race:

Under 5 years.....	26
5 years.....	12
6 to 11 years.....	43
12 to 17 years.....	79
18 to 64 years.....	241
65 to 74 years.....	20
75 years and over.....	0

## Income in 1989 below poverty level:

## White:

Under 5 years.....	50
5 years.....	0
6 to 11 years.....	34
12 to 17 years.....	48
18 to 64 years.....	153
65 to 74 years.....	0
75 years and over.....	7

## Black:

Under 5 years.....	0
5 years.....	0
6 to 11 years.....	0
12 to 17 years.....	0
18 to 64 years.....	0
65 to 74 years.....	0
75 years and over.....	0

## American Indian, Eskimo, or Aleut:

Under 5 years.....	7
5 years.....	6
6 to 11 years.....	11
12 to 17 years.....	0
18 to 64 years.....	6
65 to 74 years.....	0
75 years and over.....	0

## Asian or Pacific Islander:

Under 5 years.....	0
5 years.....	0
6 to 11 years.....	0
12 to 17 years.....	0
18 to 64 years.....	0
65 to 74 years.....	0
75 years and over.....	0

## Other race:

Under 5 years.....	18
5 years.....	4
6 to 11 years.....	4
12 to 17 years.....	0
18 to 64 years.....	26
65 to 74 years.....	0
75 years and over.....	0

**POVERTY STATUS IN 1989 BY FAMILY TYPE AND PRESENCE AND AGE OF CHILDREN**

Universe: Families

## Income in 1989 above poverty level:

## Married-couple family:

## With related children under 18 years:

Under 5 years only.....73

5 to 17 years only.....211

Under 5 years and 5 to 17 years.....56

No related children under 18 years.....300

## Other family:

## Male householder, no wife present:

## With related children under 18 years:

Under 5 years only.....6

5 to 17 years only.....0

Under 5 years and 5 to 17 years.....0

No related children under 18 years.....6

## Female householder, no husband present:

## With related children under 18 years:

Under 5 years only.....0

5 to 17 years only.....14

Under 5 years and 5 to 17 years.....15

No related children under 18 years.....49

## Income in 1989 below poverty level:

## Married-couple family:

## With related children under 18 years:

Under 5 years only.....0

5 to 17 years only.....0

Under 5 years and 5 to 17 years.....46

No related children under 18 years.....6

## Other family:

## Male householder, no wife present:

## With related children under 18 years:

Under 5 years only.....8

5 to 17 years only.....0

Under 5 years and 5 to 17 years.....0

No related children under 18 years.....0

## Female householder, no husband present:

## With related children under 18 years:

Under 5 years only.....0

5 to 17 years only.....6

Under 5 years and 5 to 17 years.....0

No related children under 18 years.....6



SPECIAL CENSUS OF TOWN OF  
SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 1. BASIC COUNTS OF POPULATION AND HOUSING

PERSONS												HOUSING		
		WHITE	BLACK	AMERICAN INDIAN ESKIMO OR ALEUT (ISLANDER)	ASIAN PACIFIC	OTHER RACES	HISPANIC ORIGIN OF ANY RACE	WHITE NOT OF HISPANIC ORIGIN	IN GROUP QUARTERS	TOTAL OCCUPIED	VACANT			
TOWN OF SAHUARITA		2,173	1,888	5	25	19	238	518	1,812	94	782	753	49	
TRACT: 004308		2,173	1,888	5	25	19	238	518	1,812	94	782	753	49	
ED 0001		927	863	3	11	13	7	182	745	39	305	288	19	
ED 0002		792	742	1	5	6	36	87	699	15	322	301	21	
ED 0003		454	283	1	9	.	191	287	178	-	155	148	9	

(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 2. PERSONS BY AGE, SEX, RACE AND HISPANIC ORIGIN

	TOTAL		RACE						ASIAN OR PACIFIC ISLANDER		OTHER RACE		HISPANIC ORIGIN (of any race)		WHITE not of Hispanic Origin									
			WHITE		BLACK		AMERICAN INDIAN, ESQIMO OR ALUT																	
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE						
ALL PERSONS	2,173	1,060	1,093	1,486	632	806	5	3	2	25	15	10	19	6	13	226	124	112	616	253	263	1,812	808	808
UNDER 5 YEARS	148	76	79	107	54	83	-	-	-	7	6	1	2	1	1	32	17	15	89	25	34	71	37	34
UNDER 1 YEAR	44	22	22	31	17	14	-	-	-	1	1	-	1	1	-	11	3	8	22	6	13	20	11	9
1 YEAR	22	13	9	16	10	8	-	-	-	1	1	-	1	1	-	4	2	2	10	6	4	16	8	4
2 YEARS	28	13	13	22	11	11	-	-	-	-	-	-	-	-	-	4	2	2	13	6	7	16	7	6
3 YEARS	30	16	14	19	8	11	-	-	-	3	3	-	-	-	-	6	6	3	13	7	6	15	7	8
4 YEARS	28	14	12	16	6	11	-	-	-	2	1	1	-	-	-	5	5	-	11	7	4	13	6	7
5 TO 9 YEARS	181	77	64	131	62	89	-	-	-	1	1	-	1	1	-	28	13	15	48	22	26	111	54	67
5 YEARS	36	21	16	29	17	12	-	-	-	-	-	-	-	-	-	7	4	3	11	6	8	25	16	9
6 YEARS	25	10	15	22	6	14	-	-	-	-	-	-	-	-	-	3	2	1	9	4	5	16	6	10
7 YEARS	33	20	13	28	15	10	-	-	-	1	1	-	1	1	-	6	3	3	16	6	5	22	14	8
8 YEARS	33	13	21	28	10	16	-	-	-	-	-	-	-	-	-	7	2	5	12	6	9	20	9	14
9 YEARS	34	14	20	29	12	17	-	-	-	-	-	-	-	-	-	5	2	3	9	2	4	26	12	16
10 TO 14 YEARS	202	116	92	178	86	102	-	-	-	3	1	2	1	1	-	20	12	8	62	24	28	146	62	84
10 YEARS	42	23	19	36	20	16	-	-	-	1	1	-	-	-	-	3	2	1	12	7	5	28	14	14
11 YEARS	32	17	15	27	13	14	-	-	-	1	-	-	-	-	-	4	4	-	14	7	7	18	10	3
12 YEARS	38	20	16	36	17	18	-	-	-	-	-	-	-	-	-	4	3	1	4	2	2	34	17	17
13 YEARS	45	22	23	34	19	19	-	-	-	1	-	-	1	1	-	5	2	3	12	4	8	32	17	15
14 YEARS	44	26	16	40	27	13	-	-	-	-	-	-	-	-	-	4	1	3	10	4	6	34	24	10
15 TO 18 YEARS	157	69	77	131	65	96	-	-	-	1	1	-	1	1	-	24	14	10	47	25	22	107	54	63
15 YEARS	33	19	14	25	13	12	-	-	-	-	-	-	1	1	-	7	6	1	13	10	3	18	9	10
16 YEARS	44	17	27	39	13	23	-	-	-	-	-	-	-	-	-	6	4	4	11	8	5	32	11	21
17 YEARS	30	16	11	26	10	8	-	-	-	-	-	-	-	-	-	4	1	3	9	6	4	21	14	7
18 YEARS	24	11	13	22	9	13	-	-	-	1	1	-	-	-	-	1	1	1	6	2	4	17	8	6
18 YEARS	26	14	12	22	12	10	-	-	-	-	-	-	-	-	-	4	2	2	8	2	6	16	12	6
20 TO 24 YEARS	52	39	23	71	28	43	-	-	-	-	-	-	-	-	-	21	13	6	35	18	17	67	21	38
20 YEARS	14	7	7	11	6	6	-	-	-	-	-	-	-	-	-	3	1	2	5	2	3	8	6	4
21 YEARS	16	7	9	14	6	9	-	-	-	-	-	-	-	-	-	2	2	-	3	2	1	13	5	6
22 YEARS	13	6	7	10	3	7	-	-	-	-	-	-	-	-	-	3	3	-	6	3	2	8	3	5
23 YEARS	29	8	23	33	3	20	-	-	-	-	-	-	-	-	-	6	3	3	11	4	7	18	2	16
24 YEARS	20	13	7	13	9	4	-	-	-	-	-	-	-	-	-	7	4	3	11	7	4	9	6	3

(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 2. PERSONS BY AGE, SEX, RACE AND HISPANIC ORIGIN

	TOTAL		RACE												HISPANIC ORIGIN (of any race)		WHITE not of Hispanic Origin					
			WHITE		BLACK		AMERICAN INDIAN, ESKIMO OR ALUT		ASIAN OR PACIFIC ISLANDER		OTHER RACE											
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE				
25 TO 29 YEARS	115	59	46	47	-	-	3	1	2	-	-	-	18	12	7	40	23	17	73	35	38	
30 TO 34 YEARS	139	68	71	68	-	-	2	1	1	2	-	2	17	8	6	24	16	18	100	50	50	
35 TO 39 YEARS	182	98	84	81	1	-	2	-	2	2	1	1	13	4	9	34	11	23	125	64	60	
40 TO 44 YEARS	137	71	66	65	1	1	3	3	-	1	-	1	7	2	5	21	9	12	112	58	53	
45 TO 49 YEARS	181	77	74	132	66	64	-	1	-	2	-	2	18	8	6	32	20	12	116	68	60	
50 TO 54 YEARS	145	84	81	128	62	67	1	1	1	3	-	3	11	2	9	34	12	22	108	52	64	
55 TO 59 YEARS	149	82	67	132	70	82	1	1	-	1	1	1	15	10	6	27	17	18	120	63	67	
60 TO 64 YEARS	116	80	56	108	55	83	1	-	-	2	1	1	8	3	2	15	8	8	89	53	49	
65 TO 69 YEARS	88	56	43	92	40	46	-	1	1	1	1	1	4	3	1	12	6	6	64	46	35	
70 TO 74 YEARS	86	48	38	86	46	34	-	-	-	-	-	-	-	-	-	3	2	1	63	46	37	
75 TO 79 YEARS	42	18	27	38	13	26	-	-	-	-	-	-	3	2	1	4	2	2	36	13	25	
80 TO 84 YEARS	38	18	20	38	19	19	-	-	-	-	-	-	1	-	1	6	2	3	34	17	17	
85 YEARS AND OVER	34	12	22	34	12	22	-	-	-	-	-	-	-	-	-	2	1	1	32	11	21	
18 YEARS AND OVER	1,605	760	1,363	679	709	6	3	2	14	7	7	14	3	11	137	71	86	314	181	1,212	598	613
65 YEARS AND OVER	370	182	188	173	182	-	-	-	1	-	1	1	-	1	11	7	4	37	17	23	331	166
85 YEARS AND OVER	286	148	150	144	145	-	-	-	1	-	1	-	1	6	6	3	28	13	15	271	138	135
MEDIAN AGE	37.4	37.4	37.6	36.8	36.9	53.5	58.5	46.6	25.6	10.8	30.6	44.6	24.5	47.3	24.0	23.0	25.6	26.1	25.4	27.2	40.7	41.1

(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUJARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 3: CHARACTERISTICS OF HOUSING UNITS BY RACE AND HISPANIC ORIGIN OF HOUSEHOLDER

	TOTAL	WHITE	BLACK	AMERICAN INDIAN ESKIMO OR ALEUT	ASIAN OR PACIFIC ISLANDER	OTHER RACE	HISPANIC ORIGIN OF ANY RACE	WHITE NOT OF HISPANIC ORIGIN
PERSONS								
IN OCCUPIED HOUSING UNITS	2,119	1,844	3	21	10	221	449	1,844
PER OCCUPIED HOUSING UNIT	2.89	2.84	1.60	3.00	2.00	3.86	3.48	2.79
IN OWNER OCCUPIED UNITS	1,801	1,800	3	9	8	201	300	1,301
PER OWNER OCCUPIED UNIT	2.86	2.92	1.50	2.25	2.00	3.59	3.55	2.85
UNITS, OWNER OCCUPIED								
1 PERSON	808	842	2	4	4	56	110	488
2 PERSONS	68	58	1	1	2	8	8	55
3 PERSONS	231	218	1	1	1	9	27	201
4 PERSONS	111	100	-	2	-	9	18	93
5 PERSONS	108	89	-	-	1	16	29	79
6 PERSONS	59	47	-	-	-	12	16	41
7 PERSONS	23	16	-	-	-	8	9	14
8 OR MORE PERSONS	7	7	-	-	-	-	1	6
	4	4	-	-	-	-	1	3
PERSONS								
IN RENTER OCCUPIED UNITS	319	284	-	12	2	20	59	253
PER RENTER OCCUPIED UNIT	2.84	2.47	-	4.00	2.00	3.33	3.11	2.43
UNITS, RENTER OCCUPIED								
1 PERSON	126	115	-	3	1	6	19	104
2 PERSONS	35	32	-	1	-	2	5	29
3 PERSONS	40	39	-	-	1	2	2	38
4 PERSONS	17	16	-	-	-	1	4	13
5 PERSONS	19	16	-	-	-	1	4	15
6 PERSONS	8	7	-	1	-	1	2	6
7 PERSONS	4	2	-	1	-	1	2	2
8 OR MORE PERSONS	1	1	-	-	-	-	-	1
	-	-	-	-	-	-	-	-

(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 3: CHARACTERISTICS OF HOUSING UNITS BY RACE AND HISPANIC ORIGIN OF HOUSEHOLDER

	TOTAL	WHITE	BLACK	AMERICAN INDIAN ESKIMO OR ALEUT	ASIAN OR PACIFIC ISLANDER	OTHER RACE	HISPANIC ORIGIN OF ANY RACE	WHITE NOT OF HISPANIC ORIGIN
TOTAL OCCUPIED HOUSING UNITS	733	657	2	7	6	62	129	692
OWNER OCCUPIED HOUSING UNITS	608	642	2	4	4	56	110	498
PERCENT OF ALL OCCUPIED UNITS	82.9	82.5	100.0	87.1	80.0	80.3	85.3	82.4
1 UNIT, DETACHED	474	438	1	3	4	28	66	397
1 UNIT, ATTACHED	1	1	-	-	-	-	-	1
2 UNITS	-	-	-	-	-	-	-	-
3 OR 4 UNITS	1	1	-	-	-	-	-	1
5 OR MORE UNITS	-	-	-	-	-	-	-	-
MOBILE HOME OR TRAILER	132	102	1	1	-	28	41	89
OTHERS	-	-	-	-	-	-	-	-
RENTER OCCUPIED HOUSING UNITS	126	115	-	3	1	6	19	104
PERCENT OF ALL OCCUPIED UNITS	17.1	17.5	-	42.9	20.0	9.7	14.7	17.6
1 UNIT, DETACHED	71	39	-	1	1	1	7	64
1 UNIT, ATTACHED	3	3	-	-	-	-	1	2
2 UNITS	2	2	-	-	-	-	-	2
3 OR 4 UNITS	7	7	-	-	-	-	-	7
5 OR MORE UNITS	-	-	-	-	-	-	-	-
MOBILE HOME OR TRAILER	42	35	-	2	-	5	11	29
OTHERS	-	-	-	-	-	-	-	-

(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 4: HOUSEHOLD AND FAMILY BY RACE AND HISPANIC ORIGIN

	TOTAL	WHITE	BLACK	AMERICAN INDIAN ESKIMO OR ALEUT	ASIAN OR PACIFIC ISLANDER	OTHER RACE	HISPANIC ORIGIN OF ANY RACE	WHITE NOT OF HISPANIC ORIGIN
ALL PERSONS	2,173	1,888	5	25	19	238	816	1,612
IN HOUSEHOLDS	2,119	1,834	5	25	19	238	811	1,663
HOUSEHOLDER	733	657	2	7	5	62	129	692
18 TO 24 YEARS	18	12	-	-	-	7	6	11
25 TO 34 YEARS	107	86	-	2	-	19	29	78
35 TO 44 YEARS	143	134	-	2	1	6	19	122
45 TO 54 YEARS	159	141	-	2	2	14	37	118
55 TO 64 YEARS	151	134	2	-	2	11	23	125
65 TO 74 YEARS	113	106	-	1	-	3	9	103
75 TO 84 YEARS	32	30	-	-	-	2	4	28
85 YEARS AND OLDER	9	9	-	-	-	-	-	9
FAMILY HOUSEHOLDER	613	552	-	5	3	53	112	485
MALE	530	484	-	4	3	38	85	437
FEMALE	83	68	-	1	-	14	24	58
NONFAMILY HOUSEHOLDER	120	105	2	2	2	9	17	97
MALE	63	57	2	-	-	4	8	53
LIVING ALONE	53	48	1	-	-	3	6	48
FEMALE	57	48	-	2	2	6	9	44
LIVING ALONE	50	41	-	2	2	5	8	38
SPOUSE	535	474	2	4	7	48	105	414
CHILD	712	655	-	10	4	113	231	488
ROOMMATE/PARTNER	28	23	1	1	1	3	10	17
OTHER RELATIVES	96	82	-	2	2	10	31	61
OTHER NONRELATIVES	14	13	-	1	-	-	2	11
IN GROUP QUARTERS	54	54	-	-	-	-	5	49
INSTITUTIONALIZED PERSONS	-	-	-	-	-	-	-	-
OTHER PERSONS IN GROUP QUARTERS	54	54	-	-	-	-	5	49
PERSONS PER HOUSEHOLD	2.89	2.78	2.50	3.57	3.80	3.81	3.86	2.64
PERSONS PER FAMILY	3.19	3.12	-	3.80	2.67	3.81	3.77	3.06

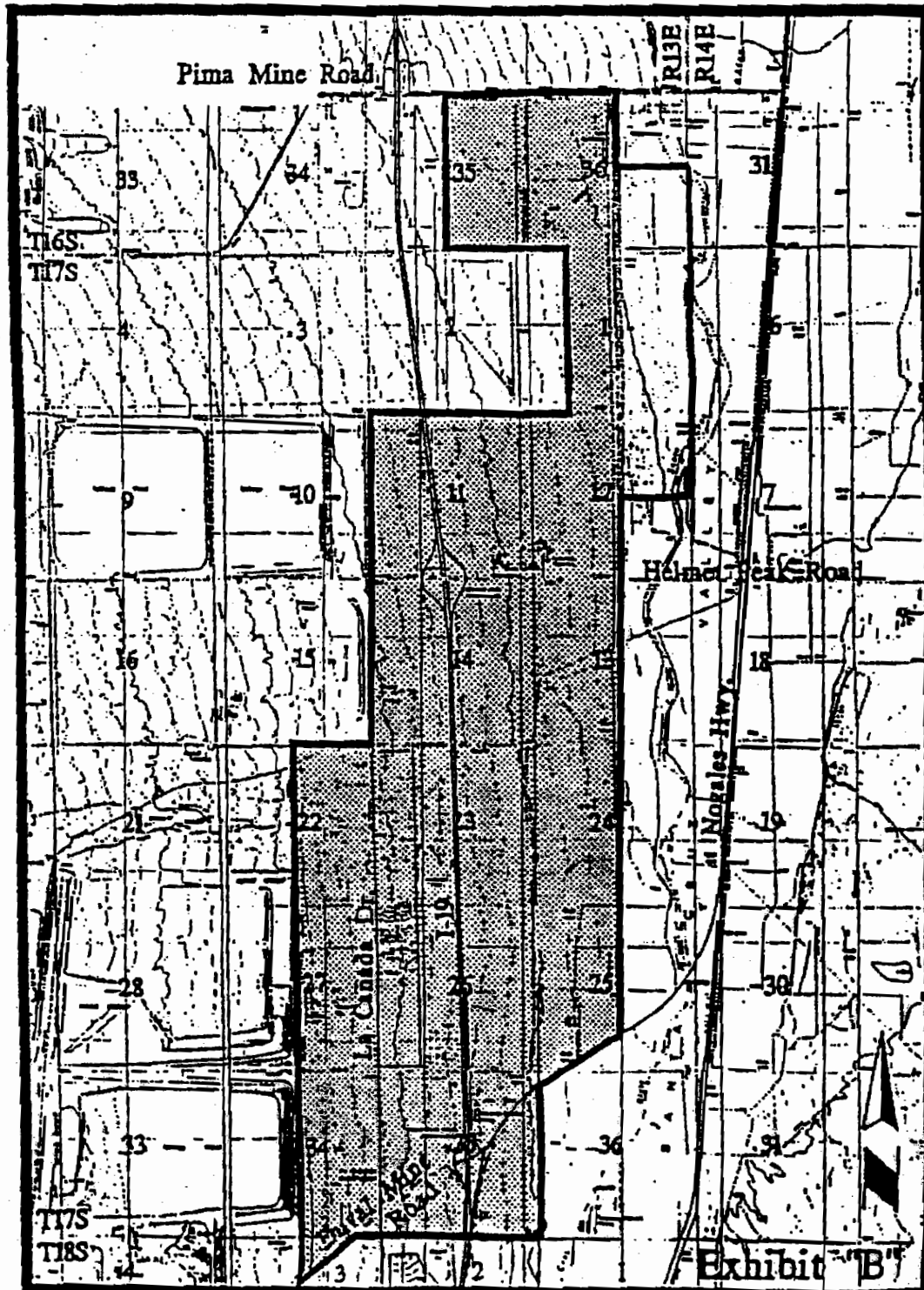
(CONTINUED)  
SPECIAL CENSUS OF TOWN OF SAHUARITA  
PIMA COUNTY, ARIZONA  
CENSUS DATE: OCTOBER 19, 1995

TABLE 4: HOUSEHOLD AND FAMILY BY RACE AND HISPANIC ORIGIN

	TOTAL	WHITE	BLACK	AMERICAN INDIAN ESKIMO OR ALEUT	ASIAN OR PACIFIC ISLANDER	OTHER RACE	HISPANIC ORIGIN OF ANY RACE	WHITE NOT OF HISPANIC ORIGIN
<b>HOUSEHOLD SIZE</b>								
ALL HOUSEHOLDS	133	657	2	7	5	62	129	592
1 PERSON	120	105	2	2	2	9	17	97
2 PERSONS	261	246	-	1	2	8	27	232
3 PERSONS	129	116	-	2	-	11	21	108
4 PERSONS	120	104	-	-	1	15	32	87
5 PERSONS	66	53	-	1	-	12	19	48
6 PERSONS	27	20	-	1	-	6	11	16
7 OR MORE PERSONS	10	10	-	-	-	-	2	8
<b>MARITAL STATUS</b>								
ALL MALES 15 YEARS AND OVER	815	720	3	7	3	62	172	633
NEVER MARRIED	161	132	-	1	-	26	55	105
NOW MARRIED, EXCEPT SEPARATED	561	507	-	4	3	47	101	455
15 TO 24 YEARS	17	8	-	-	-	9	8	8
25 TO 34 YEARS	66	73	-	1	-	12	22	63
35 TO 44 YEARS	109	99	-	3	1	6	17	89
45 TO 54 YEARS	120	111	-	-	-	9	30	80
55 TO 64 YEARS	115	105	-	-	2	6	14	100
65 TO 74 YEARS	83	81	-	-	-	2	6	77
75 YEARS AND OVER	31	30	-	-	-	1	3	28
SEPARATED	6	6	-	1	-	-	2	4
WIDOWED	23	20	-	-	-	3	4	19
DIVORCED	64	58	3	1	-	4	10	50
ALL FEMALES 15 YEARS AND OVER	947	782	2	7	12	74	175	651
NEVER MARRIED	130	113	-	1	1	15	38	80
NOW MARRIED, EXCEPT SEPARATED	592	500	2	4	8	48	111	437
15 TO 24 YEARS	26	20	-	-	-	6	10	16
25 TO 34 YEARS	85	83	-	2	2	8	24	67
35 TO 44 YEARS	133	114	1	2	2	14	30	96
45 TO 54 YEARS	124	107	1	-	2	14	28	93
55 TO 64 YEARS	103	97	-	-	1	5	14	86
65 TO 74 YEARS	56	57	-	-	1	-	3	54
75 YEARS AND OVER	23	22	-	-	-	1	2	21
SEPARATED	7	8	-	-	-	-	-	6
WIDOWED	81	76	-	1	-	2	10	70
DIVORCED	87	55	-	1	2	8	16	48

## TOWN OF SAJUIARITA, ARIZONA

**Legal Description:** All of the east 1/2 of Section 35 and the west 1/2 of section 36, T16S, R13E; the East 1/2 of the West 1/2 of Section 1; all of Section 11; the west 1/2 of Section 12; the West 1/2 of Section 13; all of Section 14; the East 1/2 of Section 22; all of Section 23; the West 1/2 of Section 24; the West 1/2 of Section 25 lying northerly of the Nogales Highway; all of Section 26; the East 1/2 of Section 27; the East 1/2 of Section 34 except that parcel recorded in the Pima County Recorder's Office in Booklet \$595 at Page 321; all of Section 35 and that portion of Section 36 lying northerly of the Nogales Highway, all of T17S, R13E; and that portion of the Northeast 1/4 of Section 3, T18S, R13E lying northerly of the Dival Mine Road.









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## PUBLIC NOTICE

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### TRANSPORTATION STUDY

#### SMALL AREA TRANSPORTATION STUDY NOTICE OF PUBLIC MEETING

NOTICE IS HEREBY GIVEN that the Town of Sahuarita will hold a public meeting regarding the Sahuarita Small Area Transportation Study on Wednesday, March 24, 1999, from 6:30 to 8:30 p.m. The meeting will be held at La Joya Verde Recreation Center, 2540 North Camino Real, Sahuarita, Arizona, and the subject matter will be further described below:

#### SAHUARITA SMALL AREA TRANSPORTATION STUDY

The Town of Sahuarita is holding a Public Meeting to discuss the Small Area Transportation Study. We encourage community input on all issues related to the Town's transportation systems, future street improvements, all modes of circulation including bicycle, horse trails and pedestrian room. RR crossings, design improvements for El Toro Road, designated routes, future transit, travel demand based on population projections. Please come with your questions and concerns.

s-Sue Morman  
Sue Morman  
Interim Planning Director

Req: TOWN OF SAHUARITA  
Pub: Green Valley News & Sun  
March 12, 1999

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## PUBLIC NOTICE

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# SMALL AREA TRANSPORTATION PLAN PUBLIC MEETING/OPEN HOUSE

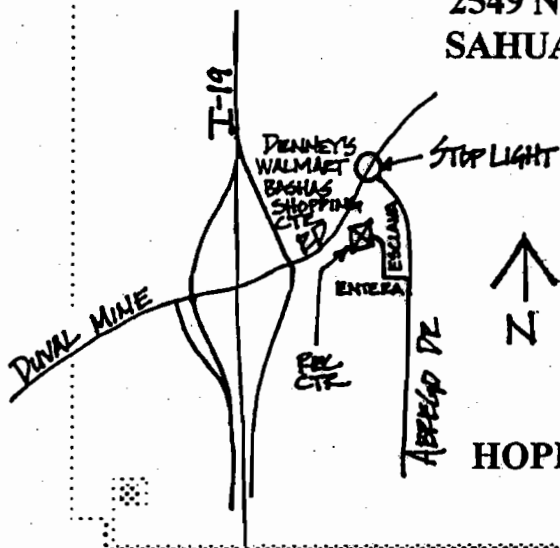
**March 24, 1999**

The Town of Sahuarita is holding a Public Meeting to discuss the Small Area Transportation Study. We encourage community input on all issues related to the Town's transportation systems, future street improvements, all modes of circulation including bicycle, horse trails and pedestrian routes, RR crossings, design improvements for El Toro Road, designated scenic routes, future transit, travel demand based on population projections.

Please come with your questions and concerns.

Meeting will be held at

**LA JOYA VERDE RECREATION CENTER  
2549 NORTH CAMINO RELOJ  
SAHUARITA, ARIZONA 85629  
6:30 - 8:30 P.M.**



For further information call  
Town of Sahuarita Office  
(520) 648-1972

**HOPE TO SEE YOU THERE!**

7/22 L

**016435**

Town of Sahuarita  
Kelly

3x7.5

7/23/99

*GREEN VALLEY NEWS*

**TOWN OF SAHUARITA**

**SMALL AREA TRANSPORTATION STUDY**

**PUBLIC MEETING/OPEN HOUSE**

**JULY 28, 1999,**

**5:30-7:30 P.M.**

**LA JOYA VERDE RECREATION  
CENTER**

**2549 NORTH CAMINO RELOJ**

**GREEN VALLEY, AZ 85614**

**Help us prioritize future roadway improvements.**

**Come share your ideas on**

**Sahuarita's transportation projects.**

**For further information call:**

**Town of Sahuarita**

**Planning Department**

**(520) 648-1972**

412

7/16/99

**TOWN OF SAHUARITA**  
**SMALL AREA TRANSPORTATION STUDY**

**PUBLIC MEETING/OPEN HOUSE**  
**JULY 28, 1999**  
**5:30-7:30 P.M.**

**LA JOYA VERDE RECREATION**  
**CENTER**  
**2549 NORTH CAMINO RELOJ**  
**GREEN VALLEY, AZ 85614**

Help us prioritize future roadway improvements,  
come share your ideas on  
Sahuarita's transportation projects.

Post Date: 7/15/99

Office: 3:00

School: 4:15

Post office:

BASHA'S: 4:25

For further information call  
Town of Sahuarita  
Planning Department  
(520) 648-1972

nail  
some owners  
view agencies

# **TOWN OF SAHUARITA**

## **SMALL AREA TRANSPORTATION STUDY**

*Just a reminder that the.....*  
Technical Advisory Committee

will be meeting on  
July 28, 1999  
Time: 4:00 p.m.

Location: La Joya Verde Recreation Center  
2549 N Camino Reloj  
Green Valley, AZ 85614

OPEN HOUSE WILL BE FROM 5:30-7:30 p.m.

Meeting discussion will include.....

- 1.) Comments, ideas on the study
- 2.) Incorporated changes based on committees review
- 3.) Prioritization of future roadway projects

for more information call  
Town of Sahuarita Office  
(520) 648-1972



## **SMALL AREA TRANSPORTATION STUDY**

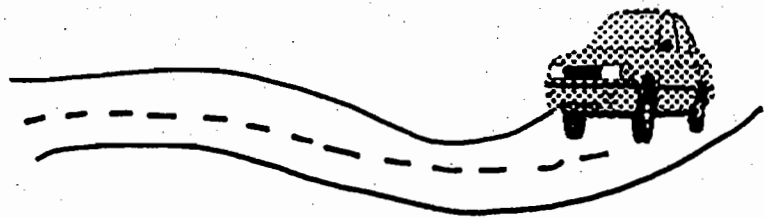
*Just a reminder that the...*  
Technical Advisory Committee  
will be meeting on

**June 30, 1999**

**Time: 10:30 a.m.**

**Location: Collins/Piña Consulting Engineers Office  
33 N Stone Ave., 15th Floor  
Tucson, AZ**

For more informatin call Town of Sahuarita Office  
(520) 648-1972



Per  
4/3

## **SMALL AREA TRANSPORTATION STUDY**

*Just a reminder that the....*  
**Technical Advisory Committee**

**will be meeting on**

**APRIL 28, 1999**

**Time: 10:30 A.M.**

**Location:**

**Collins/Piña Consulting Engineers Office  
33 N Stone Ave., 15th Floor  
Tucson, AZ**

Meeting discussion will include.....

- 1). Project Progress
- 2). Schedule/Budget
- 3). Comments/Input Working Paper #1
- 4). Travel Demand Model
- 5). Where do we go from here?
- 6). Next Meeting Topics
- 7). Other

For more information call  
Town of Sahuarita Office  
(520) 648-1972





P & Z Commission  
Filename: mail6  
Revised: March 11, 1999

Terry Aguilar  
P O Box 554  
Sahuarita AZ 85629

Dewayne Kurtenbach  
1328 Calle de la Plaza  
Sahuarita AZ 85629

William Miller  
17300 S. Camino Cartagena  
Sahuarita, AZ 85629

Jay St. John  
17921 S Placita Mayo  
Green Valley AZ 85614

Sue Molera  
1100 W. Calle San Jose  
Sahuarita AZ 85629

Ken Woodward  
1580 W Twin Buttes Road  
Sahuarita AZ 85629

Alex Jacome  
17320 Placita Palmilla  
Sahuarita, AZ 85629

*group - returned by mail.*

Rudy Moreno  
La Villita Homeowners Assoc  
P O Box 9  
Sahuarita, AZ 85629

John Staggs  
Mtn. View Acres Homeowners Assoc  
P O Box 396  
Green Valley, AZ 85622

Las Colonias Homeowners Assoc  
P O Box 458  
Sahuarita, AZ 85629

Chuck Munie  
DES  
3000 w Valencia #46  
Tucson, AZ

Barbara Delgado  
La Villita Homeowners Assoc.  
390 E Castillo Drive  
Sahuarita, AZ 85629

Richard Grabowski  
RBV Homeowners Assoc  
1710 Placita de la Escalera  
Sahuarita, AZ 85629

Louis Butler  
La Cañada Norte Homeowners Assoc  
1349 Paseo Famoso  
Sahuarita, AZ 85629

Tohono O'Odham Nation  
Planning Department  
P O Box 837  
Sells, AZ 85634

Las Arboles Mobile Home Park  
Homeowners Assoc  
17200 S La Villita Road  
Sahuarita, AZ 85629

Brian Thornton  
La Joya Verde Homeowners Asso  
2549 N Camino Reloj  
Green Valley, AZ 85614

## Mailing List for Small Area Transportation Plan

### 1. Don Sneed

Arizona Department of Transportation **TECHNICAL ADVISORY COMM.**  
Transportation Planning Group  
206 S. 17th Ave - 310B  
Phoenix, Arizona 85007-3213

Phone: (602)255-8140

Fax: (602)256-7563

### 3. Robert Hamm

17625 S. La Cañada Drive  
Sahuarita, Arizona 85629

Phone: (520)625-3138

Fax: (520)

### 5. Kevin Kiernan ✓

Lou Sherman  
Bourn Properties  
903 E. University Blvd./Suite E.  
Tucson, Arizona 85719

Phone: (520)882-6065

Fax: (520)882-6098

### 7. Bruce Purrier

Arizona Department of Transportation  
633 E 22nd  
Tucson, Arizona 85713

Phone: (520)628-5667

Fax: (520)628-5603

### 9. Len Olson

Anne Parrish  
Town of Sahuarita  
P.O. Box 879  
Sahuarita, Arizona 85629

Phone: (520) 648-1972

Fax: (520)625-9879

### 2. Curt Lueck

Curtis Lueck & Associates  
5780 W. El Camino del Cerro  
Tucson, Arizona 85745

Phone: (520)743-8748

Fax: (520)743-4210

### 4. Ted Ramirez

Pima County DOT  
1313 S. Mission Road  
Tucson, Arizona 85713

Phone: (520)740-2639

Mobile: (520)349-2535

Fax: (520)792-9912

### 6. Charles Hodges ✓

Pima Association of Gov't  
Transportation Planning Department  
177 N. Church Ave.  
Suite 501  
Tucson, Arizona 85701

Phone: (520)628-5313

Fax: (520)628-5315

### 8. Jim DeGrood

Harvey Gill  
Sue Morman  
Collins/Pina Inc.  
33 N. Stone Ave.  
15th Floor  
Tucson, Arizona 85701

Phone: (520) 623-7980

Fax: (520)884-5278



SMALL AREA TRANSPORTATION STUDY  
3-24-99 (TAC)

[illegible]

# Transportation Survey

DAVID

- The Duwall Thine Road Overpass  
The Saluanta Road Overpass  
The Saluanta Corridor Location

- 

- Drive alone 1 Car/truck passenger \_\_\_\_\_ Bike \_\_\_\_\_ Walk \_\_\_\_\_  
Bus \_\_\_\_\_ Horse \_\_\_\_\_ Golf Cart \_\_\_\_\_ Other (Specify) 2 - drive with a passenger

- Back and forth to the school - out the VVDN  
frontage road to the interstate to work home  
1 hour work on B-19 - averaging 1st turn off Interstate  
19 on Duwall Mine Road between 7-6 pm

- A cooperative effort on 22 parties affected. No one was convicted - the school district!

M. Jay C. St. John  
17921<sup>st</sup> Place Vero Beach Ocean Bldg. A-2.85014

**Curtis Lueck & Associates Tucson, AZ Project Consultant to the Town of Sahuarita**

Town of Sahuarita, Arizona  
TRANSPORTATION STUDY OPEN HOUSE  
March 24, 1999

<b>Transportation Survey</b>
------------------------------

**Thank you for attending tonight's open house. We hope that you find the information useful and that you'll also take a few minutes to complete the following questionnaire. Please return your completed survey to the reception table or mail it to the Town Hall.**

1. What are the most significant transportation issues confronting the Town today?

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2. What suggestions do you have for improving the transportation system in Sahuarita and the study area?

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3. Which modes of travel do you use most often? (1 most common, 2 second most, etc.)

Drive alone \_\_\_\_\_ Car/truck passenger \_\_\_\_\_ Bike \_\_\_\_\_ Walk \_\_\_\_\_  
Bus \_\_\_\_\_ Horse \_\_\_\_\_ Golf Cart \_\_\_\_\_ Other (Specify) \_\_\_\_\_

4. Where do you live? Sahuarita \_\_\_\_\_ Green Valley \_\_\_\_\_  
Pima County \_\_\_\_\_ Indian Nation \_\_\_\_\_ Other (Specify) \_\_\_\_\_  
Winter Visitors please specify your home city and state. \_\_\_\_\_

5. Where do you travel most frequently in the area, and what route do you follow?

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6. How long have you lived in the area? Years \_\_\_\_\_

7. Please provide any other information you think would be helpful to the study.

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If you would like to be placed on our project mailing list, please provide your name and address, below.

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**Thank you for your support!**

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## Miscellaneous Data

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Arizona Department of Commerce

# Community Profile

# Sahuarita

**Sahuarita** (Saw wah ree ta) was incorporated in September 1994. The town encompasses a nine-square-mile area. Sharing a southern border with the retirement community of Green Valley, the area offers direct access to Tucson and Mexico via Interstate 19. Surrounded by majestic mountain ranges, Sahuarita has a growing number of family residential areas in a semi-rural setting.

## PRINCIPAL ECONOMIC ACTIVITIES

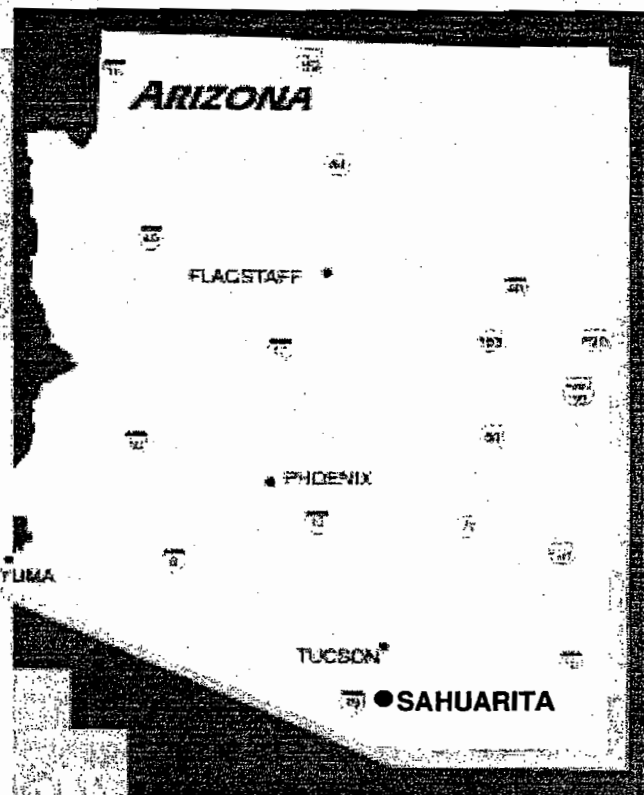
The town of Sahuarita is poised for growth. Several new businesses have located to the Quorum Business Park, including a 60-unit Holiday Inn Express, Coach's Bar & Grill, Burger King, Dairy Queen, the Quorum Shops, a convenience store and a gas station. Also, the first phase of a 200-unit apartment complex was completed during 1998.

The majority of full-time employees travel to Tucson or are employed by one of the service facilities in nearby Green Valley. Major employers in the immediate area include two open-pit copper mines, the Sahuarita Unified School District, Wal-Mart Inc., the home building industry, the Smithsonian Institution's Whipple Observatory, Farmer's Investments Company Pecans, and Bashas' grocery store.

A master-planned residential community, encompassing 2,810 acres will begin construction in late 1999, with a projected 8,000 to 10,000 homes, a golf course and business center. The town has an active economic development committee eagerly seeking increased economic activity while favoring controlled growth.

## SCENIC ATTRACTIONS

Sahuarita is located in the historic Santa Cruz Valley, surrounded by early Spanish missions, frontier outposts and old mines. Tubac, to the south, the oldest Spanish settlement in the Southwest, is now an active artists' colony.



The San Xavier del Bac Mission and the Tumacacori National Monument are Spanish missions built by the Jesuits in the early 1700s. San Xavier del Bac Mission is located 14 miles north of Sahuarita and Tumacacori is 30 miles south, both via I-19.

In February 1997, Asarco opened its Mineral Discovery Center on Pima Mine Road on the town's north border. The center offers tours of the mine complex. Sahuarita is also home to the Titan II Missile Museum, the only one of its kind in the world, with more than 50,000 visitors annually. The Smithsonian Institution's Whipple Observatory on Mt. Hopkins is 20 minutes southeast.

Recreational opportunities are plentiful: Pena Blanca Lake, Arivaca Lake, Madera Canyon, Kitt Peak Observatory, the Tohono O'Odham Indian Reservation, the Mexican border at Nogales, and Tucson are all within an hour's drive.

	1980	1990	1997
Sahuarita	N/A	1,629	2,475
Pima County	531,443	666,880	789,650
Arizona	2,716,546	3,665,228	4,600,275

Source: Arizona Department of Economic Security.

	1996	1997
Taxable Sales	N/A	43,361,300
Postal Receipts (\$) *	229,175	242,483
School Enrollment	2,072	1,969
Net Assessed Valuation (\$) **	11,045,537	12,607,685

\* Postal receipts are for fiscal year.

\*\* Green Valley Fire District.



	1990	1996	1997
AZ State Tax	\$ 0.47	\$ 0.00	\$ 0.00
Community College	0.90	1.24	1.19
Flood		0.36	0.33
Library		0.22	0.22
Central AZ Project		0.14	0.14
County Fire District		0.05	0.05
County	5.69	5.01	5.11
County Total	\$ 7.06	\$ 7.03	\$ 7.04
School District	1.69	1.89	2.07
Green Valley Fire District	1.71	1.99	1.86
Total	\$10.46	\$10.91	\$10.97

Source: Arizona Tax Research Foundation

Note: Property tax in Arizona is based on assessed valuation which is 10 percent of market value for residential property. Average tax rate on homes in Arizona before exemptions and rebates is 1.3% of market value.

The Town of Sahuarita offers a range of community facilities, including swimming pool, baseball fields at Anamax Park and a meeting hall at the local American Legion.

**Communication.** In addition to communication resources from around the state, Sahuarita is served by the bi-weekly *Green Valley News & Sun*, KGVY radio, seven television channels from Tucson, and cable television.

**Educational.** There is one public elementary school, one middle school and one high school in the town of Sahuarita. New high school facilities are under construction, funded by a \$30 million bond, with an estimated completion date in fall 1998.

**Medical.** Rural Metro opened Fire Station #79 in July 1996, providing 24-hour emergency and fire protection. Medical facilities are located in adjacent Green Valley and include four affiliated medical clinics, six dental offices and four ambulances with trained EMTs. Many specialists from Tucson have regular schedules in Green Valley as well.

**Financial.** There are seven financial institutions with eight local branch offices in Green Valley and two branch offices in the town of Sahuarita. Further, Pima County businesses are eligible for assistance in financing fixed assets through the Finance and Administration Division of the Arizona Department of Commerce. Information on private activity bonds within the county may be obtained from the same source or from the Industrial Development Authority of Pima County; Russo, Cox, Dickerson and Sylvester, P.C.; 4301 East 5th Street; Tucson, Arizona 85711.

**Governmental.** The Town of Sahuarita is governed by a council/manager form of government. The seven-member council is elected to four-year overlapping terms. The mayor is elected by the council and serves until the new council is seated every two years. The town manager is appointed by a majority vote of the council.

**Airport.** The Tucson International Airport is 20 miles north of Sahuarita.

## Utilities

**Electricity:** Tucson Electric Power Company (520) 623-7711  
(Trico Electric Co-op service area two miles north) 744-2944

**Natural Gas:** Southwest Gas Corporation 625-7560

**Telephone:** U.S. West Communications (800) 244-1111

**Water:** Community Water Company (520) 625-8409  
Las Quintas Serenas Water Co. 625-8040

**Sewer:** Pima County Sanitation Dept. 792-6500  
(many homes are on private septic systems)

**Lodging and Meeting Facilities.** There is one motel in Sahuarita with 60 units and another motel in Green Valley with 110 units. There are also nearby lodges, guest ranches and bed and breakfast. Additionally, there are numerous facilities 18 miles north in Tucson.

Month	Average Temperature (°F)		Average Total Precipitation (Inches)
	Daily Maximum	Daily Minimum	
January	67.1	31.0	0.66
February	71.3	35.4	0.50
March	75.2	37.8	0.58
April	84.3	43.5	0.25
May	93.0	50.8	0.07
June	101.1	60.6	0.29
July	101.3	68.4	2.66
August	98.6	66.3	2.03
September	96.1	60.2	1.28
October	88.2	47.4	0.63
November	74.5	40.4	0.58
December	67.7	34.0	1.33
Year	84.9	48.0	10.86

Average Total Snow, Sleet and Hail Annually: 1.0 inches.

\*Sahuarita Reporting Station (based on a 30-year average).

This profile was prepared by the Arizona Department of Commerce Communications Division in cooperation with the Town of Sahuarita.

For further information, contact:

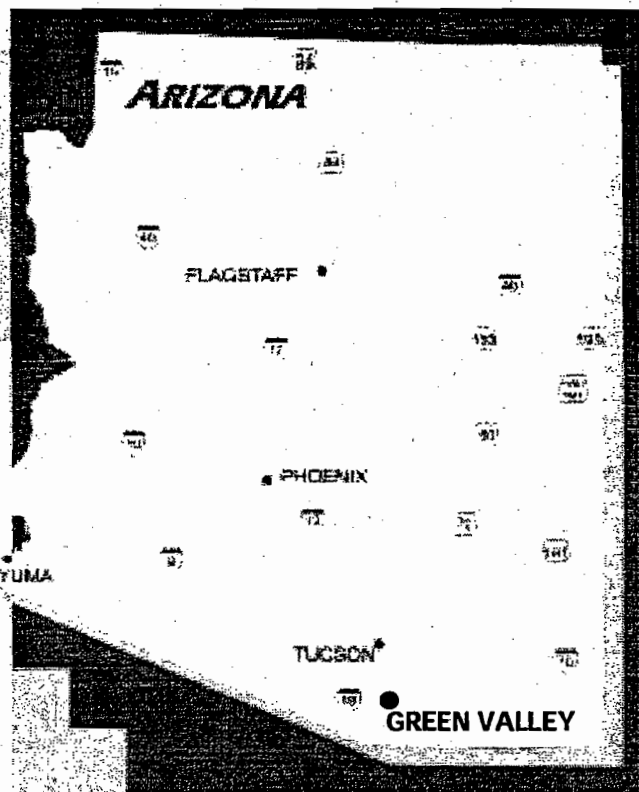
Town of Sahuarita  
P.O. Box 879  
850B West Helmet Peak Road  
Sahuarita, AZ 85269  
(520) 648-1972  
FAX: (520) 625-9879  
email: <http://www.state.az/ep/com/>

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# Arizona Department of Commerce Community Profile Green Valley



**Green Valley**, a retirement community, was established in 1964. In the fertile Santa Cruz River Valley at an elevation of 2,900 feet, Green Valley is midway between Tucson and Nogales. It is a successful modern community built in an area full of historic lore.

Green Valley occupies part of the vast (46,696 acres) San Ignacio de las Canoas grant which was given to New Spain by the Spanish Crown in the 16th century.

## PRINCIPAL ECONOMIC ACTIVITIES

Because Green Valley is primarily a retirement community, much of the income to the town is in the form of transfer payments, Social Security payments, private retirements benefits, stock dividends and withdrawals from savings. Many of the retirees are former corporation executives and are retained as consultants by their former employers or other companies.

Many full-time employed persons travel to Tucson or are employed in one of the service facilities in the community. Major employers in the immediate area are the two open-pit copper mines nearby; the home-building industry; the Smithsonian Institution's Fred Lawrence Whipple Observatory on Mt. Hopkins, 20 miles southeast; Fico Pecans; and Caterpillar, Inc. Training Center. Three main shopping centers are now located in the Green Valley area with approximately 350 shops serving the residents.

## SCENIC ATTRACTIONS

The country surrounding Green Valley abounds with historic attractions—early Spanish missions, frontier outposts and old mines. Tubac, located 25 miles south, is the oldest Spanish settlement in the Southwest. It has been a frontier town and an army outpost, and is now an active artist colony.

The San Xavier del Bac Mission, 18 miles north, and Tumacacori National Monument, 30 miles south, are both Spanish missions built by Jesuit priests in the early 1700s.

Scenic drives and recreational opportunities are plentiful near Green Valley: Pena Blanca Lake, 40 miles southwest; Arivaca Lake, 33 miles southwest; Madera Canyon, 12 miles southeast; Kitt Peak Observatory, 40 miles west; Tohono O'odham Indian Reservation, 12 miles north; and the Mexican border at Nogales, 45 miles south. Tucson, 25 miles north, offers many cultural and recreational attractions, sporting events, and a broad range of services. Within Green Valley, the Titan II Missile Museum (the only one of its kind) is open daily.

Several annual golf tournaments are held in Green Valley. Additionally, the three-day Country Fair and Parade is held in Green Valley every October. For the culturally minded, art events and activities from Tucson are available year-round in Green Valley.

	1980	1990	1997
Green Valley	10,999	20,644	*24,444
Pima County	531,443	666,880	789,650
Arizona	2,716,546	3,665,228	4,600,275

Sources: Arizona Department of Economic Security and U.S. Census Bureau.

\* Estimate based on 1990 census data compared to county population growth rate.

	1990	1996	1997
Postal Receipts (\$)*	1,339,615	2,003,404	2,196,180
School Enrollment	1,140	223	241**
Net Assessed Valuation (\$)**	82,041,175	99,939,315	117,706,459

\* Postal receipts are for fiscal year.

\*\* Continental Elementary District

\*\*\* Fire District

	1980	1990	1997
Civilian Labor Force	958	2,091	2,372
Employed	838	2,025	2,319
Unemployed	120	66	53
Unemployment Rate	12.5%	3.2%	2.2%

\* Green Valley is mainly a retirement community

	1990	1996	1997
AZ State Tax	\$ 0.47	\$ 0.00	\$ 0.00
Community College	0.90	1.24	1.19
Flood		0.36	0.33
Library		0.22	0.22
Central AZ Project		0.14	0.14
County Fire District		0.05	0.05
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County Total	\$ 7.06	\$ 7.03	\$ 7.04
School District	1.69	1.89	2.07
Green Valley Fire District	1.71	1.99	1.86
Total	\$10.46	\$10.91	\$10.97

Source: Arizona Tax Research Foundation

Note: Property tax in Arizona is based on assessed valuation which is 10 percent of market value for residential property. Average tax rate on homes in Arizona before exemptions and rebates is 1.3% of market value.

Green Valley offers a wide range of community facilities including a library, a bowling alley, 23 heated swimming pools, seven golf courses, shuffleboard, a putting green, a driving range, and tennis courts. More than 200 clubs and organizations are represented in Green Valley. Also, Green Valley Recreation Inc. has 10 recreation centers. Facilities include arts and crafts rooms, sauna, sewing room, exercise room, darkroom, lapidary shop, swimming pool, spa therapy pools, billiards, and woodworking shop.

**Communication.** In addition to communication resources from the rest of the state, Green Valley has a bi-weekly newspaper, the *Green Valley News & Sun*, one radio station and seven television channels from Tucson, along with cable TV.

**Educational.** There is one public elementary school, one middle school and one high school in nearby Sahuarita.

**Medical.** Medical facilities for Green Valley include: two highly rated nursing homes, four affiliated medical clinics, six dental offices, and four ambulances with trained EMTs. Numerous specialists from Tucson have regular schedules in Green Valley as well.

**Financial.** There are seven financial institutions with eight local branch offices in Green Valley. Further, Pima County businesses are eligible for assistance in financing fixed assets through the Finance and Administration Division of the Arizona Department of Commerce. Information on private activity bonds within the county may be obtained from the same source or from the Industrial Development Authority of Pima County; Russo, Cox, Dickerson and Sylvester, P.C.; 4301 East 5th Street; Tucson, Arizona 85711.

**Governmental.** The community of Green Valley is governed by the Pima County Board of Supervisors and served by the sheriff's sub-station. Green Valley Fire District contracts with the Rural Metro Fire Protection Company.

**Airport.** The Tucson International Airport is 23 miles north of Green Valley.

#### Utilities

Electricity:	Tucson Electric Power Company (520) 623-7711 (Trico Electric Co-op service area two miles north) 744-2944
Natural Gas:	Southwest Gas Corporation 625-7560
Telephone:	U.S. West Communications (800) 244-1111
Water:	Community Water Company 625-8409 Green Valley Water Company 625-9112
Sewer:	Pima County Sanitation Dept. 792-6500

**Lodging and Meeting Facilities.** There are two motels with 175 units plus nearby lodges and guest ranches. Tucson has numerous facilities 25 miles north with the largest seating 630 persons.

Month	Average Temperature (°F)		Average Total Precipitation (Inches)
	Daily Maximum	Daily Minimum	
January	67.1	31.0	0.66
February	71.3	35.4	0.50
March	75.2	37.8	0.58
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Year	84.9	48.0	10.86

Average Total Snow, Sleet and Hail Annually: 1.0 inches.

\*Sahuarita Reporting Station (based on a 30-year average).

This profile was prepared by the Arizona Department of Commerce Communications Division in cooperation with the Green Valley Chamber of Commerce.

For further information, contact:

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P.O. Box 566  
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(520) 625-7575

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