EXECUTIVE SUMMARY

Town of SAHUARITA

Area Transportation Study | Task Assignment MPD 15-09

ADOT

Kimley-Horn and Associates, Inc.

INTRODUCTION

The Arizona Department of Transportation (ADOT) assisted the Town of Sahuarita to develop the Sahuarita Area Transportation Study through the Planning Assistance for Rural Areas (PARA) program. The PARA program assists counties, cities, towns, and tribal communities in addressing a broad range of multimodal transportation planning issues including roadway and non-motorized modes of travel. Objectives of the Town of Sahuarita Area Transportation Study were:

- Document current and future conditions relating to multimodal access and mobility throughout the Town of Sahuarita planning area.
- Identify mobility and access needs and deficiencies.
- Recommend a program of improvements organized into short-term (5 years), mid-term (10 years), and long-term improvements (30 years).
- Develop a Major Streets and Routes Plan that will provide the Town with a tool as they coordinate land use and transportation plans.
- Assess funding opportunities for implementation of the improvements.

IDENTIFYING SHORT TERM TRANSPORTATION NEEDS AND DEFICIENCIES

Short term needs and deficiencies were identified through an analysis of existing transportation conditions and through input by stakeholders and the general public. Short term needs and deficiencies included previously programmed projects, safety projects, traffic signal warrant studies, and speed limit studies. Details of these short-term needs and deficiencies are available in the Final Report, and are listed in **Exhibit 2**.

DEVELOPING FUTURE TRANSPORTATION NEEDS AND DEFICIENCIES

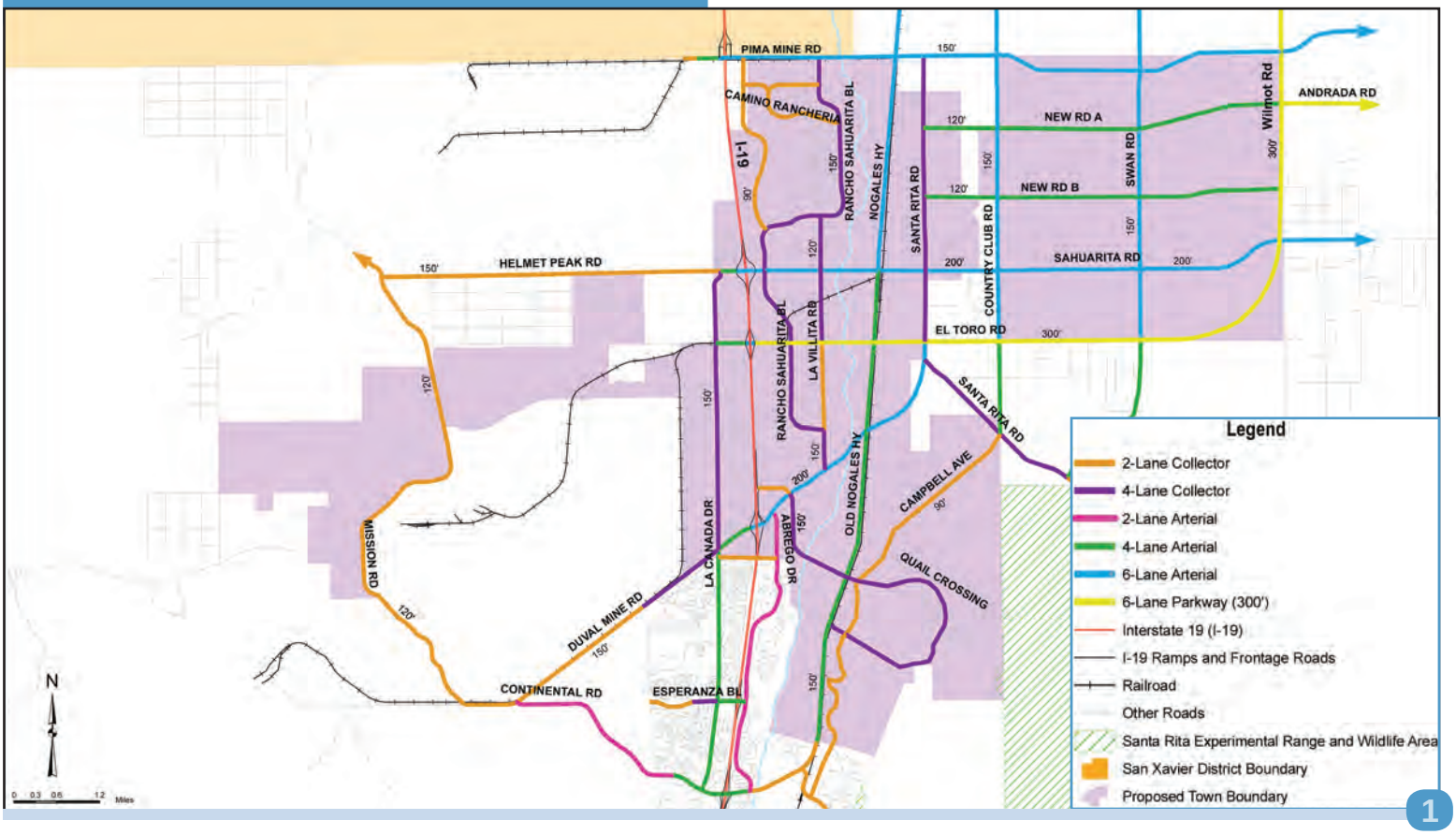
An assessment of future transportation conditions, which considered the anticipated future population growth, demonstrates a need for new east-west transportation corridors. Currently, Sahuarita Road and Pima Mine Road serve as the only continuous east-west corridors in the Sahuarita area. As development in the Sahuarita area continues, these roads will become increasingly more congested. The assessment also indicates a need for additional north-south corridors, particularly in the north and east portion of the study area. In addition, additional north-south capacity is needed, both in the form of providing additional capacity on existing roads as well as providing new road connections. Without additional north-south capacity, existing roads such as La Canada Drive, Rancho Sahuarita Boulevard, Nogales Highway, Duval Mine Road, and Wilmot Road; as well as roads outside of the study area such as I-19 and Houghton Road, will be significantly congested.

A 2040 recommended roadway network was developed to address deficiencies identified in the assessment of future transportation conditions. The recommended network considers stakeholder input, and was developed collaboratively with the Town of Sahuarita staff. The 2040 recommended road network is shown in the Major Streets and Routes Map (**Exhibit 1**).

MAJOR STREETS AND ROUTES MAP

The Major Streets and Routes Map was developed to serve as a guide for future street improvements. The Map identifies which streets serve as primary traffic corridors. The Map serves as a guide for future street improvements, as the identified right-of-way allows for the needed number of lanes and features such as sidewalks, bike lanes, and medians. It will provide guidance as to how much right-of-way will need to be dedicated by new development.

EXHIBIT 1 - MAJOR STREETS AND ROUTES MAP



PROJECT PHASING AND IMPLEMENTATION – ROADWAY PROJECTS

The roadway network shown in the Major Streets and Routes Map will take several years to implement. To guide this implementation, project phasing was accomplished through a process which involved organizing projects into four planning horizons:

1. 0 to 5 Years (short-term)
2. 5 to 10 Years (mid-term)
3. 10 to 20 Years (long term)
4. Greater than 20 Years (very long term)

In general, short-term projects are those needed to address current needs and deficiencies. The Project team coordinated with Town staff to identify realistic timeframes for the remaining projects, as summarized in **Exhibit 2**.

EXHIBIT 2 - ROADWAY PROJECTS PHASING

Project Name	Description	Location	Project Length (miles)	Cost (in 000s)	Justification	Champion
SHORT TERM (0-5 YEARS) ROADWAY PROJECTS						
Sahuarita Road #3	Widen from 2 to 4 lane divided arterial	La Villita Road to Country Club Road	2.49	$ 56,515 (RTP)	Capacity need	Sahuarita
RR grade separation @ Sahuarita Road	Construct grade separation	East of Nogales Highway	N/A	$25,000 (RTP)	Safety need	Sahuarita
Duval Road/ Duval Mine Road/La Canada Drive Safety Assessment	Duval Road (La Canada Drive to I-19), and Duval Mine Road (La Canada Drive to I-19)	Duval Road/ Duval Mine Road/La Canada Drive area	N/A	$30	Safety and access need	Sahuarita
Nogales Highway	Road safety assessment	Calle Valle Verde to Old Nogales Highway	N/A	$30	Safety need	Sahuarita
Old Nogales Highway	Install center reflectors	Nogales Highway to Quail Crossing Blvd	2.25	To Be Determined	Safety need	Sahuarita
Rancho Sahuarita Blvd	Signal warrant studies		N/A	$30	Traffic control need	Sahuarita
Speed limit study	Study to set speed limits	Sahuarita Road (La Canada to La Villita Road) and Nogales Highway (Pima Mine Road to Sahuarita Road)	N/A	$30	Safety need	Sahuarita
Quail Crossing Blvd Extension	Construct new 2-lane roadway with new Santa Cruz River Bridge	Old Nogales Highway to Nogales Highway	1.61	To Be Determined	Access/ Connectivity	Sahuarita
Rancho Sahuarita Blvd	Widen from 2 to 4-lanes	Sahuarita Road to El Toro Road	1.00	To Be Determined	Capacity need	Developer
MID TERM PROJECTS (5-10 YEARS)						
Rancho Sahuarita Blvd	Widen from 2 to 3-lanes	El Toro Road to La Villita Road		To Be Determined	Capacity need	Developer
Duval Mine Road	Widen from 3 to 4-lanes	West Town Boundary to La Canada Drive	0.62	$1,246	Capacity need	Sahuarita
La Villita Road	Widen from 2 to 4-lanes	El Toro Road to Rancho Sahuarita Road	1.78	$7,129	Capacity need	Sahuarita
Rancho Sahuarita North-South Connector	New 2-lane road	Rancho Sahuarita Blvd to Pima Mine Road	2.62	$10,473	Capacity need	Developer
LONG TERM PROJECTS (10-20 YEARS)						
El Toro Road	Construct new 2-lane roadway with sidewalks and multi-use lanes	La Canada Drive to La Villita Road	1.49	$5,014(RTP)	Capacity need/ Connectivity	Sahuarita
La Villita Rd.	Construct new 2-lane roadway with bike lanes, curb and gutter and sidewalks	Sahuarita Rd. to Nogales Hwy	2.8	$6,004 (RTP)	Capacity need	Sahuarita
Old Tucson Nogales Highway Corridor	Widen to 4 lanes, including new Santa Cruz Bridge	Continental Road to Nogales Highway	4.9	$49,000	Capacity need	Sahuarita
Pima Mine Road # 1	Widen from 2 to 4-lanes	I-19 to Nogales Highway	2.41	$22,000 (RTP)	Capacity need	Sahuarita
Nogales Highway	Widen from 2 to 6-lanes	Pima Mine Road to Sahuarita Road	3.01	$36,157	Capacity need	Sahuarita
Nogales Highway	Widen from 2 to 4-lanes	Sahuarita Road to Old Nogales Highway	2.34	$8,975	Capacity need	Sahuarita
VERY LONG TERM PROJECTS (20+ YEARS)						
Pima Mine Road	Widen from 4 to 6-lanes	I-19 to Nogales Highway	2.41	$9,627	Capacity need	Sahuarita
Santa Rita Road North-South Extension	Widen existing and construct new 4-lane section	Pima Mine Road to Nogales Highway	4.26	$17,057	Capacity need	Sahuarita
Rancho Sahuarita Blvd	Widen from 2 to 4-lanes	La Villita Road to 4-lane section south of Pima Mine Road	2.62	$10,461	Capacity need	Developer
Sahuarita Road # 2	Widen from 4 to 6-lanes	La Canada Drive to La Villita Road	1.41	$15,000 (RTP)	Capacity need	Sahuarita
Nogales Highway	Widen to 6-lanes	I-19 to Nogales Highway	2.17	$26,011	Capacity need	Sahuarita
El Toro Road	Widen from 2 to 6-lanes	La Canada Drive to La Villita Road	1.49	$17,880	Capacity need	Developer
Campbell Avenue	Extend 2-lane roadway	Quail Crossing Blvd. to Sahuarita Road	6	$18,000 (RTP)	Capacity need/ Connectivity	Developer
Quail Crossing Blvd Extension	Construct new 4-lane roadway with new Santa Cruz River Bridge	Old Nogales Highway to Nogales Highway	1.61	To Be Determined	Access/ Connectivity	Sahuarita
El Toro Road	Construct new 6-lane roadway	La Villita Road to Wilmot Road	7.22	$86,602	Capacity need	Developer
Sahuarita Road	Widen from 4 to 6-lanes	La Villita Road to Wilmot Road	6.55	$26,211	Capacity need	Sahuarita
Country Club Road extension	Widen from 2 to 6-lanes	Sahuarita Road to El Toro Road	0.99	$11,845	Capacity need	Developer

EXHIBIT 2 - ROADWAY PROJECTS PHASING (CONTINUED)						
Project Name	Description	Location	Project Length (miles)	Cost (in 000s)	Justification	Champion
VERY LONG TERM PROJECTS (20+ YEARS)						
Road A	Construct new 4-lane road	Santa Rita Road Extension to Wilmot Road	5.07	$40,589	Capacity need	Developer
Road B	Construct new 4-lane road	Santa Rita Road Extension to Wilmot Road	5.02	$10,150	Capacity need	Developer
Country Club Road extension	Construct 6-lane roadway	Sahuarita Road to Pima Mine Road	3.02	$36,239	Capacity need	Developer
Country Club Road extension	Widen from 2 to 4-lanes	El Toro Road to Santa Rita Road	1.29	$5,155	Capacity need	Developer
Wilmot Road	Widen from 2 to 6-lanes	Pima Mine Road to El Toro Road connection at Sahuarita Road	2.64	$31,630	Capacity need	Developer
Swan Road extension	New road - 6-lanes (Pima Mine Road to El Toro Road), 4-lanes (El Toro Road to Santa Rita Road)	Pima Mine Road to Santa Rita Road	6.13	$64,205	Capacity need	Developer
Sahuarita Road #4	Widen from 2 to 4 lanes	Country Club Road to SR 83	15.06	$155,000 (RTP)	Capacity need	Sahuarita
Pima Mine Road	New 6-lane road	Nogales Highway to Wilmot Road	5.52	$66,266	Capacity need	Sahuarita
Santa Rita Road extension	New 4-lane roadway	Duval Mine Road extension to Swan Road extension	2.63	$21,065	Capacity need	Sahuarita

PROJECT PHASING AND IMPLEMENTATION – TRANSIT AND RAIL PROJECTS

Recommendations for transit and rail improvements are based on input from the *PAG High Capacity Transit System Plan* (September 2009), which has been integrated into the *PAG Draft 2040 Regional Transportation Plan*. The implementation plan for transit and rail can be summarized as follows:

- Continuation of the new circulator and connector transit service.
- Provide amenities to support new transit service, such as bus shelters, and park and ride lots.
- Provide express bus service, per the RTA Plan.
- Provide bus rapid transit service and commuter rail services as long term projects. Bus rapid transit (BRT) service features include modern low-floor buses, signal priority at intersections, maximum off-vehicle fare collection, reduced headways, real-time information displays, and modern stations. This service typically provides fewer stops, more frequent service, and longer trips compared to local bus service.

Recommended transit and rail projects are summarized in **Exhibit 3.**

EXHIBIT 3 - TRANSIT AND RAIL PROJECTS PHASING				
Project Name	Location	Cost (in 000s)	Justification	Draft 2040 RTP Status
SHORT RANGE AND MEDIUM RANGE PROJECTS (1-10 YEARS)				
Improve Circulator System	Sahuarita / Green Valley	To Be Determined; 197,600 (region-wide)	Part of RTA Plan	Committed- all timeframes; assumed part of paratransit service expansion
Sun Tran Existing Operations and Maintenance	Sahuarita / Green Valley	To Be Determined; $ 1,952,000 (region-wide)		Committed; Assumed part of Sun Tran existing operations and maintenance
Bus shelters	Sahuarita	To Be Determined; $2,850 (region-wide)	Locations to be determined	Committed- all timeframes
Commuter Rail Study	Downtown Tucson to Sahuarita / Green Valley	5,000 (RTP)	Determine feasibility of commuter rail service	Committed- listed in Middle timeframe
Sun Tran Express Bus Service Expansion	Green Valley / Sahuarita to Raytheon/ downtown	To Be Determined; $78,420 (RTP) allocated region-wide	Part of RTA Plan	Committed- all timeframes; assumed part of express bus service expansion
LONG-RANGE (10-30 YEARS)				
High Capacity Transit Enhancements (Bus Rapid Transit)	To be determined	To Be Determined; $10,000 (region-wide)	Supports high capacity enhancements may be predecessor to a commuter rail service	Committed- all timeframes
Park and Ride Lots (I-19/ Sahuarita Road)	Depending on the High Capacity Transit Corridor, this could be at I-19 / Sahuarita Road or on Old Nogales Highway	To Be Determined; $6,000 (region-wide)	Part of PAG High Capacity Transit Study Infrastructure Planning Recommendations	Reserve Project
Commuter Rail to Sahuarita / Green Valley	Sahuarita / Green Valley to Downtown	$ 345,250	Provide high capacity service between city centers	Not included
Regional Component of Tucson/ Nogales Passenger Rail	Southern border of Pima County to down-town Tucson, using existing UP Rail Line	$ 604,188	Provide high capacity service between city centers	Reserve Project; ADOT sponsor

PROJECT PHASING AND IMPLEMENTATION – BICYCLE AND PEDESTRIAN PROJECTS

As arterial and collector road projects are constructed through the Town's road program, they should include provisions for bicycle lanes and sidewalks. Over time, this will provide the Town with an extensive and interconnected system of bicycle routes and sidewalks. The public also expressed a desire for a well-connected system of trails. In particular, providing connections to the Juan Baptista de Anza Trail and the Town Center area are important goals. An important RTA funded project that will benefit bicyclists and pedestrians is a shared-use path for the Santa-Cruz River Park, from Pima Mine Road to Sahuarita Road. This shared use path will be part of a larger shared use path along the Santa Cruz River.

Recommended bicycle and pedestrian projects (**Exhibit 4**) were developed based on conformance with the *PAG Regional Plan for Bicycling* (approved September 2009), the *Town Center Plan*, and *Town of Sahuarita Draft Parks, Recreation, Trails and Open Space Plan*. In addition, new roadway facilities are assumed to incorporate bike lanes and sidewalks if designed to an urban cross section. There are also a number of regional projects planned that have benefit to the Town. These are:

- Bicycle encouragement and safety outreach programs.
- Bicycle and pedestrian signage and stenciling.
- Adult bicycle and safety education.
- Expansion of Safe Routes to School (SRTS) Program.
- Signalized pedestrian and bicycle crossings.
- Sidewalk continuity and maintenance.

EXHIBIT 4 - BICYCLE AND PEDESTRIAN PROJECTS PHASING

Project Name	Description	Location	Cost (in 000s)	Justification	Draft 2040 RTP Status
SHORT–RANGE AND MEDIUM RANGE PROJECTS (1-10 YEARS)					
La Villita Road bike lanes	Construct bike lanes	Sahuarita Road to Rancho Sahuarita Boulevard	$420 (RTP)	Connects large residential area to commercial and government land uses. Recommended as part of PAG Regional Bike Plan	Proposed
Quail Connector Trail	Construct shared use path	Quail Crossing to Abrego Drive	$750 (RTP)	Connect Quail Creek and Stone Canyon residential areas to commercial land uses. Recommended as part of PAG Regional Bike Plan	Proposed
Sahuarita Road #5 bike lanes (1.2 miles)	Construct bike lanes	Santa Rita Road to Alvernon	$420 (RTP)	Joint project with Pima County Plan status in PAG Bike Plan is a Reserve Project	Proposed
Sahuarita Bikeways	Construct bikeways	To be determined	$420 (RTP)	fill in gaps in the system	Reserve Project
Sahuarita non-urban shared use path	Construct shared use paths	To be determined	$ 6,758 (RTP)	Create more shared use paths in non-urban areas	Reserve Project
LONG-RANGE PROJECTS (10-30 YEARS)					
Sahuarita Road #1 bike lanes	Construct bike lanes	Mission Road to La Canada	$1,645 (RTP)		Proposed
Santa Cruz River Park Shared use paths	Construct shared use path	Sahuarita Road to Continental Road	$4,978 (RTP)	RTA funded project	Reserve Project
Santa Cruz River Park Shared Use Path	Construct shared use path	Pima Mine Road to Sahuarita Road (3.5 Miles)	$1,780 (RTP)	Provides multimodal connectivity for the De Anza Trail. Recommended as part of the PAG Regional Bike Plan	Reserve Project
Sahuarita Road Trail – Shared Use Path	Construct shared use path	Mission Road to SR 83 (24 miles)	3,600 (RTP)	Joint project with Pima County	Reserve Project

TRANSPORTATION FUNDING

An assessment of transportation funding indicates that the costs of necessary capital improvements and operations/maintenance vastly exceed available and expected revenue. On a broad-brush level, there are four options for addressing this gap:

- Raise revenue to more fully cover costs.
- Substitute lower-cost alternatives--such as travel demand management, transportation system management, and Intelligent Transportation Systems for more costly capacity solutions.
- Accept lower performance standards to bring revenue and needs into balance.
- Some blend of these three strategies.

It is apparent that no single option will close the gap between needs and revenue. The need exists to investigate an array of revenue sources, including both current sources and new or enhanced sources. For the Town of Sahuarita, the following list offers strategies for raising revenue to meet the needs of a rapidly growing population:

- Use improvement districts, revenue bonds, innovative financing, and construction sales taxes to help resolve as many as possible of today's capacity and maintenance deficiencies. No new legislation is needed.
- To accommodate new growth, establish a roadway impact fee program, possibly including state routes. New legislation would be needed, however, to enable the state to collect impact fees for improvements to the ADOT highway system.
- Consider the use of additional community facilities districts to fund offsite improvements for large new developments.
- Implement a concurrency program, in which new development cannot proceed into construction until needed roadways are funded, permitted, and fully programmed for implementation. No new legislation is needed. This can be incorporated into the Town's general plan pursuant to ARS Title 9.
- Seek legislative approval for local revenue options such as a local gasoline tax, a local sales tax on fuel, and local vehicle registration fees. This requires a simple majority vote at the legislature followed by local adoption.
- Seek an increase in the state gasoline tax.
- Seek an increase in the federal gasoline tax.
- Strive for a balanced transportation system, with due consideration of land use patterns, that incorporates transit and alternative modes of travel. This will require investigation of additional sources of funding for public transportation in the study area, such as a ¼ to ½ percent sales tax, a property tax, or a new transit district with taxation authority. These options may require new legislation, but some may be achievable under current statutes.