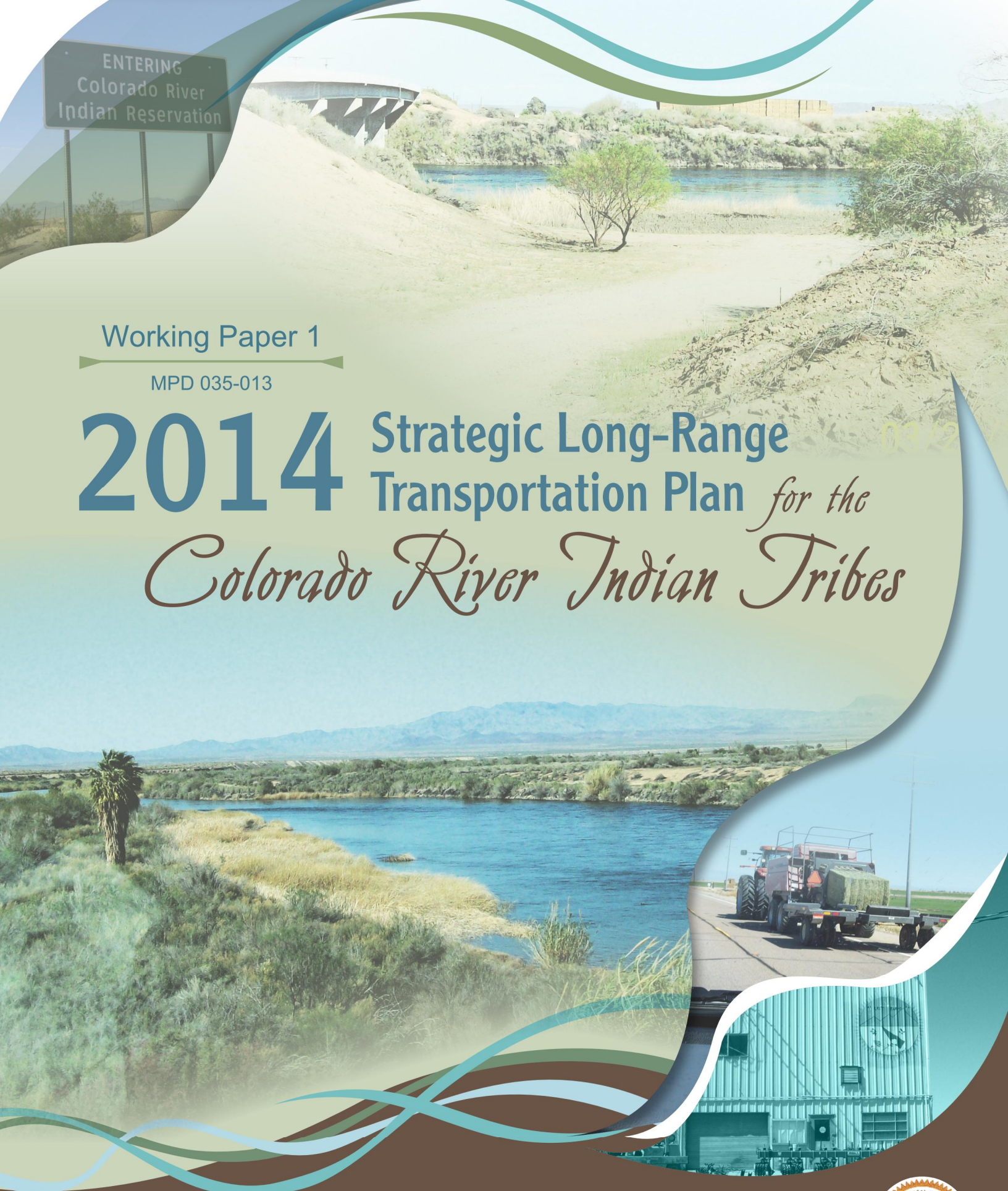

Working Paper 1

MPD 035-013

2014 Strategic Long-Range Transportation Plan *for the* Colorado River Indian Tribes

Prepared by:
Kimley-Horn and Associates, Inc.

FEBRUARY 2014 | PREPARED FOR:
COLORADO RIVER INDIAN TRIBES

2014 Strategic Long Range Transportation Plan for the Colorado River Indian Tribes

Final
Working Paper 1- Current and Future Conditions

Prepared by:

Kimley-Horn and Associates, Inc.

Prepared for:
COLORADO RIVER INDIAN TRIBES

FEBRUARY 2014

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1. Introduction

1.1 STUDY PURPOSE

This study will prepare an updated Tribal Long Range Transportation Plan (LRTP) and a strategic plan for improvements over five-, 10-, and 20-year periods, incorporating both roadway and multimodal needs. Some key focus areas of the LRTP are road maintenance and safety programs, as well as improvement plans for bicycle, pedestrian, and transit systems. Identifying updates to the Tribal Transportation Inventory and functional classification systems will assist in expanding the level and types of funding available for transportation projects.

1.2 STUDY OBJECTIVES

The objective of this study is the development of a Strategic LRTP with strong road maintenance, safety, transit, multimodal, and corridor operations elements resulting in a program of transportation projects for five-, 10-, and 20-year planning horizons.

1.3 STUDY AREA

The Colorado River Indian Tribes (CRIT) Reservation spans the Colorado River and has land in Arizona (La Paz County) and California (San Bernardino and Riverside Counties). It includes almost 300,000 acres of land.

The CRIT Reservation was established March 3, 1865 for the "Indians of said river and its tributaries." The Indigenous people were the agricultural Mohaves and the Chemehuevis. In 1945, a portion of the reservation was reserved for colonization by Indians of other tribes, specifically the Hopis and Navajos.

Entry Monument at the Tribal Headquarters of the Colorado River Indian Tribes

The Reservation area is shown in **Figure 1 – Study Area Map**. It should be noted that although I-10 and other state routes are within the study area, the major focus of this study is on tribal and Bureau of Indian Affairs (BIA) routes. This is considering that ADOT completes its own corridor studies for state system routes.

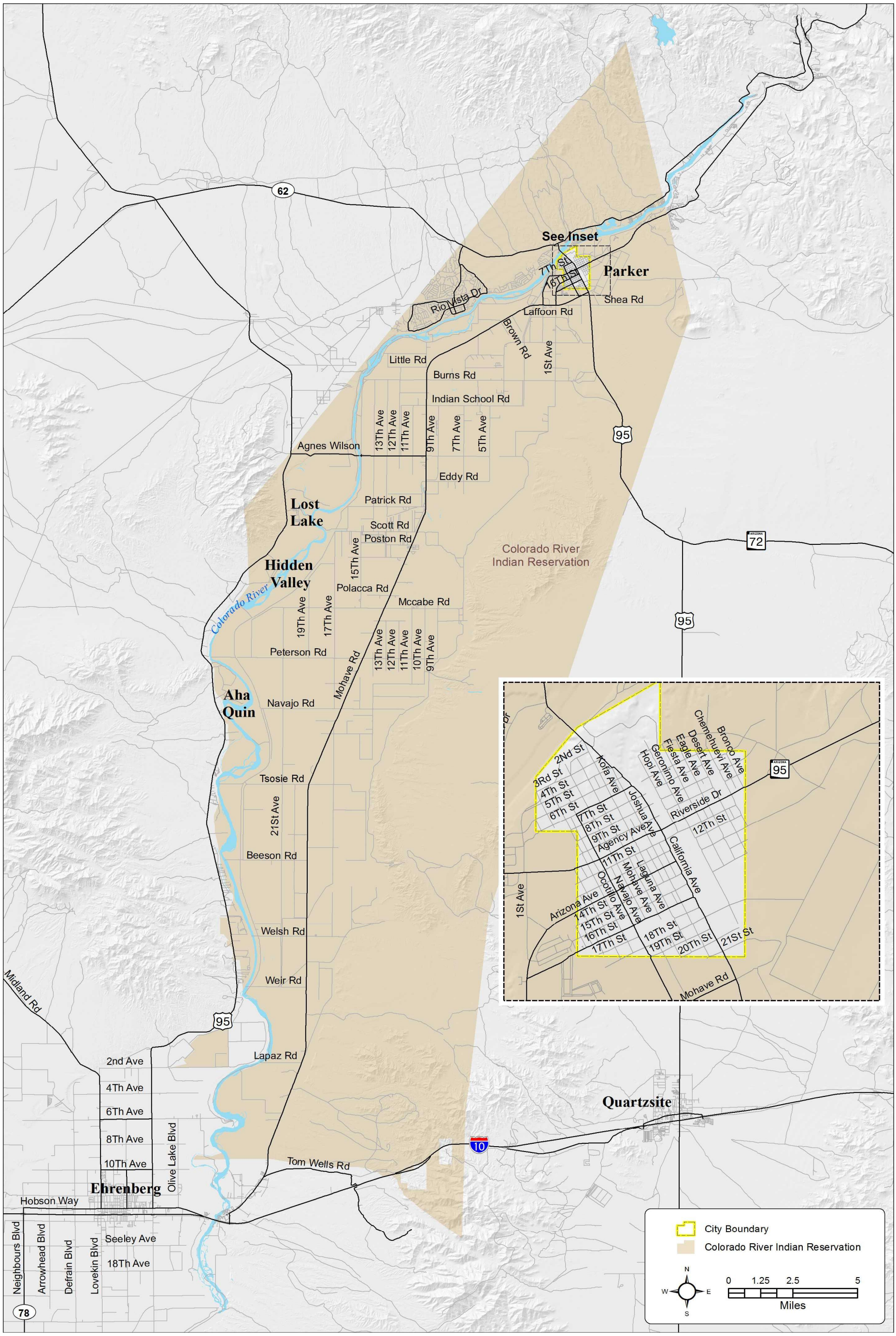


Figure 1 – Study Area Map

1.4 PROJECT MANAGEMENT TEAM AND TECHNICAL ADVISORY COMMITTEE

A core Project Management Team (PMT) provides project direction and input to the study. The PMT includes representatives of the Colorado River Indian Tribes, the Arizona Department of Transportation (ADOT) Multimodal Planning Division, ADOT Communications Office, and Kimley-Horn staff. Meetings are held once monthly. Meeting topics include reviewing and discussing progress, findings, and recommendations of the study. Meeting summaries are provided on the project website www.azdot.gov/critpara

In addition to the PMT, a broader-based Technical Advisory Committee (TAC) was established. The role of the TAC is to provide input on technical issues related to the study and to review and comment on study deliverables. Meeting summaries for TAC meetings are also provided on the project website above. TAC membership is shown in the text box at right.

Technical Advisory Committee Representation

- **Colorado River Indian Tribes**
  - Tribal Council
  - Police Department
  - Planning Department
  - Head Start
  - Museum
  - Environmental Protection Office
  - Behavioral Health and Social Services
  - Health Services
- **Arizona Department of Transportation**
  - Multimodal Planning Division – Planning, Transit, Environmental, and Aeronautics
  - Yuma District
  - Communications
- **California Department of Transportation – District 8**
- **Town of Parker Public Works Department**
- **La Paz County**
  - Public Works Department
  - Transit
- **Parker Unified School District**
- **Western Arizona Council of Governments**
- **Indian Health Service**
- **Bureau of Indian Affairs**
  - Colorado River Agency
  - Western Region
  - Irrigation District
- **Federal Highway Administration**

1.5 STAKEHOLDERS

Stakeholders identified during the course of the study include representatives from the police and fire departments, school district transportation staff, and others. Because of their knowledge of transportation needs and the road system, stakeholders provide a unique perspective on transportation needs. Input from stakeholders was obtained through informal discussions and through formal interview surveys.

Further information on the formal interviews/surveys is provided in **Section 3.3- Summary of Stakeholder Interviews and Surveys.**

1.6 ORGANIZATION OF WORKING PAPER 1

Working Paper 1 provides an overview of existing and planned transportation conditions, and focuses on identifying the transportation needs that will be addressed in a plan of projects to be developed in Working Paper 2. The findings of Working Papers 1 and 2 will be summarized in a Final Report, which will be the 2014 Strategic LRTP that will be presented for approval to the CRIT Tribal Council.

This Working Paper is organized into the following chapters:

Chapter 1, Introduction – This chapter describes the study purpose, objectives, and organization.

Chapter 2, Project Area Description – This chapter provides an overview of the current and future land uses, demographics, and environmental conditions.

Chapter 3, Transportation and Roadway Assessment – This chapter describes transportation conditions and needs for roadways, transit, bicycle, and pedestrian facilities, and aviation and rail transportation modes. This chapter also summarizes stakeholder comments on transportation needs.

Chapter 4 – Transportation Needs – This chapter summarizes transportation needs that will be addressed through the development of projects.

2. Project Area Description

This chapter provides information on land use, and demographic and socioeconomic characteristics of the Colorado River Indian Tribes (CRIT or Tribes) Reservation.

2.1 OVERVIEW

The CRIT Reservation is located in western Arizona at Parker, 189 miles from Phoenix. The Reservation spans the Colorado River and includes land in Arizona (La Paz County) and California (San Bernardino and Riverside counties). A brief overview of the history of the Reservation is provided below, as referenced and excerpted from the Tribes website (http://www.crit-nsn.gov/crit_contents/about/).

The CRIT Reservation was created in 1865 by the Federal Government for "Indians of the Colorado River and its tributaries," originally for the Mohave and Chemehuevi, who had inhabited the area for centuries. People of the Hopi and Navajo Tribes were relocated to the reservation in later years.

The Colorado River is a central feature of the Reservation

The primary community in the CRIT Reservation is Parker, Arizona, which is located on a combination of Tribal land, leased land that is owned by CRIT and land owned by non-Native Americans. There are other, smaller communities on the reservation, including Poston, Earp, and Big River.[1]

The Reservation is composed of approximately 297,089 acres and is the home of four Tribes: the Mohave, Chemehuevi, Hopi, and Navajo with a current Tribal enrollment of approximately 4,070 members.

The CRIT's economy is centered around agriculture, recreation, as well as government and light industry. The fertile river bottom lands and available water allows the production of agricultural and produce such as cotton, alfalfa, wheat, feed grains, lettuce, and melons. Approximately 84,500 acres are now under cultivation and another 50,000 acres are available for development. The Tribes have senior water rights to 717,000 acre feet of the Colorado River, which is almost one-third of the allotment for the state of Arizona.[2]

In recent years the Tribes have diversified to include a Tribal hardware store, shopping malls that include a Walmart, as well as sand and gravel operations and the Avi Suquilla Airport. Since opening the BlueWater Resort and Casino, emphasis has turned toward tourism and recreational activities on the river. CRIT is the largest employer in La Paz County, Arizona, directly and indirectly providing many jobs in the region.[3]

[1] http://www.crit-nsn.gov/crit_contents/about/, referenced 6/12/13.
[2] Source: InterTribal Council of Arizona, http://itcaonline.com/?page_id=1152, referenced 6/20/13.
[3]

2.2 CURRENT LAND USES

This section describes existing land uses within the Reservation area. Land uses are described in the following areas:

- Institutional and public service
- Agricultural
- Residential
- Commercial and industrial
- Recreational

An Activity Centers map (**Figure 2**) shows the location of many of the land uses mentioned in this section.

2.2.1 INSTITUTIONAL AND PUBLIC SERVICE

Tribal government offices are located primarily within the CRIT Tribal Headquarters, located on Mohave Road at 2nd Avenue. In addition to Tribal Council Chambers and administrative offices, this area also contains the CRIT Library (first tribally funded library in the U.S.), Tribal Court, Juvenile Detention Center, Irataba Hall (gymnasium), and Tribal Automotive Center.

CRIT Tribal Headquarters Complex

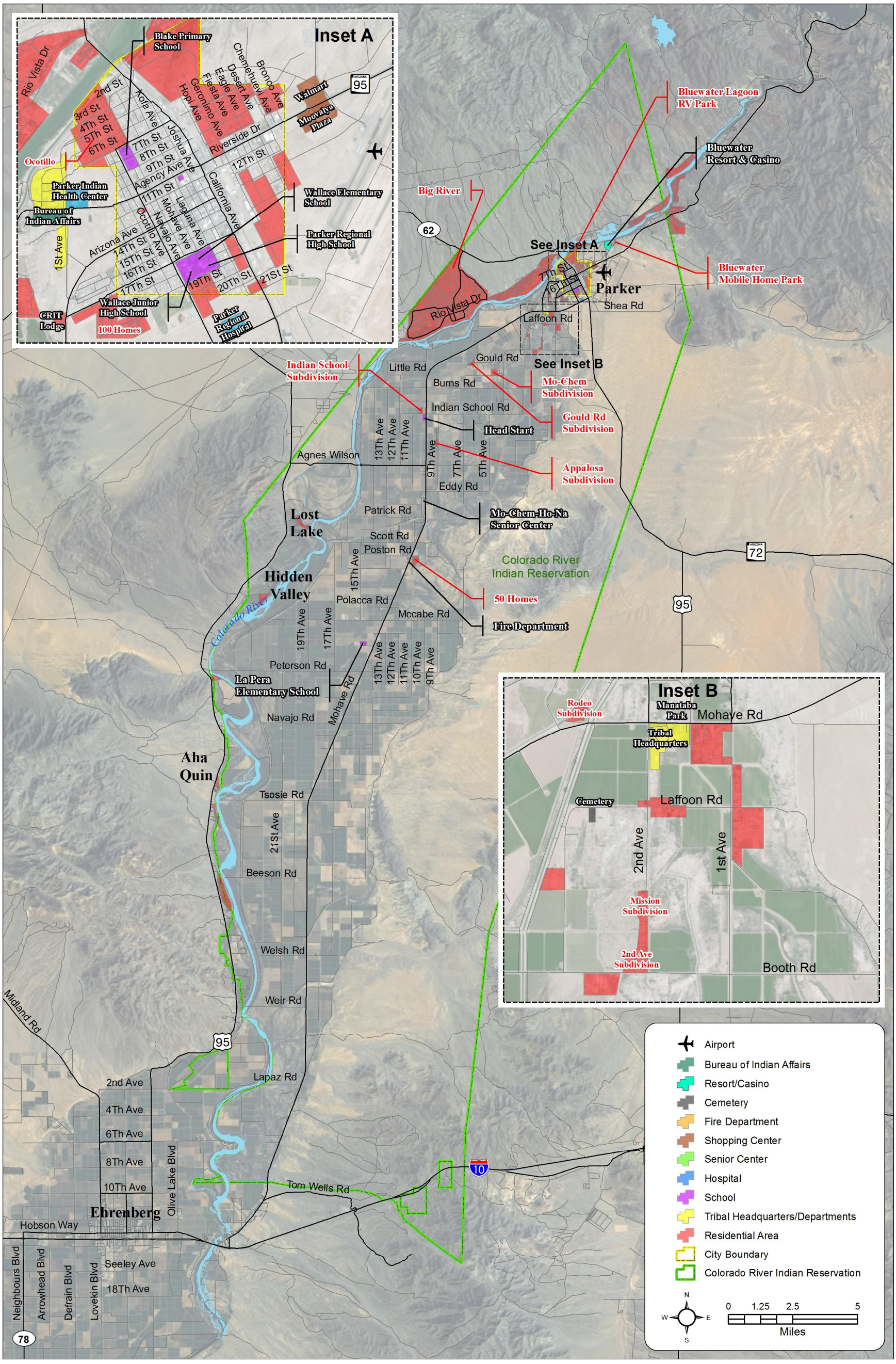
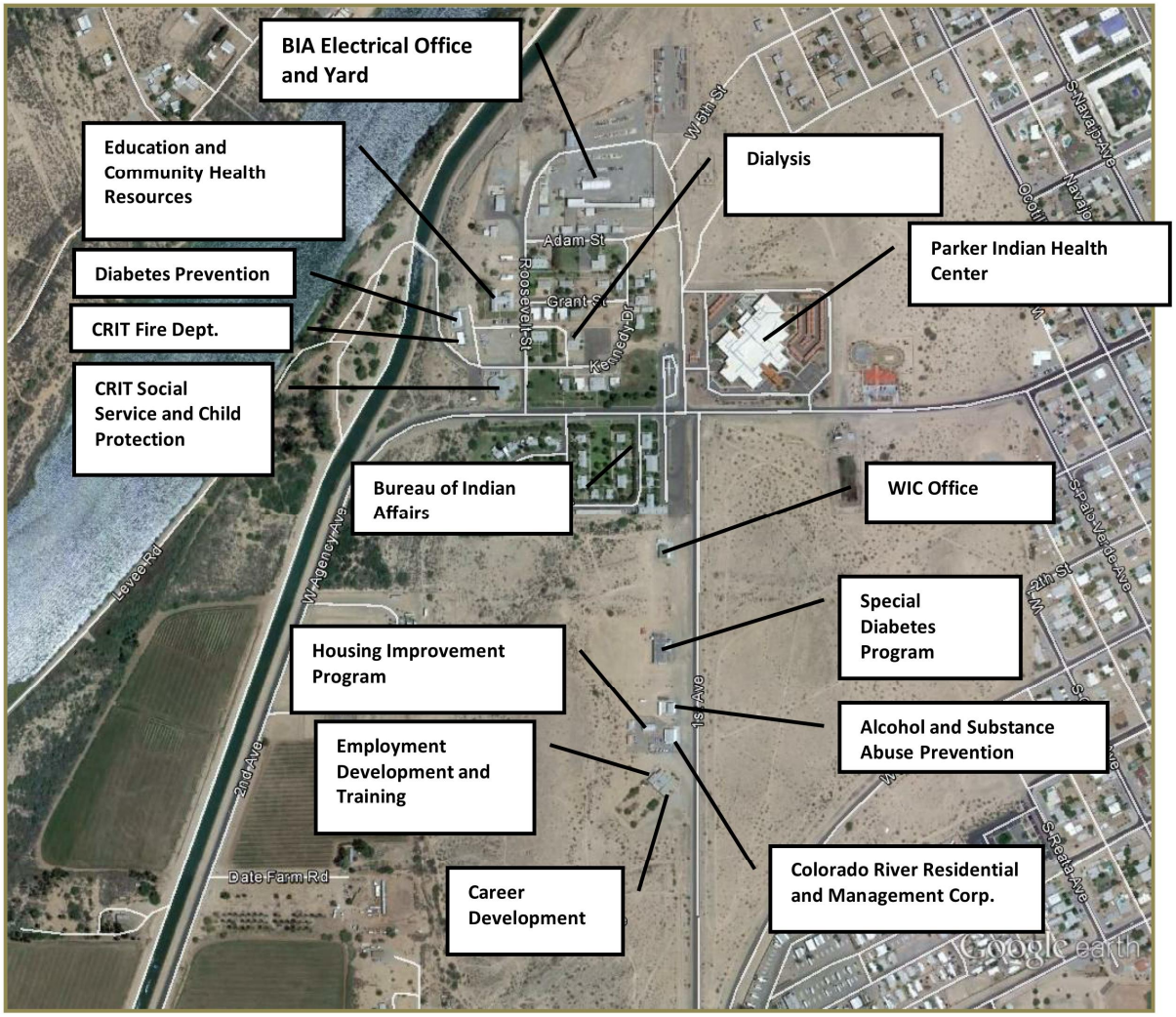


Figure 2 – Activity Centers

Tribal Offices and other Public Services near the 1st Avenue / Agency Avenue Area

The area around First Avenue and Agency Avenue is a center of Tribal, medical and Bureau of Indian Affairs offices. Northeast of the intersection, there are a number of Tribal Departments and Offices, including the Education Department, Community Health Resources, the Diabetes Prevention Administration Offices, and Social Service and Child Protection. This area is shown below.



Tribal Offices and Public Services near 1st Ave/Agency Ave

Schools

Schools in the area include:

Name	Address
Parker High School	1600 South Kofa
Wallace Junior High School	1320 18th Street
La Pera Elementary School	19121 Tahbo Road
Blake Primary School	701 South Navajo
Wallace Elementary School	1201 16th Street
Colorado River Indian Tribes Head Start	18026 Mohave Road

Hospitals and Health-Related Services

Hospitals and health-related services include:

Name	Address
Parker Indian Health Center	12033 West Agency Avenue
La Paz County Regional Health Center	1200 Mohave Road
Community Health	12201 B Roosevelt Street

Community Facilities

Community facilities include:

Name	Address
Colorado River Indian Tribes Museum	1007 Arizona Avenue
Colorado River Indian Tribes Library	26600 Mohave Road
Mo-Chem-Ho-Na Senior Center	21074 Mohave Road
Colorado River Indian Tribes Social Services	12302 Kennedy Drive

2.2.2 AGRICULTURAL

Most of the Reservation's land is devoted to agricultural uses, primarily farming. The primary crops on the Reservation are hay, cotton, wheat, corn and feed grains.

2.2.3 RESIDENTIAL

Some of the key residential areas on the Reservation include:

- Mo-Chem Subdivision – This subdivision is located between Little Road and Burns Road
- 100 Homes Subdivision – This subdivision is located on 16th Street, south of Parker
- 50 Homes Subdivision – This subdivision is located off Mohave Road in Poston, 20 miles south of Parker
- Gould Road Subdivision – Located on Gould Road, east of 8th Avenue
- Mission Subdivision – Located on 2nd Avenue, between Booth Road and Laffoon Road
- 2nd Avenue Subdivision – Located on 2nd Avenue, north of Booth Road
- Indian School Subdivision – Located on Indian School Road, west of Mohave Road
- Appaloosa Subdivision – Located on the west side of 9th Avenue, north of Agnes Wilson Road
- CRIT Lodge Housing for the Elderly – Located at 126th Street/Arizona Avenue
- 1st Avenue Subdivision – Located on 1st Avenue near Laffoon Road
- Date Farms Subdivision – Located east of 2nd Avenue on the south side of Date Farm Road
- Rodeo Subdivision – Located between Mojave Road and 3rd Avenue

Agricultural vehicles are a frequent sight on Mohave Road

There are also housing developments located along the Colorado River. The largest of these recreational-residential developments is the Big River Development, located west of Parker in California. In 2029, the leasing agreement for the Big River ends and the property will revert to the CRIT Reservation. Currently, these roads are maintained by San Bernardino County.

There are a number of residential/recreational vehicle (RV) resort areas that cater to seasonal visitors because of their close access to the Colorado River, which are located in California via US 95. These are:

- Aha Quin River Resort
- Water Wheel Resort
- Glades Hidden Valley
- Lost Lake Resort

2.2.4 COMMERCIAL AND INDUSTRIAL DEVELOPMENT

Commercial development is mainly concentrated in the Town of Parker. Commercial development consists of a variety of small retail businesses, motels, service stations, automobile dealerships, hardware and building supply stores, real estate offices, and restaurants. Major commercial developments include:

- Moovalya Plaza on SR 95 at Airport Drive includes a supermarket, pharmacy, fast food restaurants, and other commercial businesses.
- A Walmart Supercenter is located opposite the Moovalya Plaza, on the north side of SR 95.
- BlueWater Resort and Casino, located just east of the Walmart site, on the Colorado River, is the Tribes' 20,000-square-foot gaming facility which includes a restaurant, movie theater, 200-room hotel, Riverfront Cantina, amphitheater, and marina.
- Several agriculture-related commercial enterprises are located along Mohave Road south of Parker, near Poston. A larger enterprise is CRIT Farms, located near the intersection of 15th Avenue and West McCabe Road. CRIT Farms was established in 1973 as the Tribal farming entity. It manages over 15,000 acres of alfalfa, cotton, durum wheat, and many other crops.[4] Woody's II Convenience Market is also located at the Intersection of Mohave Road and Poston Road.
- Colorado River Building Materials is a tribally owned enterprise in Parker that provides hardware and building needs.
- The "Parker Strip" located between the town of Parker and Parker Dam includes mostly recreational and tourism related development.
- CRIT Sand and Gravel – CRIT operates a sand and gravel operation near the Colorado River.

[4] http://www.crit-nsn.gov/crit_contents/business/, referenced 7/28/13

- CRIT Utilities – Provides the people of CRIT with utility services, including waste disposal, water, and sewer service.

2.2.5 RECREATIONAL AND TOURISM

Tourism is one of the important economic drivers for the CRIT. Key tourism and recreational destinations include:

The Colorado River is the Reservation's greatest recreational and most scenic attraction. Lake Moovalya and Lake Havasu are formed behind Headgate and Parker Dams. Facilities for swimmers, boaters and water skiers may be found along the 90 miles of shoreline.

The Ahakhav Preserve is located near the Tribal Administration Complex on Rodeo Drive, off Mohave Road. The Preserve consists of about 250 acres of aquatic habitat, a landscaped picnic area, and a spur trail planted with native mesquite, cottonwood, and willow. The picnic area is equipped with barbeque grills and picnic tables. The Preserve is great for environmental and nature study programs for youth and adults, wildlife observations, canoeing, hiking, swimming, and camping.

Manataba Park is located near the intersection of Mohave Road and 2nd Avenue. It includes softball and baseball facilities, playground, and a fairground.

The BlueWater Resort and Casino opened in June 1999. It is located at 11300 Resort Drive, accessible via SR 95 at BlueWater Drive. In addition to casino play, there are two restaurants and a 200-room hotel, as well as an indoor water park. Live entertainment is provided at the outdoor amphitheater. The facility has a 164-slip private marina. Miniature golf is available along with an exercise center and various retail shops. The resort and casino also feature a Conference Center. A four-screen theater is also located at the resort.

Blythe Intaglios – The Blythe Intaglios are a group of gigantic earth figures found on the ground just west of Highway 95 near the Colorado River, approximately 15 miles north of Blythe, California. They were created by scraping away layers of darker rocks or pebbles to reveal a stratum of lighter soil. They are visible from the air, and the age of the figures is unknown. They are on the National Register of Historic Places.

Source: Bureau of Land Management

Blythe Intaglios

CRIT Museum – The CRIT Museum provides a comprehensive history of the CRIT and focuses on tribal heritage and traditions.

Poston Monument – This Memorial Monument located on Mohave Road marks the site of the Poston War Relocation Center where 17,867 persons of Japanese ancestry, the majority of whom were United States citizens, were interned during World War II from May 1942 to November 1945.

2.3 FUTURE LAND USE

Based on discussions with the Tribal Planner, future land use developments are planned as described in **Table 1**.

Table 1 – Planned Developments

Development Name/Type	Location	Type of Planned Development	Time frame		
			Short Term (0- 5 Years)	Mid-Term (5-10 years)	Long-Term (20 Years or more)
Western Boundary Master Plan	Primarily south of Agnes Wilson Road, between the Colorado River and US 95 in California	To be determined			X
Proposed fuel station	Airport Road / SR 95 - northeast corner	Gas station/convenience store	X		
Proposed fuel station	BlueWater Drive / SR 95	Gas station/convenience store	X		
Proposed fuel station	SR 95/Shea Rd –NW corner	Gas station/convenience store	X		
Shea Road residential and commercial development	North and south of Shea Road	Residential and commercial development			X
BlueWater Resort Area Development Plan	East and west of BlueWater Casino and Resort	18-hole golf course, 500 homesites, townhomes, deli restaurant, and park			X
Medical office development	South of Indian Health Center, south of Agency Road and east of 1st Avenue	Medical offices		X	
Airport commercial development	Avi Suquilla Airport	To be determined - based on final Airport Master Plan Update	X	X	X
New Head Start school	Northwest corner of Mohave Road and Navajo Avenue - south of Parker High School	Relocated from current location on Mohave Road near Indian School Road		X	
Planned housing	South of Desert Sun subdivision- north of Mohave Road and east of 1st Avenue	Residential- 23-lot subdivision (CRIT Villas)		X	
Fire station	West side of 1st Avenue, north of CRIT Lodge	New fire station	X		
Future residential development	South of Mohave Road, on both sides of SR95	Residential - number of parcels undetermined			X
Future residential development	Adjacent to La Paz Regional Hospital on Mohave Road	Residential - number of parcels undetermined		X	

2.4 DEMOGRAPHICS AND SOCIOECONOMIC DATA

2.4.1 POPULATION AND GROWTH

The 2010 population for the CRIT Reservation was 8,764 persons. Population growth showed a small decline between 2000 and 2010, at a rate of approximately -0.49% per year. La Paz County showed relatively flat growth, growing approximately 0.39% per year. The state as a whole grew approximately 2.2 percent per year between 2000 and 2010. These data are shown in **Table 2**.

Table 2 – Population Data

Year	CRIT Reservation (Arizona and California)	La Paz County, Arizona	State of Arizona
2000	9,201	19,715	5,130,632
2010	8764	20,489	6,392,017
Average Annual Growth Rate	-0.49%	0.39%	2.22%

Source: 2010 U.S. Census SF1 2000 and 2010

The Tribes have an enrolled membership of 4,070 members[5] Tribal enrollment population is generally higher than reservation population, indicating that some tribal members live off their tribe's reservation.

More detailed demographic and socioeconomic data is provided in Section **3.11 -Transit**.

2.4.2 TITLE VI AND ENVIRONMENTAL JUSTICE

Title VI of the Civil Rights Act of 1964 and related statutes ensure that individuals are not subjected to discrimination on the basis of race, color, national origin, age, sex, or disability. In February 1994, President Clinton signed Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." The purpose of the order was to focus attention on the "environmental and human health conditions in minority communities and low income communities with the goal of achieving environmental justice." The Order does not supersede existing laws or regulations; rather, it requires consideration and inclusion of these targeted populations as mandated in previous legislation including:

- Title VI of the Civil Rights Act of 1964;
- National Environmental Policy Act of 1969 (NEPA);
- Section 309 of the Clean Air Act; and
- Freedom of Information Act.

The U.S. Department of Transportation issued its final order to implement the provisions of Executive Order 12898 on April 15, 1997. This final order requires that information be obtained concerning the race, color, or national origin and income level of populations served or affected by proposed programs,

[5] Source: http://www.crit-nsn.gov/critenrollment/

policies, and activities. It further requires that steps be taken to avoid disproportionately high and adverse impacts on these populations. One of the first steps in ensuring environmental justice is the identification of those populations specifically targeted by the Order—minority and low-income populations. According to the 2010 Census, the racial composition of CRIT is predominantly white (38%), Hispanic or Latino (35%), and American Indian (24%), as shown in **Table 3.**

Table 3 – Racial Demographic Percentages

Race Category	Colorado River Indian Tribes		La Paz County	
	Number	Percent	Number	Percent
Total Population	8,764	100%	20,489	100%
White	3,298	38%	12,854	63%
Minority Populations				
Black or African American	62	1%	115	1%
American Indian or Alaska Native	2,070	24%	2,201	11%
Asian	33	0.38%	90	0.44%
Native Hawaiian and Other Pacific Islander	3	0.03%	5	0.02%
Some Other Race	1	0.01%	11	0.05%
Two or More Races	265	3%	407	2%
Hispanic population (of any race)	3,032	35%	4,806	23%

Source: 2010 Census Summary File 1, Hispanic or Latino, and Not Hispanic or Latino by Race (P9), Colorado River Indian Reservation, AZ-CA

Table 4 – Disadvantaged Populations

Area	Total Population	Total Minority Population (from Table 2)		Age 60 and Older		Total Households	Female Householder	
		Number	Percent	Number	Percent		Number	Percent
Colorado River Indian Tribe	8,764	5,466	62%	2,022	23%	3,207	1,388	43%
La Paz County	20,489	7,635	37%	8,516	42%	9,198	3,135	34%

Source: Source: 2010 Census Summary File 1, Hispanic or Latino, and Not Hispanic or Latino by Race (P9), Colorado River Indian Reservation, AZ-CA

As **Table 3** and **Table 4** indicate, the Title VI populations present in the CRIT are comparable to those in La Paz County, with the exception of minority populations. The percent of total minority population is nearly double that found in La Paz County. The CRIT 2014 Strategic Long Range Transportation Plan is a long-range multimodal planning study that addresses the transportation needs in the study area for the

near-term, mid-term, and long-term transportation planning horizons. The recommended improvements are expected to improve the overall transportation system of the study area and benefit the study area as a whole. More detailed analysis will be needed for individual design projects that are federally-funded to ensure that there are no disproportionately high and adverse impacts to disadvantaged populations.

2.5 CURRENT ENVIRONMENTAL CONDITIONS

2.5.1 INTRODUCTION

Environmental conditions should be considered in the development of transportation alternatives.

This section describes the existing environmental resources within the study area, including the built environment, socioeconomic conditions, and natural, cultural, and Section 4(f) resources. Also included are potential known environmental issues, constraints, and opportunities within the study area to be considered in the development and preliminary analyses of transportation alternatives. **It should be noted that references to environmental requirements relate to federally funded projects.**

2.5.2 TOPOGRAPHY AND SOILS

The study area lies in the Basin and Range Province along the Colorado River between approximately 260 feet to 2,400 feet above mean sea level. Despite this range of elevations, the area can generally be described as flat with small mountain ranges near the periphery. The Colorado River generally delineates the western boundary of the study area providing approximately 90 miles of shoreline. In some cases the study area extends beyond the Colorado River, most notably in the northern portion of the study area. A distinct series of low bluffs bisects the study area, trending from northeast to southwest. The series of low bluffs defines the eastern edge of the Colorado River Delta within the study area. Soils in this area are composed primarily of stratified mixed alluvium encompassing areas of coarse textured alluvium and calcareous mixed silty alluvium. These components are typical of floodplains. The soils located east of the Colorado River Delta and west and north of the Colorado River are comprised primarily of general alluvium, unconsolidated alluvium derived from claystone and/or unconsolidated sediment alluvium derived from sandstone and siltstone, alluvium derived from volcanic rock and/or alluvium derived from granite and gneiss and/or colluvium derived from volcanic rock and/or colluvium derived from granite and gneiss, and calcareous stratified mixed alluvium. These soils are generally found on dunes, terraces, and hillslopes.

2.5.3 VISUAL RESOURCES

There is a strong need to maintain and / or enhance the visual beauty of the valley, which enhances the river recreation, tourism, and other outdoor recreation which is a significant staple of the economy of the area. The Colorado River is located in a in a visually beautiful area (viewshed) that attracts tourism and should be protected. The evening view shed is an important consideration here because the ambient light is low and tourists, hunter, campers and others have the opportunity to view the stars and the night skies.

The visual setting of the study area is dominated by the Colorado River, and depending on the specific location, views include the Town of Parker, community of Poston, agricultural fields, undeveloped flat to

rolling terrain, and small mountain ranges. Vegetation in the study area consists of creosote, white bursage, saltbush, and vegetation along washes including blue paloverde, ironwood, velvet mesquite, and catclaw acacia. Also commonly found in the subdivision are several types of cholla and other cacti. Riparian vegetation associated with this area of the Colorado River typically includes cottonwood, willow, honey mesquite, screwbean mesquite, salt cedar, and marsh species.

The existing foreground and midground views consist of The Colorado River, a flat to rolling Sonoran Desertscrub landscape, low mountains, and flat agricultural fields, which includes the developed Town of Parker and the community of Poston and undeveloped lands. A series of transportation corridors intersect the study area, including the primary roadways of US-95, AZ-95, CA-62/California Avenue, and Mohave Road; and secondary paved and unpaved roadways. Commercial development, traffic signals, and street lighting are primarily concentrated along the AZ-95 and CA-62/California Avenue in Parker, with residential development and schools found on secondary roadways. The Avi Suquilla Airport is located east of Parker in the northern study area limits.

Background views are dominated by distant mountain ranges. These include ‘Avii Kur’utat (Whipple Mountain), ‘Avii Vatay (Riverside Mountain), ‘Avii ‘A ‘iis (Screwbean Mountain), and ‘Avii Suukwily (Black Mountain).

2.5.4 AIR QUALITY

The federal Clean Air Act (CAA) requires that impacts to air quality be analyzed and addressed in the preparation of environmental documents for federally funded projects. Pursuant to the CAA, the Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for six air pollutants:

- Carbon monoxide (CO);
- Lead (Pb);
- Nitrogen dioxide (NO2);
- Ozone (O3);
- Particulate matter (PM) for both PM10 and PM2.5; and
- Sulfur dioxide (SO2).

Based on federal and state air quality standards, a specific geographic area can be classified under the federal CAA as “attainment,” “non-attainment,” or “maintenance” for each criteria pollutant. The criterion for non-attainment designation varies by pollutant so that an area can be in attainment for some pollutants and non-attainment for others.

If a pollutant in a region meets or exceeds the NAAQS set by the EPA, it is defined as an attainment area. If a pollutant does not meet the minimum NAAQS, it is defined as a non-attainment area. Maintenance areas are areas previously defined as nonattainment areas that are in transition to becoming attainment areas after monitoring data demonstrates air quality standards are being met.

The Arizona (La Paz County), the Colorado River Indian Reservation is designated as non-classified. In California, San Bernardino County is listed as a Moderate Non-attainment Area for PM-10 and Riverside County is listed as Serious Non-attainment Area per United States Environmental Protection Agency (USEPA) mapping dated 7/13/2013. It should be noted that at the south end of the Reservation, I-10 is a significant contributor to air pollution, especially during the summer months when the prevailing wind is from the south.

Construction of transportation projects could result in temporary negative air quality impacts due to construction-related traffic delays and from construction vehicles. However, this would be a localized condition that would cease when construction is complete.

2.5.5 NOISE IMPACTS

Noise, defined as undesirable sound, is federally regulated by the Noise Control Act of 1972. This act established a national policy to promote an environment for all Americans free from noise that jeopardizes health and welfare. The act gives the EPA the authority to prepare guidelines for acceptable ambient noise levels. It also requires that federal agencies having jurisdiction over any property or facility or engaging in any activity that results or may result in the emission of noise to comply with federal, state, interstate, and local requirements respecting control and abatement of environmental noise.

The proposed study area includes the entire Reservation area. A review of the study area has identified several sensitive receptors, including parks, residential neighborhoods, schools, hotels/inns. For federally funded projects, a qualitative or quantitative noise analysis would need to be conducted for the proposed transportation improvements to determine the nature and extent of noise impacts.

2.5.6 WATER QUALITY

Sections 404 and 401 of the Clean Water Act

The U.S. Army Corps of Engineers (Corps) regulates the discharge of dredge and/or fill material into waters of the U.S. (Waters) under Section 404 of the Clean Water Act (CWA) (33 U.S.C. §1251 et seq. (1972).

Any activity that will discharge dredge or fill material into jurisdictional waters, including wetlands, will require a CWA Section 404 Permit [Nationwide Permit (NWP), Individual Permit (IP), etc.]. These activities include, but are not limited to, the installation of riprap, channel maintenance activities, bank protection, new bridges or extensions of bridges, corrugated metal pipes, and box culverts.

A preliminary desktop evaluation for the presence of potential jurisdictional Waters was conducted in the study area through a review of U.S. Geological Survey topographical maps. The following named rivers/washes/channels are included in the project area: Bouse Wash, Colorado River, Goodman Slough, Goodman Wash, Kaiser Wash, La Paz Wash, Main Canal, Main Drain, Osborne Wash, Seventy Wash,

Twelvemile Slough, and Tyson Wash. Numerous unnamed features are also located within the project area and could potentially be considered Waters.

An evaluation to determine boundaries of Waters should be conducted during the design phase of the project through a Preliminary Jurisdictional Determination (PJD) or an Approved Jurisdictional Determination (AJD) to aid in avoiding and minimizing impacts to the regulated areas. A PJD is a non-binding delineation that is typically pursued in the planning and design phases of a project. An AJD is a delineation that is binding for five years that requires more data and processing time through the Corps. After the delineation is complete, the project should be designed to avoid and minimize impacts to Waters. If there are unavoidable impacts to Waters, a Section 404 permit will then be required along with compensatory mitigation activities for the proposed impacts to Waters. Water quality certifications under Section 401 of the Clean Water Act would be required from the Environmental Protection Agency.

National Pollutant Discharge Elimination System/Stormwater Pollution Prevention Plan

The National Pollutant Discharge Elimination System (NPDES) is a national permit program under Section 402 of the CWA that regulates discharges of pollutants from point sources into Waters, including sediment and pollutants that can be generated during ground-disturbing activities and transported by stormwater runoff. NPDES permitting on the Colorado River Indian Reservation is conducted through USEPA Region 9.

Floodplains

Federal Emergency Management Agency (FEMA)-issued maps are available for the study area. Approximately 36% of the study area has been designated “Zone D.” FEMA defines Zone D as “areas with possible but undetermined flood hazards” where no flood hazard analysis has been conducted. Approximately 50% of the study area has been designated “Zone X.” FEMA defines Zone X as an “area of minimal flood hazard” and is usually considered to be above the 500-year flood level. The remaining approximate 14% of the study area has been designated either “Zone A” or “Zone AE.” Both zones are considered to be within the 100-year floodplain. Base flood elevations have been determined for Zone AE. The 100-year floodplain occurs mainly along the Colorado River and encompasses some tributaries where a flood hazard analysis has been conducted in the southern portion of the study area.

2.5.7 BIOLOGICAL RESOURCES

Biological Community

According to the Biotic Communities, Southwestern United States and Northwestern Mexico, the project area is within the Lower Colorado River subdivision of the Sonoran Desertscrub biotic community. This is the largest and most arid subdivision of the Sonoran Desert, and is dominated by two series—creosotebush-white bursage series and saltbush series. Characteristic plants include creosote (Larrea tridentata), white bursage (Ambrosia dumosa), saltbush (Atriplex canescens), and vegetation along washes including blue paloverde (Parkinsonia florida), ironwood (Olneya tesota), velvet mesquite (Prosopis velutina), and catclaw acacia (Acacia greggii). Also commonly found in the subdivision are several types of cholla and other cacti. Riparian vegetation associated with this area of the Colorado River typically includes cottonwood (Populus fremontii), willow (Salix gooddingii), honey mesquite

(Prosopis glandulosa), screwbean mesquite (Prosopis pubescens), salt cedar (Tamarix sp.), and marsh species.

Threatened and Endangered Species

The U.S. Fish and Wildlife Service (USFWS) threatened, endangered, proposed, and candidate species list for La Paz County, Arizona (dated February 5, 2013) was reviewed by a qualified biologist to determine species that may occur in the project vicinity based on readily available information. Species and habitat requirements are summarized in **Table 5**.

Table 5 – USFWS Listed Species in La Paz County and Habitat Requirements

Common Name	Scientific Name	Status	Habitat[6]	Notes
Bonytail chub	*Gila elegans*	E	Warm, swift, turbid mainstem rivers of the Colorado River basin, reservoirs in lower basin. Endemic to Colorado River Basin. Rarest of Colorado River fish. Critical habitat includes the Colorado River from Hoover Dam to Davis Dam and another section of the Colorado River from the northern boundary of Havasu National Wildlife Refuge to Parker Dam including Lake Havasu in Mohave County, Arizona.	Species has been introduced to CRIT waters from cultivated populations.[7]
Gila topminnow	*Poeciliopsis occidentalis occidentalis*	E	Small streams, springs, and cienegas vegetated shallows. Species historically also occurred in backwaters of large rivers but is currently isolated to small streams and springs.	La Paz County listed species that are not found on the CRIT Reservation[8]
Razorback sucker	*Xyrauchen texanus*	E	Riverine and lacustrine areas, generally not in fast moving water and may use backwaters. Big River fish also found in Horseshoe reservoir (Maricopa County). Critical habitat includes the 100-year floodplain of the river through the Grand Canyon from confluence with Paria River to Hoover Dam; Hoover Dam to Davis Dam; Parker Dam to Imperial Dam.	Species has been introduced to CRIT waters from cultivated populations.[9] Critical Habitat is also located within the project area (Colorado River).[10]
Southwestern willow flycatcher	*Empidonax traillii extimus*	E	Cottonwood/willow and tamarisk vegetation communities along rivers and streams. Riparian-obligate bird that occupies migratory/breeding habitat from late April-Sept. Critical habitat was finalized on October 19, 2005 in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties (70 FR 60886). Revised critical habitat was proposed August 15, 2011 (76 FR 50542) and includes river segments in counties currently designated plus those in La Paz, Santa Cruz, and Yuma counties.	CRIT contains critical willow flycatcher habitat.[11]

[6] U.S. Fish and Wildlife Service (USFWS). 2013. La Paz County Species List.
[7] Wilfred Nabahe, Colorado River Indian Tribes Environmental Protection Office, personal communication, July 26, 2013.
[8] Ibid.
[9] Ibid.
[10] USFWS. Critical Habitat Mapper. http://criticalhabitat.fws.gov/crithab/flex/crithabMapper.jsp?
[11] Wilfred Nabahe, Colorado River Indian Tribes Environmental Protection Office, personal communication, July 26, 2013.

Common Name	Scientific Name	Status	Habitat[6]	Notes
Yuma clapper rail	*Rallus longirostris yumanensis*	E	Fresh water and brackish marshes. Species is associated with dense emergent riparian vegetation. Requires wet substrate (mudflat, sandbar) with dense herbaceous or woody vegetation for nesting and foraging. Channelization and marsh destruction are primary sources of habitat loss.	Species was depicted by HabiMap™ as having potentially suitable habitat and/or distribution of species within the project area. Perhaps CRIT contains Yuma clapper rail habitat[12]
Roundtail chub	*Gila robusta*	C	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams. Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.	La Paz County listed species that are not found on the CRIT Reservation[13]
Sonoran desert tortoise	*Gopherus morafkai*	C	Primarily rocky (often steep) hillsides and bajadas of Mohave and Sonoran desertscrub but may encroach into desert grassland, juniper woodland, interior chaparral habitats, and even pine communities. Washes and valley bottoms may be used in dispersal. Desert tortoises that occur east and south of the Colorado River in Arizona are known as the Sonoran desert tortoise.	Species was depicted by HabiMap™ as having potentially suitable habitat and/or distribution of species within the project area. Species is not uncommon on CRIT land.[14]
Sprague's pipit	*Anthus spragueii*	C	Strong preference to native grasslands with vegetation of intermediate height and lacking woody shrubs. Rare in Arizona. Few individuals of this elusive species have been sighted during October through March. Native grass fields are rare in Arizona but cultivated, dry Bermuda grass, alfalfa fields mixed with patches of dry grass, or fallow fields appear to support the species during wintering. They will not use mowed or burned areas until the vegetation has had a chance to grow. There are no breeding records in Arizona.	Potential habitat in grassy (sometimes mixed with alfalfa) fields along Colorado River.

[12] Ibid.
[13] Ibid.
[14] Ibid.

Common Name	Scientific Name	Status	Habitat[6]	Notes
Yellow-billed cuckoo	*Coccyzus americanus*	C	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries). Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos is primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.	Perhaps CRIT contains Yellow-billed cuckoo habitat.[15]

E= Endangered, C= Candidate

[15] Ibid.

The AGFD online environmental review tool was accessed on July 30, 2013 to determine special status species known to occur in the project vicinity. The AGFD online environmental review tool included a list of special status species known to occur within three miles of the project vicinity. The species listed included:

Sonoran Desert Tortoise

- Scaly Sandplant (Pholisma arenarium)
- Yuma Clapper Rail (Rallus longirostris yumanensis)
- Mohave Fringe-toed Lizard (Uma scoparia)
- Bonytail (Gila elegans)
- Razorback Sucker (Xyrauchen texanus)
- Great Egret (Ardea alba)
- Cave Myotis (Myotis velifer)
- Sonoran Desert Tortoise (Gopherus morafkai)
- Southwestern Willow Flycatcher (Empidonax traillii extimus)
- California Black Rail (Laterallus jamaicensis coturniculus)
- California Leaf-nosed Bat (Macrotus californicus)

Southwest Willow Flycatcher

Kimley-Horn requested a list of species of concern or cultural importance from Mr. Wilfred Nabahe of the CRIT Environmental Protection Office. Mr. Nabahe responded by email with information provided by the Water Quality Specialist. Information provided by Mr. Nabahe has been incorporated into the previously mentioned species, habitat, and potential occurrence information.

Riparian and Aquatic Habitat

Riparian and aquatic habitats are sensitive to the extent that they provide habitat variety of species. Riparian and aquatic habitats are associated with the Colorado River within the study area; therefore, impacts to these biological resources should be avoided and/or minimized to the extent practicable.

National Parks, Recreation Areas, Wilderness Areas, and Other Special Status Lands

Poston Elementary School, Unit 1, Japanese Relocation Center was named a National Historic Landmark (NHL) on October 16, 2012. NHLs are properties recognized by the Secretary of the Interior as possessing extraordinary national significance. The Ahakhav Tribal Preserve was established in 1995 by CRIT to protect fish, wildlife, and plants along the river. The 18,790-acre Gibraltar Mountain Wilderness is about 10 miles northeast of Parker, Arizona, in La Paz County.

Section 4(f) Properties (parks, recreation areas, refuges)

Section 4(f) of the U.S. Department of Transportation Act of 1966 states that the Federal Highway Administration (FHWA) "…may approve a transportation program or project…requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if…there is no prudent and feasible alternative to using that land; and…the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use" (49 U.S.C. 303[c]).

Parks and recreation areas must be open to the public and owned by a public entity. They can be leased to others for a public use from a government agency or can be owned by a private entity with an easement granted to a government entity for use in perpetuity for a park or recreation area open for public use. The resource must have legal interests held by a government entity to be considered a Section 4(f) resource.

To be considered a Section 4(f) resource, a wildlife and waterfowl refuge must have a legal interest held by a governmental agency, with the primary use being that of a refuge. It does not need to be designated as a "refuge," but if that is its use and the land is government-owned, leased from the government to another party for "refuge" use, or privately owned with an easement given to a government for refuge use, it is a Section 4(f) resource.

A "use" of a Section 4(f) resource, as defined in 23 CFR § 771.135(p), occurs (1) when land is permanently incorporated into a transportation facility, (2) when there is a temporary occupancy of land that is adverse in terms of the statute's preservationist purposes, or (3) when there is a constructive use of the land. A constructive use of a Section 4(f) resource occurs when the transportation project does not incorporate land from resources but the project's proximity impacts are so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired. For example, a constructive use can occur when:

- The project noise level increase, attributable to the project, substantially interferes with the use and enjoyment of a noise-sensitive facility of a resource protected by Section 4(f);

- The proximity of the proposed project substantially impairs aesthetic features or attributes of a resource protected by Section 4(f), where such features or attributes are considered important contributing elements to the value of the resource; and/or

- The project results in a restriction on access, which substantially diminishes the utility of a significant publicly owned park, recreation area, or historic site.

Because CRIT may use federal transportation funds for future transportation improvements, the presence of Section 4(f) resources were evaluated. Recreational properties include:

- Manataba Park
- Ahakhav Preserve
- Poston Monument
- La Pera Elementary School recreation fields

2.5.8 CULTURAL RESOURCES

Cultural resources reflect the heritage of local communities, states, and nations. As transportation projects are developed care must be taken to assure that cultural resources on Tribal lands are protected. Legal requirements from the Native American Graves Protection and Repatriation Act (NAGPRA), Archaeological Resources Protection Act (ARPA), and the National Historic Preservation Act (NHPA) must be adhered to and the appropriate consultation process used. The Colorado River Indian Tribes Museum should be consulted and has more information about the cultural resources and history of the Mohave, Chemehuevi, Hopi, and Navajo Tribes.

3. Transportation and Roadway Assessment

This chapter presents data on current and future transportation conditions to identify needs of the transportation system.

3.1 SUMMARY OF COMPLETED PLANS AND STUDIES

Several plans and studies that address transportation issues were reviewed as part of this study. The documents are listed in **Table 6**.

Table 6 – Related Studies and Plans

Report Name	Author	Date
ADOT 2014-2018 Five-Year Transportation Facilities Construction Program	Arizona Department of Transportation	June, 2013
Arizona State Rail Plan	Arizona Department of Transportation	2010
Arizona Strategic Highway Safety Plan	Arizona Department of Transportation	2007
Avi Suquilla Draft Airport Master Plan	Morrison-Maierle,Inc.	2013
Building a Foundation for Motor Vehicle Crash Injury Reduction on the Colorado River Indian Tribes Reservation	Lt. Sarah-Jean Snyder, Environmental Health Officer, Colorado River Service Unit, Indian Health Service	May, 2010
Colorado River Indian Tribes Road Safety Assessment	Arizona Department of Transportation	April, 2013
Demographic Analysis of the Colorado River Indian Tribes Using 2010 Census and 2010 American Community Survey Estimates	Arizona Rural Policy Institute Center for Business Outreach, W.A. Franke College of Business, Northern Arizona University	Undated
Draft Transportation Plan for the Colorado River Indian Tribes	THK Associates	June 3, 2008
Multimodal Freight Analysis Study		Undated
Route Concept Report – State Route 62	California Department of Transportation – District 8	January 2002
Route Concept Report – US Route 95	California Department of Transportation – District 8	November 1999
Planning Grant Application for Public Transit on Indian Reservations Program- 2012 Tribal Transportation Grant Program	Colorado River Indian Tribes	October 2012
Tribal Summit Progress Report for the Arizona Tribal Nations and Governor Napolitano	State of Arizona	March 13, 2008
La Paz County Transportation Planning Study	Lima and Associates	2010
Arizona State Airport System Plan	Arizona Department of Transportation	2008
ADOT Long Range Transportation Plan	Arizona Department of Transportation	2011
ADOT Bicycle and Pedestrian Plan	Arizona Department of Transportation	2013

3.2 PLANNED AND PROGRAMMED TRANSPORTATION PROJECTS

Planned and programmed projects on the CRIT Reservation and in the neighboring areas are:

Western Arizona Council of Governments Transportation Improvement Program (TIP)

The Western Arizona Council of Governments (WACOG) Transportation Program includes the development of a Four-Year Local Transportation Improvement Program (TIP), which allocates federal funds for local street and road projects. The TIP is updated with amendments several times a year, and a new TIP is developed annually for the following year. The WACOG region is apportioned approximately $1.3 million of federal Surface Transportation funds to help La Paz and Mohave counties, and their communities with local roadway projects. WACOG is also apportioned $600,000 in Highway Safety Improvement Program (HSIP) funds annually.

Projects on the TIP must be fiscally constrained to the apportionment or allocation of funding, such as Surface Transportation Program (STP) and HSIP funds. All other TIP project funds are grant funded, and therefore constrained by the grant award. The 2013-2017 Draft TIP includes the projects shown in **Table 7**.

CRIT Tribal Transportation Improvement Program

Projects listed on the Tribal Transportation Improvement Program are summarized on **Table 8** on the next page. Key projects including improvement projects on 1st Avenue, Indian School Road, 9th Avenue, 11th Avenue and Burns Road. The Tribal TIP is also planned to include a bridge replacement project on Bridge H008 over the Tyson Wash, once funding has been confirmed.

Table 7 – WACOG 2013 – 2017 Transportation Improvement Program

Project Sponsor	Project Name	Project Location	Length	Type of Work	Functional classification	Funding	Federal Funds	Local Match	Total Cost
Town of Parker	West California Avenue SUP	Colorado River to 2nd Street	1,600 Feet	Design	Rural Major Collector	Transportation Enhancement – Round 16	$22,572	$1,364	$23,936
Town of Parker	West California Avenue SUP	Colorado River to 2nd Street	1,600 Feet	Construction	Rural Major Collector	Transportation Enhancement – Round 16	$242,934	$14,684	$257,618
Town of Parker	Sign Replacement and Striping	Town Wide				HSIP funding-obligated in 2010	$25,000		$25,000

Source: WACOG, WACOG TIP and Amendments (referenced 2013-2017 TIP Amendment 5 Draft

Table 8 – Tribal Transportation Improvement Program Projects

			Cost ($)					
	Location	Description	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Total Cost
CRIR 10(1) Phase 2 Burns Road	Route 10, section 80, MP 8.4-9.3	New construction - Grade, drain, and pave 1.1 miles of new road to extend Route 10 to SR 95 and construct turn lanes at SR 95.	0	85,000		0	0	85,000
CRIR 3(4) 1st Avenue	Route 3, sections 20 and 30, milepost 1-4.6	Reconstruct four miles of Route 3 (1st Avenue) from Route 10 (Burns Road) to Route 41(Arizona Avenue). Include curb and gutter and sidewalks. Project includes 0.5 miles of	883,787	551,117	941,696	941,696	0	3,318,296

			Cost ($)					
	Location	**Description**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Total Cost**
		turn lane at the intersection of 1st Avenue/Mohave Road.						
CRIR 14(1) Indian School Road	Route 14, section 20, milepost 0.5-1.0	Develop plans, specifications and estimates to reconstruct 0.5 miles of deteriorated paved road on Indian School Road from 11th Avenue to Mohave Road. Project to be combined with project CRIR 15 (1) and constructed as CRIR Consolidated No 28.	0	33,089	0	0	0	33,089
CRIR 213 (1) 9th Avenue*	Route 213, section 10 and 20, milepost 0-3.4	Reconstruct Route 213 from IR 1 (Mohave Road) to IR 14 (Indian School Road)	0	190,400	0	0	0	190,400
CRIR 15(1) 11th Avenue	Route 15, section 65, milepost 8.2 to 10.2	Develop plans, specifications and estimates to reconstruct 2.0 miles of deteriorated paved road on 11th Avenue from Route 18 (Agnes Wilson Road) to Route 15 (Indian School Road). Project to be combined with project CRIR 14 (1) and constructed as CRIR Consolidated No 28.	57,909	82,090	0	0	0	139,999

Source: Indian Reservation Roads Program, CSTIP Report, August 23, 2013

- Note- This project is pending a $1.3M addition to the budget for this project.

ADOT 2014-2018 Five-Year Transportation Facilities Construction Program

The following projects, shown in **Table 9**, are listed in the *ADOT 2014-2018 Five Year Transportation Facilities Construction Program.*

Table 9 – ADOT 2014-2018 Five-Year Transportation Facilities Construction Program Projects

Route	Project name	Project Location	Type of Work	Year(s) Programmed	Funding	Cost($M)
I-10	Ehrenberg Port of Entry	MP 3	Reconstruct port of entry and ITS improvements	FY 2014	NH	8.0
SR 95	SR 95 at Mohave Road	MP 142.90	Roundabout Construction	FY 2014	HSIP	1.5
SR 95	SR 95 at Cienega Springs Road	MP148	Install SB left turn lane	FY 2016	HSIP	1.8
Avi Suquilla Airport	Runways – Erosion Control	Airport	Runway improvements – erosion control, easterly drainage ditches	FY 2014	Federal and Tribal	0.43
Avi Suquilla Airport	Runways – Erosion Control	Airport	Runway improvements – erosion control, westerly drainage ditches	FY 2015	Federal and Tribal	0.45
Avi Suquilla Airport	Taxiways	Airport	Completion of parallel taxiway	FY 2015	Federal and Tribal	2.1
Avi Suquilla Airport	Expand apron capacity	Airport	Expand apron capacity	FY 2016	Federal and Tribal	3.15
Avi Suquilla Airport	Ground transportation	Airport	Pave perimeter road	FY 2017	Federal and Tribal	1.6
Avi Suquilla Airport	Rehabilitate apron	Airport	Pavement preservation – GA apron	FY 2017	Federal and Tribal	0.3
Avi Suquilla Airport	Taxiways	Airport	Extend taxiway	FY 2018	Federal and Tribal	0.64

Source: ADOT 2014-2018 Five Year Transportation Facilities Construction Program

Southern California Association of Governments Final Transportation Improvement Program, FY 2012/13 – 2017/18

The Southern California Association of Governments is a Metropolitan Planning Organization (MPO) encompassing six counties, six county transportation commissions, 190 cities, and the region's Native American Tribes, assisting with regional transportation and land use planning.

There were no projects listed as part of the Final Transportation Improvement Program on SR 62 or US 95 in the vicinity of the CRIT Reservation.

San Bernardino Associated Governments (SANBAG) Measure I – 2010-2040 10-Year Delivery Plan

SANBAG published a 2010-2040 10-Year Delivery Plan, based on funding from a half-cent sales tax measure through 2040. The only project related to the study area was listed as SR 62 Rehabilitation, various locations in unincorporated areas in San Bernardino County. This is listed as a project that would be developed on a pay-as-you go basis. This means that the project would be implemented when funds are available.

Projects that were previously funded in the area include included:

- Improvements to Rio Mesa Drive, 2001-03 ($89,931)
- Resurfacing of Parker Dam Road, 2006-07 ($61,091)

3.3 SUMMARY OF STAKEHOLDER INTERVIEWS AND SURVEYS

Stakeholders from the community were interviewed to solicit their input and feedback on transportation needs, and to learn more about their area of expertise. Stakeholders included representatives from:

- Colorado River Indian Tribes Police Department
- Colorado River Indian Tribes Fire Department
- Colorado River Indian Tribes Education Department
- Colorado River Indian Tribes Housing Improvement Department
- Colorado River Indian Tribes Housing Department
- Head Start
- Mo-Chem-Ho-Na Senior Center
- Avi Suquilla Airport Manager
- Parker Unified School District Bus Barn Manager
- La Paz Transit
- Bureau of Indian Affairs Colorado River Agency Maintenance Department
- Tribal Council Members

CRIT Environmental Planning Office Staff also submitted survey forms, which were included in the development of transportation needs.

Transportation issues that were raised by stakeholders are summarized in **Table 10**. A more detailed summary of the interviews is provided in **Appendix A.**

Table 10 – Summary of Stakeholder Comments

Comment Category	Location or Comment Summary	From
Intersection traffic control needs	Agnes Wilson Rd/Mohave Road needs improved traffic control-people do not stop.	CRIT Fire Dept., Mo-Chem-Ho-Na Senior Center
	Burns Road/SR 95	
	Mohave Road/Poston Road needs a traffic signal. The clearance is too low for the flasher that is there now.	CRIT Fire Dept
Streets that need paving improvements	1st Avenue, between Mohave Road and south of Booth Road	Parker Unified School District
	4th Avenue, between Nez Road and Navajo Road	Parker Unified School District
	5th Avenue, between Agnes Wilson Road and Indian School Road	Head Start, Parker Unified School District, Mo-Chem-Ho-Na Senior Center
	6th Avenue, between Indian School Road and Burns Road	CRIT Fire Dept., CRIT Senior Center, CRIT Police Dept.
	7th Avenue, between Agnes Wilson Road and Indian School Road	CRIT Fire Dept., Head Start
	9th Avenue, between Agnes Wilson Road and Indian School Road	CRIT Fire Dept., Head Start, Parker Unified School District, CRIT Senior Center, Police Department, BIA Maintenance
	11th Avenue, between Agnes Wilson Road and Indian School Road	CRIT Fire Dept., Head Start, Parker Unified School District , BIA Maintenance
	11th Avenue, between Peterson Road and McCabe Road	Head Start
	11th Avenue, between Mark Road and Peterson Road	Parker Unified School District
	14th Avenue, Burns Road to Patrick Road	CRIT Housing Improvement Dept.
	14th Avenue, between Nez Road and Navajo Road	Parker Unified School District,
	14th Avenue, Burns Road to Patrick Road	CRIT Housing Improvement Dept.
	Indian School Road, between 11th Avenue and Mohave Road	CRIT Fire Dept., Head Start , CRIT Police Dept. , BIA Maintenance
	Indian School Road, between Mohave Road and 4th Avenue	Head Start, CRIT Police Dept., BIA Maintenance, CRIT Housing Improvement Dept.
	Agnes Wilson Rd, east of Mojave Rd	CRIT Housing Improvement Dept.
	Booth Road- east of First Avenue	CRIT Housing Improvement Dept.
	Burns Road, between 4th Avenue and 1st Avenue	CRIT Fire Dept.
	Burns Road, between 10th Avenue and 4th Avenue	CRIT Housing Improvement Dept.
	Eddy Rd	CRIT Housing Improvement Dept.
	Welsh Road, between Levy Road and Mohave Road	CRIT Fire Dept.

Comment Category	Location or Comment Summary	From
	Marks Road, between 14th Avenue and 10th Avenue	CRIT Senior Center
	Mohave Road, south Reservation boundary to Tyson Wash	CRIT Police Dept., BIA Maintenance
	Peterson Road, between Mohave Road and 10th Avenue	Head Start, Parker Unified School District , BIA Maintenance
	Navajo Road, between Mohave Road and 4th Avenue	Parker Unified School District, Mo-Chem-Ho-Na Senior Center,
	Nelson Rd	CRIT Housing Improvement Dept.
	Nez Road, Between Mohave Road and 14th Avenue	Parker Unified School District
	McCabe Road, in the area of 15th Avenue.	CRIT Police Dept., CRIT Housing Improvement Dept.
	Mitchell Road, 14th Avenue to approximately 10th Avenue	CRIT Housing Improvement Dept.
	Poston Road	CRIT Fire Dept.
	Agnes Wilson Road	CRIT Fire Dept.
Streets that are too narrow	6th Avenue, between Burns Road and Indian School Road.	CRIT Fire Dept.
	1st Avenue, between Mohave Road and Burns Road.	CRIT Fire Dept.
Canal/bridge improvement needs	East end of Hopi Road- there have been two fatalities with persons running into the canal	CRIT Fire Dept.
	Burns Road – two canal crossings with no guard rails between 12th Avenue and 14th Avenue	Head Start
	Little Road – two canal crossings with no guardrails between	Head Start
	Agnes Wilson Road, east of Mohave Road- there is a bridge that is too narrow	Head Start
	Agnes Wilson Bridge gets lots of heavy truck traffic. There are stress cracks on the piers. The concrete is chipping out on the south side of the bridge. There is a need for a redesign of the lighting system on the bridge.	BIA Maintenance
Pedestrian needs	Path and pedestrian crossing needed on Indian School Road, between 11th Avenue and 9th Avenue.	Head Start
	Sidewalks to link the Reservation area to the sidewalk system in the Town of Parker, particularly to schools. Pedestrian crossings are also needed on Riverside Drive	CRIT Education Dept., CRIT Housing Dept.
	Sidewalks need between Mo-Chem to Tribal Headquarters, and from Tribal Offices to Indian Health Services and 100 Homes. Also, on 1st Avenue/Mohave, from offices to 100 Homes- 16th Street. Most densely populated areas are subdivisions of Mo-Chem, 50 Homes, and 100 Homes.	CRIT Police Dept.

Comment Category	Location or Comment Summary	From
Access	Head Start needs a turn lane into their facility.	Head Start
Emergency access	Head Start does not have emergency access- they are landlocked with canals, etc.	Head Start
Signage (General)	More signage is needed on secondary roads	CRIT Police Dept.
	Seat Belt Usage signs are planned to be ordered	CRIT Police Dept.
	More speed limit signs are needed on Mohave Road	CRIT Police Dept.
Speed control	Solar speed monitors are needed on Mohave Road, by Tribal Headquarters, near La Pera Elementary School, near Head Start	CRIT Police Dept. , Head Start
	Seat Belt Signs are needed on Mohave Road	CRIT Police Dept.
	There are too many speeders on Mohave Road	CRIT Police Dept., Tribal Council Members
Transit	Transit Service is needed on the Reservation	Head Start, Mo-Chem-Ho-Na Senior Center, Tribal Council members, CRIT Fire Dept.,
	Transit would be useful for people that work at the BlueWater Casino- from Poston to Parker is a 13-mile trip. Stop locations could be Poston, Peterson, Nez Roads.	CRIT Fire Dept.
	With respect to transit, they would use it to travel from Poston to Parker. If it directly served homes, they would use it. CHR is a good service, but they provide trips just to a doctor or the hospital.	CRIT Fire Dept.
	A gap in transportation services is the lack of transportation options to Phoenix, since there is no Greyhound service in Parker.	La Paz Transit
	He said if transit service was implemented the airport may be a user, especially if it ties into the casino.	Avi Suquilla Airport Manager
	Solar-powered bus shelters if transit is implemented.	Parker Unified School District Transportation
Airport needs	Key airport needs include: • No fire hydrants; • Parking lot floods and four buildings have mold damage and cannot be used; • Need for high speed internet; and • Improve the access road paving. • Need for a nine-passenger van to serve airport visitors	Avi Suquilla Airport Manager

Comment Category	Location or Comment Summary	From
Street lighting needs	• Agnes Wilson Road • Burns Road • Patrick Road • Poston Road • McCabe Road • Peterson Road • Indian School Road	BIA
Other needs	Parking lot and access road paving needs: • Paving the parking lot of the Mo-Chem-Ho-Na Senior Center. • Road to the BIA Electrical office that runs next to the Indian Hospital and their parking lot. • For all the businesses on 1st Avenue in town. • Tribal office parking lot and all the Tribal Headquarters parking lots. • Food distribution center road and parking lot. • Education Facility parking lot. • Social Services parking lot. • Poston Fire Station parking lot. • Ahakhav Preserve and their parking lot.	Tribal Planner , CRIT Fire Dept., Mo-Chem-Ho-Na Senior Center
	Pullouts for school buses are needed.	Head Start, Senior Center, CRIT Fire Dept.
	Need for replacement vehicles for Head Start, Community Health Resources, and Fire Department	Head Start , CRIT Fire Dept., Community Health Resources Dept.
	Need for improved access at Head Start - they are landlocked.	Head Start
	Need for new vehicles as the existing vehicles age for the Senior Center.	Mo-Chem-Ho-Na Senior Center
	Need for additional Road Closed signs, cones, and traffic control devices	BIA Maintenance
	Need for additional road maintenance equipment including: • A small grinding machine (“zipper”) to recycle materials. • Milling machine to put down materials with oil • Striping machine	BIA Maintenance
	On Mohave Rd, the curve north of Little Rd needs improvement.	CRIT Housing Improvement Dept.
	2nd Avenue, the curve area needs improved signing.	CRIT Housing Improvement Dept.
	The dirt road to Kudu Farms needs to be paved.	CRIT Housing Improvement Dept.

3.4 STREET INVENTORY – TRIBAL TRANSPORTATION INVENTORY

The Tribal Transportation Program (TTP) Program addresses transportation needs of tribes by providing funds for planning, designing, construction, and maintenance activities. The program is jointly administered by the FHWA's Federals Lands Highway Office and the BIA in accordance with an interagency agreement. Roads are placed on the Tribal Transportation Inventory in order to designate routes available for funds.

Tribal transportation facility – **A public highway, road, bridge, trail, or transit system that is located on or provides access to tribal land and appears on the National Tribal Transportation Inventory**

The Tribal Transportation Inventory or Road Inventory Field Data System (RIFDS) includes information such as route number, location, length, width, surface type and needs, pavement ratings, class of road, adequacy of design standard, construction needs, and maintenance needs.

A review was made of updates needed for the Tribal Transportation Inventory. These updates include:

- **Addition of new existing roads** – A review of the current (2013) Tribal Transportation Inventory indicated that a number of roads could potentially be added to the Inventory of Tribal roads, which are shown in **Figure 3**. More detail on the specific road segments to be added to the Inventory is provided in Working Paper 2. These roads are located in the following areas:

:

1. Segments of Shea Road, east of Mutahur Drive to east reservation boundary
2. Sections of Levee Road
3. Roads in Big River development, with the exception of Rio Vista Drive
4. Some additional roads in the Water Wheel RV Park area
5. Some additional roads in Aha Quin Resort area
6. Streets in Lazy D Subdivision, with the exception of 16th Street (this area is south of Arizona Avenue and north of 16th Street)
7. Tribal roads within the Parker town limits
8. Proposed perimeter road around the Avi Suquilla Airport
9. Roads in BlueWater Lagoon area.

- **Updated traffic counts** – Traffic counts were conducted at approximately 25 locations.

- **Updated pavement conditions** – Pavement conditions were reviewed at a number of locations.

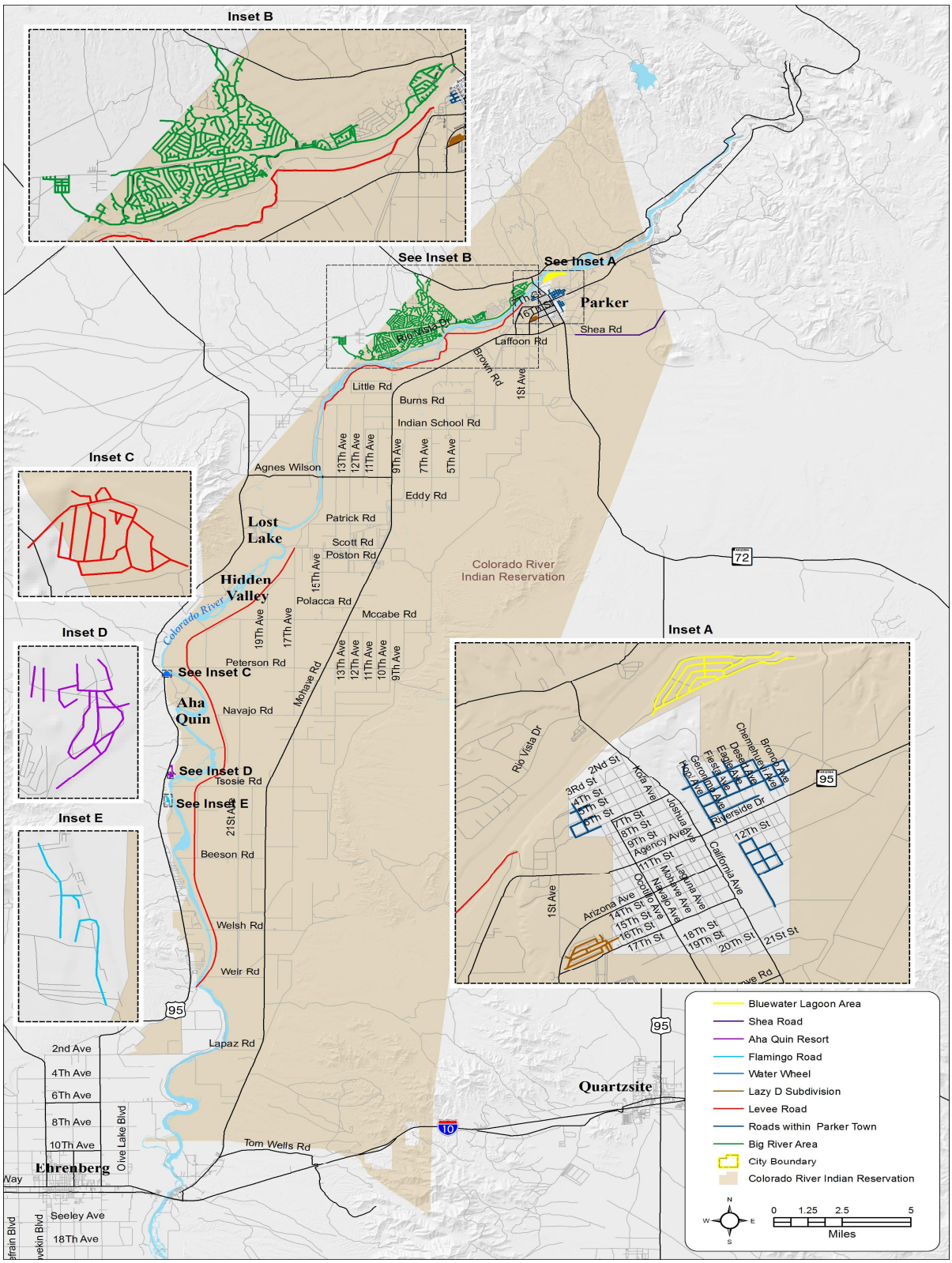


Figure 3 – Proposed Roads to be added to Tribal Transportation Inventory

3.5 FUNCTIONAL CLASSIFICATION

3.5.1 TRIBAL TRANSPORTATION INVENTORY FUNCTIONAL CLASSIFICATIONS

Functional classification is used in planning and design, and to allocate federal funding.

Functional classification is the grouping of highways, roads and streets by the character of the service they provide. One functional class differs from another according to the degree of access and mobility. Collector and local streets provide land access, carry local traffic to the neighborhoods, and distribute traffic to the arterials. Arterial streets provide mobility over long distances with minimal access to adjoining properties.

There are currently eight (8) BIA roadway functional classifications in the Tribal Transportation Program Inventory, which are summarized in **Table 11**. Presently, there is no direct correlation between BIA functional classifications and FHWA functional classifications, which are used to determine if a road is eligible for federal highway funding through other transportation agencies. As a result, one of the objectives of this study is to review current BIA functionally classified tribal roadways on the reservation to determine if there are BIA Class 2, 4 and 5 roadways that met the criteria to be assigned FHWA functional classifications, and added to the State's functional classification for FHWA approval. Tribal roads within the study area that have existing BIA Class 2, 4 and 5 designations are summarized in **Table 12** along with the classification description. A few of the tribal roads on the reservation have already been assigned FHWA functional classifications and are discussed in **Section 3.5.2**.

Table 11 - BIA Functional Classifications

Class	Description
1	Major arterial roads providing an integrated network with characteristics for serving traffic between large population centers, generally without stub connections and having average daily traffic volumes of 10 000 vehicles per day or more with more than two lanes of traffic
2	Rural minor arterial roads providing an integrated network having the characteristics for serving traffic between large population centers, generally without stub connections. May also link smaller towns and communities to major resort areas that attract travel over long distances and generally provide for relatively high overall travel speeds with minimum interference to through traffic movement. Generally provide for at least inter-county or interstate service and are spaced at intervals consistent with population density. This class of road will have less than 10,000 vehicles per day.
3	Streets that are located within communities serving residential areas.
4	Rural major collector road is collector to rural local roads.
5	Rural local road that is either a section line and/or stub type roads, make connections within the grid of the IRR system. This class of road may serve areas around villages, into farming areas, to schools, tourist attractions, or various small enterprises. Also included are roads and motorized trails for administration of forests, grazing, mining, oil, recreation, or other use purposes.
6	City minor arterial streets that are located within communities, and serve as access to major arterials.
7	City collector streets that are located within communities and serve as collectors to the city local streets.
8	This class encompasses all non—road projects such as paths, trails, walkways, or other designated types of routes for public use by foot traffic, bicycles, trail bikes, snowmobiles, all-terrain vehicles, or other uses to provide for the general access of non-vehicular traffic.

Table 12 – Tribal Transportation Inventory BIA Road Classes

Class	Description	Study Area Roads with this Class in the Tribal Transportation Inventory
Class 2	Rural Minor Arterial roads providing an integrated network having the characteristics for serving traffic between large population centers, generally without stub connections. May also link smaller towns and communities to major resort areas that attract travel over long distances and generally provide for relatively high overall travel speeds with minimum interference to through traffic movement. Generally provide for at least inter-county or inter-state service and are spaced at intervals consistent with population density. This class of road will have less than 10,000 vehicles per day.	Mohave Road
Class 4	Rural major collector road is collector to rural local roads.	1st Avenue, Burns Road, Indian School Road, Agnes Wilson Road (US 95 to Mohave Road), Scott Road, Navajo Road, 4th Avenue
Class 5	Rural local road that is either a section line and/or stub type road that makes connections within the grid of the IRR system. This class of road may serve areas around villages, into farming areas, to schools, tourist attractions, or various small enterprises. Also included are roads and motorized trails for administration of forests, grazing, mining, oil, recreation, or other use purposes.	The majority of tribal roads in the Inventory are classified as Class 5

3.5.2 FHWA FUNCTIONAL CLASSIFICATIONS

Data from functional classification maps approved by the FHWA is shown in **Figure 4**. Federally functionally classified roads are:

- Mohave Road – Rural Major Collector
- Agnes Wilson Road (BIA 18) – Rural Major Collector
- SR 95 – Rural Principal Other

An objective of the study is to update functional classification of roads.

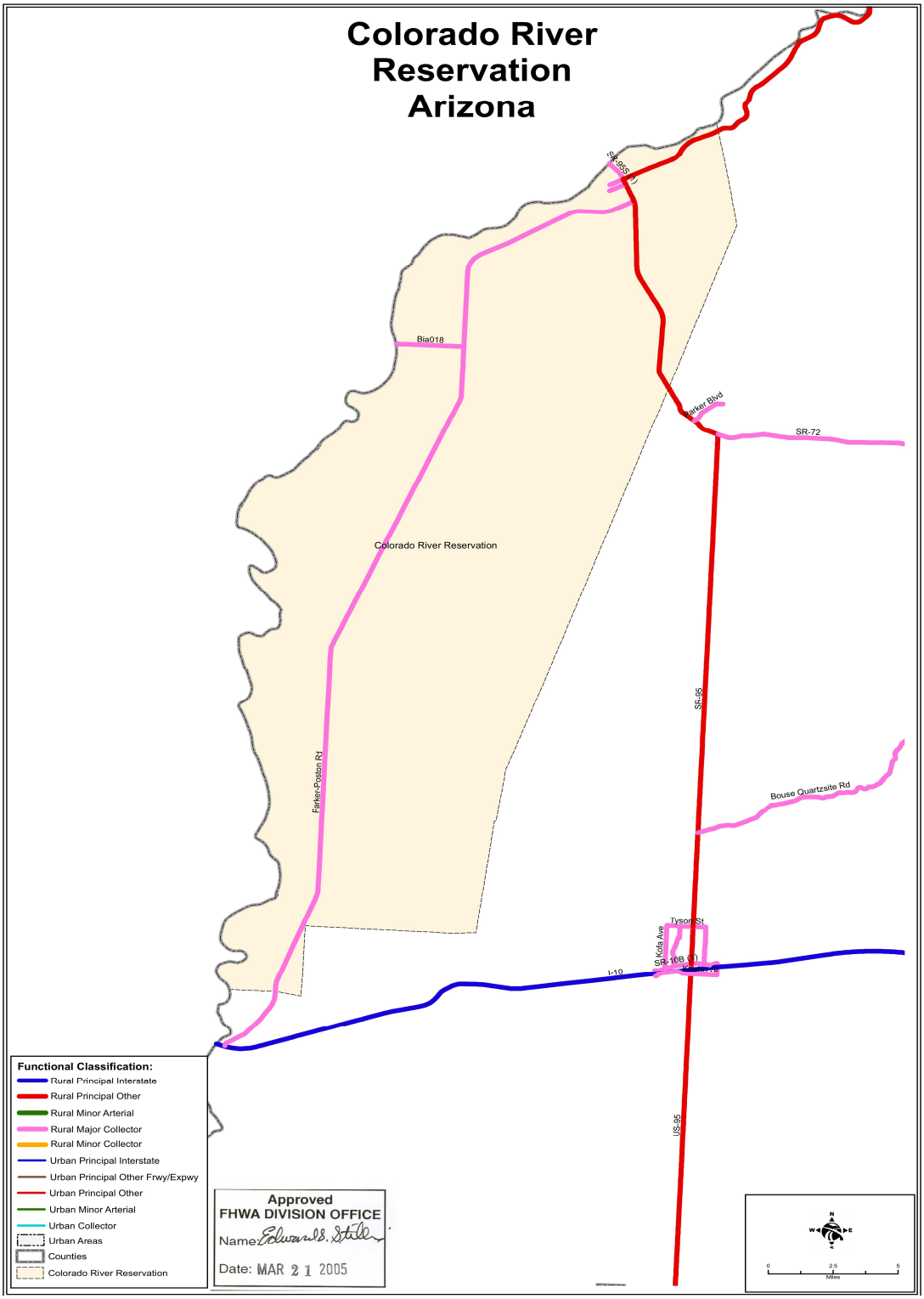
It is the desire of the CRIT to update functional classification of roads and also to determine what roads can be added to the system of federally functionally classified routes.

Mohave Road is functionally classified as rural minor arterial road in the Tribal Transportation Inventory and is federally functionally classified as a rural major collector road by FHWA.

Roads that could potentially meet the criteria for a functional classification upgrade are summarized in **Table 13** and **Figure 5**. This table shows some of the functional classification criteria and why the road would meet these criteria.

Table 13 – Potential FHWA Functional Classification Changes

Road name	Current Federal Functional Classification	Proposed Change	Justification
2nd Avenue, Booth Road to Agency Road	Unclassified	Minor collector	• 2nd Avenue serves the Tribal Administrative Center and other tribal offices, Indian Health Center residential areas, the links developed areas of the Reservation to the Town of Parker. • The road transitions to Agency Road (a major collector) and SR 95 (a Principal Other route).
Rio Vista Drive, SR62 to Bluff Road	Unclassified	Minor collector	• This road serves as the main east-west roadway through the Big River subdivision. • It collects traffic from almost all other roads in the subdivision.
Booth Road/4th Avenue , from 2nd Avenue to Indian School Road	Unclassified	Minor collector	• Booth Road, which transitions to 4th Avenue, serves as collector route for the Mo-Chem neighborhood on Little Road as well as the 2nd Avenue subdivision. 4th Avenue is classified as a rural major collector road in the Tribal Transportation Inventory.



Note: This figure does not reflect the current CRIT Reservation boundaries

Figure 4 – Federal Highway Administration Functional Classifications

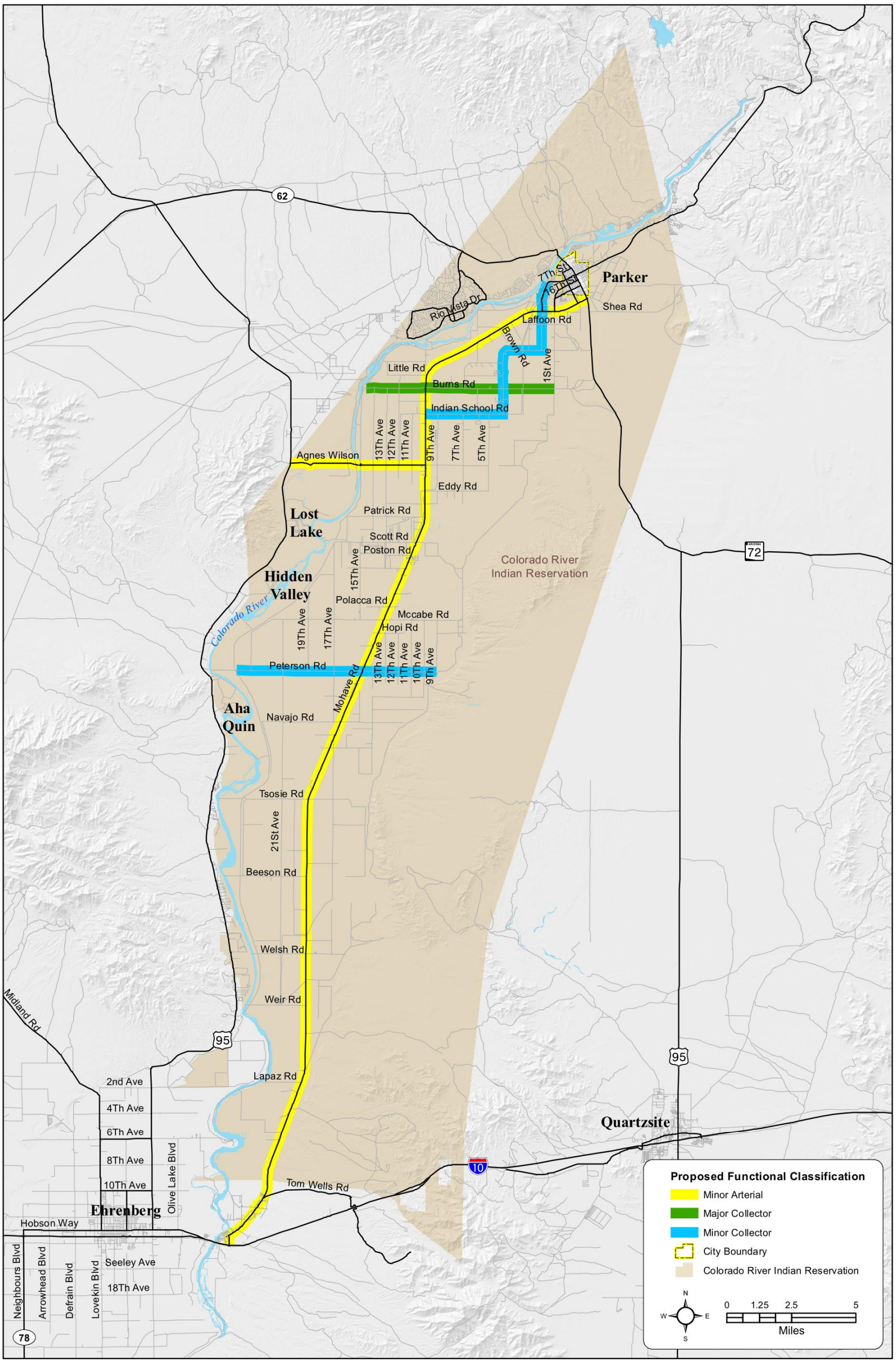


Figure 5 – Proposed Federal Functional Classification Changes

3.6 TRAFFIC VOLUMES AND LEVELS OF SERVICE

3.6.1 CURRENT TRAFFIC VOLUMES

Traffic volume information serves to indicate how close to capacity roadway segments or intersections may be. Available traffic volume data was reviewed from the Tribal Transportation Inventory and the project team worked with the Tribal Planner to identify road segments that required updated traffic counts. Traffic counts were collected in July 2013 and were used to update the Tribal Transportation Inventory and in support of functional classification change requests. **Table 14** summarizes traffic volume data on study area roads.

Traffic counts were conducted in July 2013 at 25 road segments and four intersection locations. For comparison purposes, previous traffic count volumes are also shown, where available. In a number of cases, interestingly, traffic volumes decreased between 2002 and 2013. The highest traffic volume available from the Wednesday, Thursday, and Saturday traffic counts are shown.

Current average daily traffic count data was obtained from ADOT and Caltrans on state routes in both Arizona and California. Traffic volumes on state routes are:

- California SR 62, at junction US 95 – 1,400 vehicles per day (2012)
- California SR 62, at Arizona State Line – 5,700 vehicles per day (2012)
- US 95, at junction SR 62 – 1,450 vehicles per day (2012)
- Arizona SR 95 at BlueWater Resort Road – 6,700 vehicles per day (2009)
- I-10, California State Line to Exit 1: Ehrenberg – Parker Highway – 25,000 vehicles per day (2009)

3.6.2 FUTURE TRAFFIC VOLUMES

Future traffic volumes for the five-, 10-, and 20-year planning periods were developed by reviewing compound annual growth rates from the following sources:

- Compound annual growth rates of the population of the CRIT from 2000 to 2010, using U.S. Census figures (-0.49%).
- Compound annual growth rates for La Paz County using population projections from the Arizona Department of Administration Office of Population Statistics (shown in **Table 15**).

Table 14 – Traffic Volumes on Tribal Roads

BIA Route Number	BIA IRR Section Number	Road Name	Average Annual Daily Traffic Volumes (AADT), vehicles per day				
			2002	2013	2018	2023	2033
1	70	Mohave Road, north of Navajo Road	2004	1330	1398	1469	1623
1	70	Mohave Road, west of 1st Avenue	3898	3209	3373	3545	3916
2	10	Laffoon Road, west of 2nd Avenue	----	148	155	163	180
2	10	Laffoon Road, east of 2nd Avenue	----	141	148	156	172
5	20	2nd Ave, Gould Rd, Agency Rd (Agency Road, west of 1st Avenue)	2741	2548	2678	2814	3109
10	35	Burns Road, east of Mohave Road	356	177	186	195	215
10	30	Burns Road, west of Mohave Road	-----	409	430	452	499
11	45	7th Avenue, North of Agnes Wilson Road	99	125	132	138	153
14	30	Indian School Road, east of 9th Avenue	292	147	154	162	179
18	30	Agnes Wilson, west of Mohave Road	459	553	581	611	675
18	40	Agnes Wilson, east of 9th Avenue	248	120	126	132	146
20	10	Eddy Road, east of Mohave Road	*160**	1129	1186	1247	1377
22	20	Patrick Road, west of Mohave Road	-----	154	162	170	188
24	40	Scott Road, west of 11th Avenue	170	141	148	156	172
30	30	McCabe Road, west of 15th Avenue	-----	323	340	357	394
34	70	Peterson Road, east of 10th Avenue	*155**	60	63	66	73

Source: 2013 traffic counts, except where noted. Future traffic volumes based on calculations by Kimley-Horn and Associates

BIA Route Number	BIA IRR Section Number	Road Name		Average Annual Daily Traffic Volumes (AADT), vehicles per day			
			2002	2013	2018	2023	2033
38	45	Navajo Road, east of Mohave Road	91	114	120	126	140
40	20	Nez Road, east of Mohave Road	215	395	415	436	482
41	10	Arizona Avenue, east of 1st Avenue	1795	1431	1504	1580	1746
45	10	Airport Road, south of Riverside Drive	740	52	54	57	63
105	70	Blue Water Drive north of Riverside Drive	-----	3614	3799	3992	4410
113	20	10th Avenue, South of McCabe Road	-----	87	91	96	106
117	70	14th Avenue, south of Burns	117	137	144	151	167

* 2004 count

Table 15 – La Paz County Growth Projections

Year	La Paz County Population Projection	Compound Annual Growth Rate
2013	20,919	N/A
2018	21,387	0.44% (from 2013 to 2018)
2023	21,952	0.52% (from 2018 to 2023)
2033	22,886	0.42% (from 2023 to 2033)

Source: Arizona Department of Commerce La Paz County Population Projections: 2012 to 2050, Medium Series

Although the population growth in the area appears to be relatively flat, it appeared to be appropriate and conservative to use a compound annual growth rate of 1 percent per year, because there is growth in traffic from tourism, which varies throughout the year. This compound growth rate was applied to traffic volumes on study area roadways for the year 2018, 2023, and 2033. The future traffic volumes are shown in **Table 14.**

3.6.3 LEVELS OF SERVICE

Roadway traffic operations are defined and categorized by the amount of delay experienced by an average driver. The operations are categorized by a grading system called level of service (LOS), which has a letter designation ranging from A (no delay) to F (severe congestion). The LOS definitions for each letter designation are given in **Table 16** and are based on LOS definitions provided in the Highway Capacity Manual 2010 (HCM).

For a planning level analysis, the LOS is determined based on the ratio of traffic volume on the roadway to the capacity of the roadway. Daily volume thresholds for the LOS letter designations have been developed for the functionally classified study area roadways and are shown in **Table 17**. Roadway segments below the maximum daily volume threshold for LOS C likely do not currently need additional through capacity while roadway segments above the minimum daily volume threshold for LOS E likely do currently need additional through capacity. For roadway segments between the daily volume thresholds for LOS D, more detailed analysis should be conducted to evaluate roadway geometry, traffic control conditions, and number and spacing of driveways to determine if additional through capacity is needed.

Based on the daily volume thresholds in **Table 17** and the daily volumes in **Table 14**, all study area roadway segments for which current traffic volume data was available provide LOS C or better, and are not projected to experience capacity deficiencies within the next 20 years. Three segments should be monitored as new development is constructed. These segments, listed in **Table 14**, may approach volume thresholds for LOS D as identified in **Table 18** within the next 20 years. Major new developments should be evaluated to determine specific access and circulation impacts to the roadways.

Table 16 – Level of Service Definitions

Level of Service	Definition
A	Primarily free-flow operation; virtually no delay.
B	Reasonably unimpeded operation; the presence of other users in the traffic stream begins to be noticeable.
C	Stable operation; marks the beginning of the range in which the operation of individual users becomes significantly affected by others.
D	Somewhat stable operation; represents operating conditions near capacity. Small increases in flow may cause substantial increases in delay and decreases in travel speed.
E	Unstable operation and significant delay; represents operating at or almost at capacity level. All speeds are reduced to a low but relatively uniform value.
F	Severe congestion; represents operating conditions over capacity and extremely low travel speed.

Source: Highway Capacity Manual (2010)

Table 17 – Level of Service Daily Volume Thresholds

Functional Classification	Under Capacity (LOS A–C)	Near Capacity (LOS D)	At Capacity (LOS E)	Over Capacity (LOS F)
Rural Minor Arterial	< 9,800	9,800 – 11,700	11,700 – 13,000	> 13,000
Rural Minor Collector	< 5,500	5,500 – 6,700	6,700 – 7,400	> 7,400

Source: Highway Capacity Manual (2010) and CYMPO Regional Transportation Plan

Table 18 – Traffic Volumes on Tribal Roads that May Exceed Roadway Capacity within 20-year Planning Horizon

BIA Route Number	BIA IRR Section Number	Road Name		Average Annual Daily Traffic Volumes (AADT), vehicles per day			
			2002	2013	2018	2023	2033
1	70	Mohave Road, west of 1st Avenue	3898	3209	3373	3545	3916
5	20	2nd Ave, Gould Rd, Agency Rd (Agency Road, west of 1st Avenue)	2741	2548	2678	2814	3109
105	70	Blue Water Drive north of Riverside Drive	----	3614	3799	3992	4410

3.6.4 TRAFFIC IMPACTS OF FUTURE DEVELOPMENT

Anticipated developments are summarized in **Table 19**. A preliminary assessment was made regarding the potential impact of the development on the adjacent transportation system. In many cases, a preliminary assessment was not feasible because of limited available information about the development. As each development is planned and designed, a traffic impact analysis, consistent with ADOT Guidelines, should be conducted. The traffic impact analysis will review specific access and circulation impacts of the development on the adjacent and nearby roadway network.

Table 19 – Planned Development and Anticipated Traffic Impact

				Time frame		
Development Name/Type	**Location**	**Type of Planned Development**	**Potential traffic impacts**	**Short Term (0- 5 Years)**	**Mid-Term (5-10 years)**	**Long-Term (20 Years or more)**
Western Boundary Master Plan	Primarily south of Agnes Wilson Road, between the Colorado River and US 95 in California	To be determined	Requires more information regarding number of units			X
Proposed Fuel Station	Airport Road / SR 95 - northeast corner	Gas station/convenie nce store	No significant impact to roadway capacity needs – will require site specific traffic impact analysis per ADOT requirements	X		
Proposed Fuel Station	BlueWater Drive / SR 95	Gas station/conven-ience store	No significant impact to roadway capacity needs – will require site specific traffic impact analysis per ADOT requirements	X		
Proposed Fuel Station	SR 95/ Shea Rd – NW corner	Gas station/convenie nce store	No significant impact to roadway capacity needs – will require site specific traffic impact analysis per ADOT requirements	X		
Shea Road residential and commercial development	North and south of Shea Road	Residential and commercial development	Requires more information regarding number of units			X
BlueWater Resort Area Development Plan	East and west of BlueWater Casino and Resort	18-hole golf course, 500 homesites, townhomes, deli restaurant and park	Could potentially add 3,000 to 5,000 trips per day to adjacent roadway network; detailed traffic impact analysis required.			X
Medical Office development	South of Indian Health Center, south of Agency Road and east of 1st Avenue		Requires more information		X	

				Time frame		
Development Name/Type	**Location**	**Type of Planned Development**	**Potential traffic impacts**	**Short Term (0- 5 Years)**	**Mid-Term (5-10 years)**	**Long-Term (20 Years or more)**
Airport Commercial Development	Avi Suquilla Airport	To be determined - based on final Airport Master Plan Update	Requires more information	X	X	X
New Head Start School	Northwest corner of Mohave Road and Navajo Avenue- south of Parker High School	Relocated from current location on Mohave Road near Indian School Road	Site specific access and circulation issues need to be evaluated during project development		X	
Planned housing	South of Desert Sun subdivision- north of Mohave Road and east of 1st Avenue	Residential- 23 – lot subdivision (CRIT Villas)	May potentially add 200 to 300 trips to the adjacent roadway network; not anticipated to significantly impact transportation system.		X	
New Fire Station	West side of 1st Ave., north of CRIT Lodge	Fire Station	Site specific access and circulation issues need to be evaluated during project development	X		
Future residential development	South of Mohave Road, on both sides of SR95	Residential- number of parcels undetermined	Requires more information			X
Future residential development	Adjacent to La Paz Regional Hospital on Mohave Road	Residential- number of parcels undetermined	Requires more information		X	

3.7 MOTOR VEHICLE CRASHES

3.7.1 REVIEW OF PREVIOUS SAFETY STUDIES

Two recent studies identified potential locations where roadway improvements might reduce the frequency or severity of motor vehicle crashes. A summary of the findings from those studies is provided in the following paragraphs. The information provided here can be useful in identifying crash locations to consider for safety improvement projects.

Review of "Building a Foundation for Motor Vehicle Crash Injury Reduction on the Colorado River Indian Tribes Reservation"

The study "Building a Foundation for Motor Vehicle Crash Injury Reduction on the Colorado River Indian Tribes Reservation." (Snyder, LT Sarah-Jean T. , May, 2010, Indian Health Service (IHS), Colorado River Service Unit) builds on three previous motor vehicle crash studies (1987, 1987, and 2003) conducted by IHS personnel, interviews with CRIT and BIA personnel, site visits to crash locations and review of 717 narrative police crash reports for years 2005-2009 that were provided by the CRIT Police Department. The 1987 reports were based on 1986 crashes. The 2003 report was based on 79 ADOT crash reports and 382 CRIT Police Department crash reports for the years 1995-1999. **Table 20** summarizes the findings from those reports and LT Snyder's conclusions about those findings.

Table 20 - 1987 and 2003 CRIT Motor Vehicle Crash Report Findings and Updated Conclusions

Location	Issues and Findings from Previous Reports	LT Snyder's Updated Conclusions
4th Ave & Indian School Road	Crash cluster at 900 curve due to lack of clear signing resulting in vehicles ending up in canal.	Only 2 crashes in 2005-2009. Improved signing and pavement markings appear to have been effective in reducing number of crashes and canal incidents.
U.S. 95 @ Moovalya Shopping Center	41 crashes in 5 years involving left turns and lack of traffic signal	41 shopping center entrance crashes and 47 parking lot crashes in 2005-2009 data. Too early to tell if left turn lane and traffic signal installed will reduce number of crashes. Multiple entrances might contribute to problem. Monitor.
Burns Road at main canal between 1st and 4th Avenues	Nine crashes resulting in one fatality and six injuries. Speed and alcohol were factors.	No streetlights, speed limit signs and there is a bridge. No improvements by 2010. 2005-2009 data included ten crashes resulting in eight injuries. Re-evaluate site.
4th Avenue and Booth Road	Four crashes in 5 years resulting in a fatality and four injuries. Alcohol a factor.	White post reflectors and chevrons installed. No speed limit or speed reduction signs or lighting. Faded striping. Number of MVCs increased from four in 1995-1999 period to nine in 2005-2009 period. Speed and night time crashes are factors. Re-evaluate site.

Location	Issues and Findings from Previous Reports	LT Snyder's Updated Conclusions
Agency Road and Second Avenue	Four crashes in 5 years resulting in one fatality and eight injuries. Speed & curvature were factors.	Several improvements made in last 10 years, and they appear effective. Only two crashes and no injuries from 2005-2009.
Mohave Road and Patrick Road	Seven crashes in 5 years resulting in one fatality and nine injuries. Five crashes involved multiple units. Overturning of vehicles and passing in no passing zone were factors.	Good center line striping. Chevron markers on curve. Object markers at bridge. Sign advising of Patrick Road approach. No lighting and steep shoulders. Nine crashes in 2005-2009 time frame. Three rollovers. One fatality and nine injuries. Re-evaluate site.
Burns Road between 12th and 14th Avenues	Three crashes in 5 years. One fatality and two injuries. Canal and alcohol were factors.	No lighting, narrow bridge crossings (3). Parallel irrigation canal. Soft shoulder. A lot of empty beer bottles along road. Seven roadside crosses noted. 2005-2009 data identifies three crashes, with one crash resulting in three fatalities. Re-evaluate site.

LT Snyder's 2010 study identified eight additional MVC cluster sites. The crash data for these sites is shown in **Table 21**.

Table 21 - New Motor Vehicle Crash Cluster Site Locations Identified in 2010 Report

	# of 2005-2009 Crashes with			# of 1995-1999 Crashes with			Total Crashes
Crash Location	Fatality	Injury	Non-Injury	Fatality	Injury	Non-Injury	
California Avenue & Agency/RSD	1	4	21	1	3	16	46
4th Avenue & Little Road	1	2	2	0	1	4	10
1st Avenue & 16th Street	1	2	0	0	1	2	6
Highway 95/RSD & Airport Road	0	5	8	0	0	2	15
Mohave Road & Poston Road	0	4	6	1	1	3	15
18th Street & California Avenue	0	3	3	0	0	3	9
2nd Avenue & Mohave Road	0	3	6	0	4	1	14
Mohave Road & Agnes Wilson Road	0	2	4	0	1	3	10
Totals	3	25	50	2	11	34	125

Table 22 shows additional crashes at the locations shown as needing re-evaluation in **Table 20** and locations shown in **Table 21** for the periods 2000-2004 and 2010-2012. **Table 22** also shows other crash locations where there was at least one fatality. These data were extracted from the Arizona Department of Transportation Accident Location Information Surveillance System (ALISS) and do not include data from the CRIT Police Department not entered into ALISS. The ALISS has been subsequently renamed the ADOT "Safety Data Mart".

Table 22 – Motor Vehicle Crash Cluster Site Locations Identified in 2010 Report plus Other Locations with at Least One Fatality during the Years 2000 - 2004 and 2010 - 2012

	# of 2000-2004 Crashes with			# of 2010-2012 Crashes with			Total Crashes
Crash Location	Fatality	Injury	Non-Injury	Fatality	Injury	Non-Injury	
Burns Road between 1st & 4th Avenues		1	2				3
4th Avenue & Booth Road							0
Mohave Road & Patrick Road							0
Burns Road between 12th & 14th Avenues		1					1
California Avenue & Agency/RSD							0
4th Avenue & Little Road							0
1st Avenue & 16th Street							0
Highway 95/RSD & Airport Road							0
Mohave Road & Poston Road	1		1		1	1	4
18th Street & California Avenue							0
2nd Avenue & Mohave Road							0
Mohave Road & Agnes Wilson Road			2				2
Scott Road & Mohave Road	1		1	1			3
Scott Road & 17th Avenue	1						1
12th Avenue & Agnes Wilson Road	1						1
Indian School Road & Mohave Road	1		1				2
Totals	5	2	7	1	1	1	17

Source: ADOT ALISS System (Safety Data Mart)

Review of "Colorado River Indian Tribes Road Safety Assessment"

The “Colorado River Indian Tribes Road Safety Assessment" (April, 2013, prepared by the Arizona Road Safety Assessment Program, Arizona Department of Transportation), was prepared at the request of the CRIT. It addressed four roads and ten locations shown in **Table 23**. Seven of the ten locations addressed in the Road Safety Assessment (RSA) were identified in the "Building a Foundation for Motor Vehicle Crash Injury Reduction on the Colorado River Indian Tribes Reservation” study as discussed in the previous section. A summary of the identified needs and countermeasures for consideration are summarized in **Table 24**. The Road Safety Assessment Report is provided in **Appendix B.**

Table 23 - Roads and Locations addressed in Colorado River Indian Tribes Road Safety Assessment

Road	Location
Mohave Road	Mileposts 0 - 9
	Patrick Road Intersection
	Poston Road Intersection
	Agnes Wilson Road Intersection
	Mileposts 36 - 39
Burns Road	1st Avenue to 4th Avenue
	12th Avenue to 14th Avenue
4th Avenue	Indian School Road
	Booth Road
2nd Avenue	Agency Road

Source: Colorado River Indian Tribes Road Safety Assessment" (April, 2013)

A total of 79 crashes at the RSA locations were found in the ADOT Safety Data Mart (formerly ALISS) for the years 2000 to 2012 and were analyzed for severity, crash type, light conditions, fatal crash type, fatal crash location, and crashes by year. In addition, education, enforcement and medical services were discussed.

Table 24 – Road Safety Assessment Findings

Potential Safety Issue	Description	Countermeasures For Consideration
Education, Enforcement, and EMS	Traffic safety issues cannot be solved with engineering solutions alone, which is why the RSA team addresses the "4 Es" of safety: engineering, education, enforcement, and EMS.	• Require Tribal employees to use seatbelts when in a tribal vehicle • Enact a primary seat belt law and consider stronger child passenger safety laws (at minimum, CRIT should align their child passenger safety ordinance to mirror Arizona's statute ARS 28-907). • Advocate to the town of Parker that adding 24/7 fire department coverage is a necessary public safety benefit; at minimum, CRIT should conduct a cost benefit analysis to determine the costs of providing fire department coverage to the Town of Parker. • Use only the contracted air ambulance provider (Native Air) and if a situation arises when the non-contracted air ambulance (Care Flight) must be used, the providers should document why this decision was made. The documentation will allow Indian Health Service to assess the provided contracted services. • Conduct quarterly meetings of the multiple law enforcement agencies serving the community to discuss mutual issues. • Continue with the child passenger safety efforts of the TIPCAP and CDC funded motor vehicle projects, and consider addressing adolescent traffic safety using the Battle of the Belt.

Pavement Markings	• Centerline and edgeline markings are faded or non-existent on many of the roads in the study area, including:
	  ○ Mohave Road between mileposts 0 and 9
	  ○ Burns Road
	  ○ Booth Road
	  ○ 4th Avenue
	  ○ Indian School Road
	• There are also missing raised pavement markers (RPMs) on some segments of road. Lack of pavement markings can contribute to lane departure crashes.
		• Install 6-inch wide centerline and edge line markings with centerline raised pavement markers (RPMs) on the southern section of Mohave Road (milepost 0 to 9), Burns Road, Booth Road, 4th Avenue, and Indian School Road.
		• If centerline and edge line markings can't be installed, consider installing centerline RPMs at canal crossings and through curves.

Signing	• Most advance street name signs on Mohave Road are faded and difficult to read.	• Upgrade advance street name signs to Manual on Uniform Traffic Control Devices (MUTCD) standards.
Stop Lines	• Most stop lines are faded and located too far back from the intersection, limiting sight distance for motorists on the side road. For example, the stop line for the Tsosie Road westbound approach to Mohave Road is located 42 feet from the intersection; combined with an embankment, this creates a sight obstruction for motorists entering the intersection from the stop line.	• Refresh and relocate stop lines closer to the intersection (the MUTCD allows stop lines to be located within four feet of the intersecting through lane).
Pedestrians and Bicyclists	• There are very few accommodations for pedestrians and bicyclists: no trails, sidewalks, or bike lanes.	• Construct sidewalks/trails and install lighting along 1st Avenue from Mohave Road to Hospital, along Mohave Road from 1st to 2nd Avenues, and from the Mochen housing near Booth Road and 4th Avenue to the tribal offices on 2nd Avenue. • Coordinate with BIA Irrigation Branch to provide walking and biking facilities along the canals.
Burns Road from 1st to 4th Avenue	• Other than the bridge barrier and railing, there is nothing to keep vehicles that run off the road while approaching the canal crossing from plunging into the canal. • The drainage ditch on the south side of Burns Road just east of 4th Avenue is in the recovery area and near an unpaved travel area.	• Install barrier extending from the bridge to along the side of the canal approximately 30 feet; if this can't be done, install object markers along the side of the canal. • Install delineators to delineate the drainage ditch just east of 4th Avenue.

Potential Safety Issue	Description	Countermeasures For Consideration
Burns Road from 12th to 14th Avenue	• As with the canal crossing east of 4th Avenue, there is nothing to keep vehicles that run off the road while approaching the canal crossings east of 13th and 14th Avenues from plunging into the canal. • There are inadequate post connections at the 12th Avenue bridge guardrail: bolts are loose and pulling away from the concrete • The object markers along the north side of the headwall east of 13th Avenue are in the wrong location; according to the MUTCD, the edge of the object marker that is closest to the road user shall be installed in line with the closest edge of the obstruction. • The westbound direction of Burns Road has a Narrow Bridge sign for the 12th Avenue bridge, but there is no sign for the eastbound direction.	• At the canal crossings east of 13th and 14thAvenues install curved W-Beam guardrail extending from the crossing to approximately 30 feet along the side of the canal; if this cannot be done, install object markers along the side of the canal. • Repair post connections at the 12th Avenue bridge. • Relocate object markers at the headwall east of 13th Avenue. • Install Narrow Bridge sign for westbound direction at 12th Avenue bridge.
2nd Avenue at Agency Road	• 2nd Avenue becomes Agency Road north of Mohave Road in a horizontal curve. The Tribal planner indicated that some motorists enter this curve at excessive speeds. The northbound approach to the curve has transverse rumble strips to encourage motorists to slow down before entering the curve. The southbound approach has a curve warning sign. • Guardrail and chevrons have been installed along the curve; however, it appears that the guardrail and chevrons do not extend to the end of the curve on the south side.	• Extend the guardrail through the curve at the bottom of the hill. • Install additional chevron(s) through the curve at the bottom of the hill. • Install transverse rumble strips at the top of the hill where guardrail starts. • Install northbound curve warning sign with appropriate advisory speed plaque, and add advisory speed plaque to southbound curve sign. • Add reflective tabs to top of guardrail posts.
4th Avenue at Indian School Road	• This intersection is actually a sharp horizontal curve with stop signs. Field observations showed that many drivers do not stop at the unwarranted stop signs. • Wooden barricades within the clear zone on the south side of the curve are not breakaway. • Graffiti-covered large arrow signs and stop sign are difficult to see. • The irrigation ditch is 6 feet from the edge of the road along the turning radius.	• Remove stop signs, stop ahead signs, stop lines, and wooden barricades. • Install turn warning signs with appropriate advisory speed plaques. • Replace and relocate large arrow signs so they are in line with approaching traffic. • Install centerline markings and RPMs and edge lines through curve. • Install transverse rumble strips on the curve approaches.
4th Avenue at Booth Road	• 4th Avenue becomes Booth Road in a horizontal curve. • Transverse rumble strips have been installed on the curve approaches. • There are multiple unpaved accesses within the curve that lead to the canal roads. A concrete barrier has been placed across one of the accesses apparently to prevent vehicles from entering; however, vehicles can maneuver around the barrier due to its location and gain access to the canal road. • Chevrons on the east side do not extend to the end of the curve. • Chevron spacing through the curve is approximately 200 feet. The MUTCD recommends chevron spacing of 120 feet for curve speeds of 35 to 45 mph.	• Relocate access road barrier closer to 4th Avenue to prohibit entrance. • Reduce chevron spacing to 120 feet and extend chevrons through the curve east along Booth Road. • Limit number of accesses to the canal roads in this curve.
Mohave Road Southern Section (Mileposts 0 to 9)	• The pavement markings on the southern section of Mohave Road (mileposts 0 to 9) are faded or non-existent and the pavement is aged. • The Welcome sign at milepost 0 is faded and may not command driver attention. Gateway signing can have a traffic calming influence on motorists entering a community.	• Rehabilitate the pavement with a chip seal treatment. • Install centerline markings and RPMs and edgeline markings to provide 11-foot lanes and 4 foot shoulders. • Install centerline and edgeline rumble strips. • Install a new “Welcome to CRIT” monument sign at milepost 0.
Mohave Road at Poston Road	• This location has turning movements and pedestrian activity due to Woody’s convenience store, post office, residences, and the Poston Memorial Monument that are in the immediate vicinity. • The intersection has uncontrolled access on all 4 quadrants. • Large trucks parking at Woody’s create a sight obstruction. • Even though there are some street lights in the area, the intersection is not well-lit at night.	• Install pedestrian crossing warning signs on the Mohave Road approaches. • Refresh pavement markings (turn lanes, edgelines, and centerlines). • Construct sidewalks/curb and gutter along the intersection legs. • Upgrade street lighting.

Potential Safety Issue	Description	Countermeasures For Consideration
Mohave Road at Patrick Road	• It is difficult to see the Patrick Road intersection from the northbound approach due to the canal crossing and guardrail. • The guardrail on the east side of the crossing has been damaged. The curb in front of the guardrail reduces crashworthiness of the guardrail. • There is no barrier to keep vehicles that run off the road from striking the concrete structure or falling into the canal. • Chevron spacing in the curve is approximately 250 feet; the MUTCD recommends 160 foot spacing for curve speeds of 50 to 60 mph.	• Extend guardrail on northbound approach to prevent errant vehicles from striking the concrete structure. • Extend guardrail on southbound approach and relocate Patrick Road approach approximately 150 feet north. • Repair damaged guardrail and posts. • Block out guardrail to position the guardrail face flush with the curb. • Reduce chevron spacing to 160 feet by installing additional chevrons. • Install reflective tabs on guardrail posts.
Mohave Road at Agnes Wilson Road	• The team observed higher speeds (55 mph speed limit), higher volumes, and more numerous turning movements at this intersection than at other intersections on Mohave Road. • Commercial activity at the intersection includes the truck scales, which creates a high amount of large truck activity. • The left-turn lanes on Mohave Road are approximately 180 feet long (including taper and storage length), which is too short for the current operating speeds. The turn lane pavement markings are faded. • There are two closely spaced intersection warning signs (both directions between Agnes Wilson Road and Patrick Road) for Eddy Road and 9th Avenue.	• Reduce the speed limit to 35 mph. • If the speed limit is not reduced, increase the length of the left-turn lanes. • Refresh intersection pavement markings. • Replace intersection warning signs for Eddy Road and 9th Avenue with Double Side Road intersection warning signs.
Mohave Road at the Head Start School	• The speed limit at the Head Start School is 45 mph; however, a spot speed check conducted by the RSA team showed many vehicles traveling at speeds of 55 to 60 mph in front of the school. • Even though there is a no passing zone at the school, the RSA team vehicle was passed (while traveling at the speed limit). • There is no defined access at the school, leading to vehicles pulling on and off of Mohave Road at multiple locations. • Vehicles pulling onto the shoulder at the mailboxes just north of the school (southwest corner of Mohave Road/Indian School Road intersection) lead to shoulder erosion and create a potential hazard for motorists along Mohave Road.	• Create a reduced speed school zone and install solar powered “35 MPH When Flashing” signs. • Implement photo enforcement for speeding. • Relocate mailboxes to a cluster mailbox approximately 100 feet west of Mohave Road on the north side of Indian School Road. • Designate a defined school entrance on Indian School Road, and close the undefined access along Mohave Road (with curb and gutter, vegetation, etc.).
Mohave Road at 2nd Avenue	• Tribal offices are located at this intersection, and the rodeo grounds and a park are nearby, leading to numerous turning movements and pedestrian activity. • The intersection is dark at night due to lack of street lighting. • The speed limit decreases from 55 to 35 mph for the northbound approach and from 45 to 35 mph for the southbound approach; the Tribe noted that excessive speeds are an issue at this location. • The flashing beacon is 14.5 feet above the road surface; the MUTCD states that the bottom of the signal housing shall be at least 15 feet above the pavement. This beacon has been struck by large vehicles in the past.	• Install a 45 mph speed zone between the 55 and 35 mph speed zones for the northbound approach (install 45 mph sign south of Rodeo Road). • Install solar-powered speed feedback signs on the approaches to 2nd Avenue. Elevate the flashing beacon; remove beacon if it can’t be elevated. Install street lighting. • Install pedestrian crossing warning signs on Mohave Road. • Refresh intersection pavement markings. • Install guide signing for Tribal Government Complex. • Conduct pedestrian crossing evaluation to determine if a mid-block pedestrian crossing treatment is warranted.
Mohave Road at 1st Avenue	• There are no turn lanes on Mohave Road at 1st Avenue; the Tribe indicated that there are frequent turning movements at this intersection. The intersection is at the bottom of a downgrade and just beyond a horizontal curve for westbound traffic. • The westbound Mohave Road speed limit changes from 45 to 35 mph on the downgrade and in the horizontal curve. • There are redundant Speed Reduced Ahead and 35 mph Speed Zone signs for westbound Mohave Road east and west of 1st Avenue.	• Conduct a turn lane analysis, and if needed, construct turn lanes on Mohave Road at 1st Avenue. • Relocate the 35 mph Speed Zone sign and Speed Reduced Ahead sign for westbound Mohave Road to a location east of the horizontal curve and downgrade. • Remove the Speed Reduced Ahead sign west of 1st Avenue.

Additional CRIT MVC Data

In addition to the studies discussed above, the CRIT Police Department recently converted MVC data from motor vehicle crash reports into spreadsheet format for four additional years: 2004 and 2010-2012. **Table 25** presents a summary of these CRIT data for all of the locations shown in **Tables 22 and 24** and additional locations, shown in bold, with fatalities. The ADOT ALISS contains only 85 CRIT crashes during those years. The Police Department data includes 455 crashes over that period.

Table 25 - 2004 and 2010-2012 CRIT Police Department MVC Data at Site Locations shown in Tables 3 and 4 and Other Fatal Crash Locations

Crash Location	# of 2004, 2010-2012 Crashes with			Total Crashes
	Fatality	Injury	Non-Injury	
Burns Road between 1st & 4th Avenues	0	0	2	2
4th Avenue & Booth Road	0	1	3	4
Mohave Road & Patrick Road	0	1	3	4
Burns Road between 12th & 14th Avenues	0	0	0	0
California Avenue & Agency/RSD	0	0	0	0
4th Avenue & Little Road	0	1	1	2
1st Avenue & 16th Street	0	1	2	3
Highway 95/RSD & Airport Road	0	0	0	0
Mohave Road & Poston Road	0	0	1	1
18th Street & California Avenue	0	0	0	0
2nd Avenue & Mohave Road	0	0	12	12
Mohave Road & Agnes Wilson Road	0	1	1	2
Scott Road & Mohave Road	1	0	0	1
Scott Road & 17th Avenue	0	0	0	0
12th Avenue & Agnes Wilson Road	1	0	0	1
Indian School Road & Mohave Road	0	0	2	2
Mohave Road Mileposts 0-9	0	0	0	0
Mohave Road Mileposts 36-39	1	3	3	7
2nd Avenue and Agency Road	0	0	1	1
Rio Vista Road	1	0	0	1
Riverside Drive & Wal-Mart Parking Lot	**1**	**0**	**2**	**3**
Hopi Road & 11th Avenue Main Canal	**1**	**0**	**0**	**1**
Resort Drive & Blue Water Casino	**1**	**5**	**45**	**51**
Main Canal	**1**	**2**	**5**	**8**
Totals	8	15	83	106

Sixteen (16) of the crashes shown in **Table 25** were single vehicle crashes, most involving running off the road and either rolling over or hitting a fixed object, such as a ditch. Eight of the single vehicle crashes occurred at night, suggesting that visibility and/or impairment could have been issues.

3.7.2 ROAD SPECIFIC MOTOR VEHICLE CRASHES

Using crash data from 2004 through 2012, which includes the IHS study (2005-2009 data) and the most recent CRIT Police Department generated data for 2004 and 2010-2012, **Table 26** shows the total number of crashes occurring over that nine year period for several high volume or other important roads. Crashes at the canals, Casino and Moovalya Plaza areas are also shown. The number of crashes, combined with high crash location information provided in previous tables, provides an indication regarding roads that might be considered for further crash studies.

Table 26 - Total Number of Crashes 2004-2012 for Roads on CRIT or with Significance to CRIT

Road	# of Crashes	Road	# of Crashes	Road	# of Crashes
1st Ave	36	Airport Dr	3	Joshua Ave	10
2nd Ave	39	Arizona Ave	12	Kofa Ave	10
4th Ave	34	Blue Water Dr	41	Little Rd	5
7th Ave	6	Casino Dr	3	McCabe Rd	7
9th Ave	4	Resort Dr	70	Mohave Rd	149
10th Ave	4	Booth Rd	9	Moovalya Pl	62
12th Ave	2	Burns Rd	7	Navajo Ave	8
14th Ave	7	Calif. Ave	61	Patrick Rd	2
15th St	13	Riverside Dr	130	Peterson Rd	5
16th St	21	Hwy 95	65	Poston Rd	5
18th St	9	Canal	15	Shea Rd	3
Agency Rd	31	Main Canal	17		
Agnes Wilson	3	Indian School	3		

Sources: Indian Health Service and CRIT Police Department

3.7.3 CALIFORNIA CRASHES

The California Department of Transportation provided the data provided in **Table 27** for MVCs on US 95 from its intersection with Interstate 10 in Blythe to SR 62 at Vidal Junction and on SR 62 from Vidal Junction to the Colorado River Bridge at Parker. The data span the 10-year period from 2002 through 2011. Most of these sections of highway lay off the CRIT Reservation, but are utilized by tribal members living in California. It should be noted that about 45 percent of the crashes on these roads involve fatalities or injuries. Many of the crashes in and near tribal lands involved vehicles overturning or sideswiping.

Table 27 - Summary of Motor Vehicle Crash Data on US 95 and SR 62 on and Near the Colorado River Indian Tribes Reservation (Years 2002-2011)

Road and Section	Total # of Crashes	# of Fatal Crashes	# of Injury Crashes	# of PDO* Crashes	Total Fatalities	Total Injuries
US 95 Riverside Co. PM 0-36.2	213	7	86	120	10	131
US 95 San Bernardino Co. PM 0-9.7 (Vidal Junction)	22	0	13	9	0	14
SR 62 PM 126.8 (Vidal Jct.) - 142.7 (Colorado River Bridge	98	5	39	54	6	67
Totals	333	12	138	183	16	212

Source: California Department of Transportation
*property damage only

3.7.4 CRASH ANALYSIS SUMMARY AND CONCLUSIONS

Considerable data are available to analyze motor vehicle crashes on the Colorado River Indian Tribes Reservation. Four Indian Health Service studies were conducted from 1987 through 2010. The last of the studies used data from CRIT Police Department crash reports for the years 2005-2009. These reports provided insight into locations where MVCs were occurring in clusters. Seven of these locations, plus three additional locations, were the subject of a Road Safety Assessment conducted by ADOT in 2013. Specific remediation recommendations for known high crash locations were identified in the RSA report. CRIT Tribal staff and Tribal Council are considering actions for addressing these recommendations.

In 2013, the CRIT Police Department converted MVC data from police reports into a spreadsheet format. These data cover the years 1997-1999, 2004 and 2010-2012. Previously, only crash data that made its way into the ADOT Accident Location Identification Surveillance System (ALISS, now Safety Data Mart) was available in spreadsheet form for those years. The CRIT-generated data substantially expanded the number of available automated crash records, enhancing analysis capabilities.

The expanded CRIT crash data, coupled with the data used in the 2010 IHS analysis, also from CRIT Police files provided records for more than 1,000 crashes over a nine year period. An analysis of the number of crashes that occurred on high volume and important roads and locations was performed.

Caltrans provided ten years of MVC data for US 95 from Blythe to Vidal Junction and on SR 62 from Vidal Junction to Parker. About 45 percent of the 333 crashes involved fatalities or injuries, and a substantial percentage of the crashes adjacent to tribal lands involved rollovers.

3.7.5 RECOMMENDATIONS

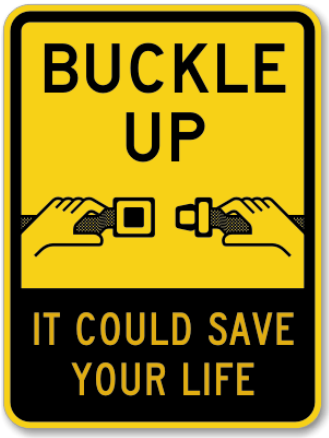
1. SR 95, including the California Avenue and Riverside Drive segments, and Mohave Road have the highest number of crashes on any roads on or impacting the CRIT Reservation. Neither the IHS studies nor the RSA addressed crashes on SR 95 and Mohave Road for their full lengths on the Reservation. The development of corridor studies should be considered for these roads to identify needed safety improvements and other operational improvements for these important roads.
2. There are high numbers of crashes involving canals and in and adjacent to the Blue Water Casino and the Moovalya Plaza. Consider conducting RSAs at these locations to identify strategies to reduce the number and severity of crashes at these locations.
3. CRIT should consider implementing the recommendations of the RSA conducted by ADOT.
4. Consider full road length RSAs for some of the other roads, such as 1st Avenue, 2nd Avenue, 4th Avenue and Agency Road that have high crash rates.
5. CRIT should enter in discussions with Caltrans to determine ways to reduce the percentage of fatal and injury crashes on US 95 and SR 62.

3.7.6 SAFETY – FOCUSED EDUCATION EFFORTS

Improved traffic safety education, by incorporating safety into school curriculum at all levels of school, was identified through discussions with stakeholders and the Tribal Planner. Age appropriate programs can be developed for all age groups, for example:

Pre-school and elementary school topics:

- Seat belt use
- Pedestrian and bicycle safety
    - How to cross the street safely – stop, look, and listen
    - Basic bike and helmet fitting – especially important for parents
    - How to position yourself properly on the road – the three positions
    - How to let drivers know your intentions – be predictable
    - How to safely negotiate turns and intersections – hand signals, signs, traffic awareness
    - The basics of traffic law – right-of-way and rules of the road
    - Skills practice – Three to six adult-led hours on a bike; one hour walking in a neighborhood
- School bus safety
- Unsafe rides



Middle School and High School topics:
Upper grades could focus on more driver-oriented messages, such as:

- "No texting and driving"
- "Don't Drink and Drive"
- "Buckle Up - it could save your life"

3.8 PAVEMENT ASSESSMENT

A roadway pavement condition inventory was conducted via visual windshield surveys in July 2013 for the approximately 132 miles of paved roadway segments maintained by CRIT.

Our team evaluated the roadway network following the general guidelines outlined in BIA Form 5808, "Pavement Rating." Generally speaking, as the procedure outlines, it is a modified version of the industry standard for visual evaluation techniques outlined in ASTM D6433-11 "Standard Practice for Roads and Parking Lots Pavement Condition Index Surveys." The ASTM procedure provides a systematic method for identifying the current pavement condition of asphalt paved roadways by identifying a total of 19 asphalt-surfaced roadway distresses that are recorded based on type, severity, and quantity. However, in the case of BIA's procedure outlined in Form 5808 the distress types are limited to 10 critical distress types including longitudinal and transverse cracking, block cracking, alligator cracking, roughness, rutting, corrugations, raveling, bleeding, patching, and other. Additionally, instead of determining a condition index value using industry software, the BIA procedure uses deduct values based on the percent area, <33%, 34-65%, and >66%, of the observed distresses as well as the typical severity levels identified as slight, moderate, and severe. At the time of our field investigation, the determination of the deduct values based on the BIA procedure to determine the overall condition value, identified as a value between 0-100, was unclear. Our team developed a user specific pavement rating system using many elements of the BIA procedure although the determination of the overall condition index was unclear. Primary factors used in the development of the rating system include type of pavement distress present and general site conditions.

Based on the type of distress, percent area of distress, and typical severity of distresses that were observed, our team developed an overall pavement rating between 0 and 5 that was given to each paved roadway segment that was inventoried. Descriptions of the rating system levels are described below:

- **Excellent (5)** – The roadway segment is exhibiting minimal visual signs of deterioration and no maintenance is currently required.
- **Good (4)** – The roadway segment is exhibiting minor signs of deterioration, including age- or climate-related distresses, and no structural deterioration is visually evident. The distresses observed are primarily limited to low-severity levels (L&T cracks less than ¼ inches in width) although isolated areas of medium-severity may be present. The roadway segment could benefit from minimal maintenance activities including crack sealing or patching for isolated areas of deterioration.
- **Fair (3)** – The roadway segment is exhibiting a moderate amount of deterioration including both age- or climate-related distresses as well as structural deterioration. Generally, the distresses present are low- to medium-severity levels. The rideability is likely deteriorated and there are often isolated areas of high-severity pavement deterioration and poor site conditions. The

roadway segment would benefit from aggressive maintenance activities including crack sealing and patching.

- **Poor (2)** – The roadway segment is exhibiting a significant amount of deterioration including both age- or climate-related distresses as well as structural deterioration. The evidence of structural deterioration (e.g., alligator cracking and rutting) is more evident. The distresses observed are likely present at all severity levels with areas of high-severity distress more frequently present. General site conditions are more significantly deteriorated and are likely attributing to the level of deterioration being exhibited. The roadway segment would benefit from surface rehabilitation and overall general site improvements.
- **Very Poor (1)** – The roadway segment is exhibiting a significant amount of deterioration, including both age- or climate-related distresses as well as more significant levels of structural deterioration. Typical distress levels observed are medium-severity to high-severity. The roadway surface is failing and rideability is poor. General site conditions are significantly deteriorated and likely attributing to the level of deterioration being exhibited. Although useable, the roadway segment should be considered for surface reconstruction along with improvement to general site conditions.
- **Failed (0)** – The roadway segment is exhibiting a significant amount of deterioration, including both age- or climate-related distresses as well as significant structural deterioration. The primary distresses observed are structural-related distresses or significant levels of high-severity block cracking. Typical distress levels observed are medium-severity to high-severity. General site conditions are significantly deteriorated and likely attributing to the level of deterioration being exhibited. Although useable, the roadway segment is considered failed and should be considered for surface reconstruction along with improvement to general site conditions.

Although a rating system of 0-5 was used for this evaluation, should our team further understand the determination of the deduct values based on the procedure outlined in BIA Form 5808, the data our team collected could be used to determine the overall pavement rating based on a 0-100 scale if desired.

The pavement condition ratings for the inventoried roadway segments are shown in **Figure 6**. More detailed information on pavement conditions is provided in **Appendix E**. Overall, most of the roadways maintained by CRIT are in Poor to Fair condition with the most common distresses observed being L&T cracking, block cracking, alligator cracking, roughness, and raveling. The roadway segments rated as Very Poor or Failed generally exhibit a significant amount of structural deterioration—specifically alligator cracking. The roadway segments rated as Very Poor or Failed are located throughout the study area, and are shown in red and orange in **Figure 6**. Specific roadways of immediate concern include 1st Avenue, Indian School, 11th Avenue, portions of Navajo Road, and portions of 6th Avenue as well as other road segments shown in **Figure 6**. There are a number of other roadways segments which are also exhibiting significant signs of deterioration and are in need of rehabilitation as well.

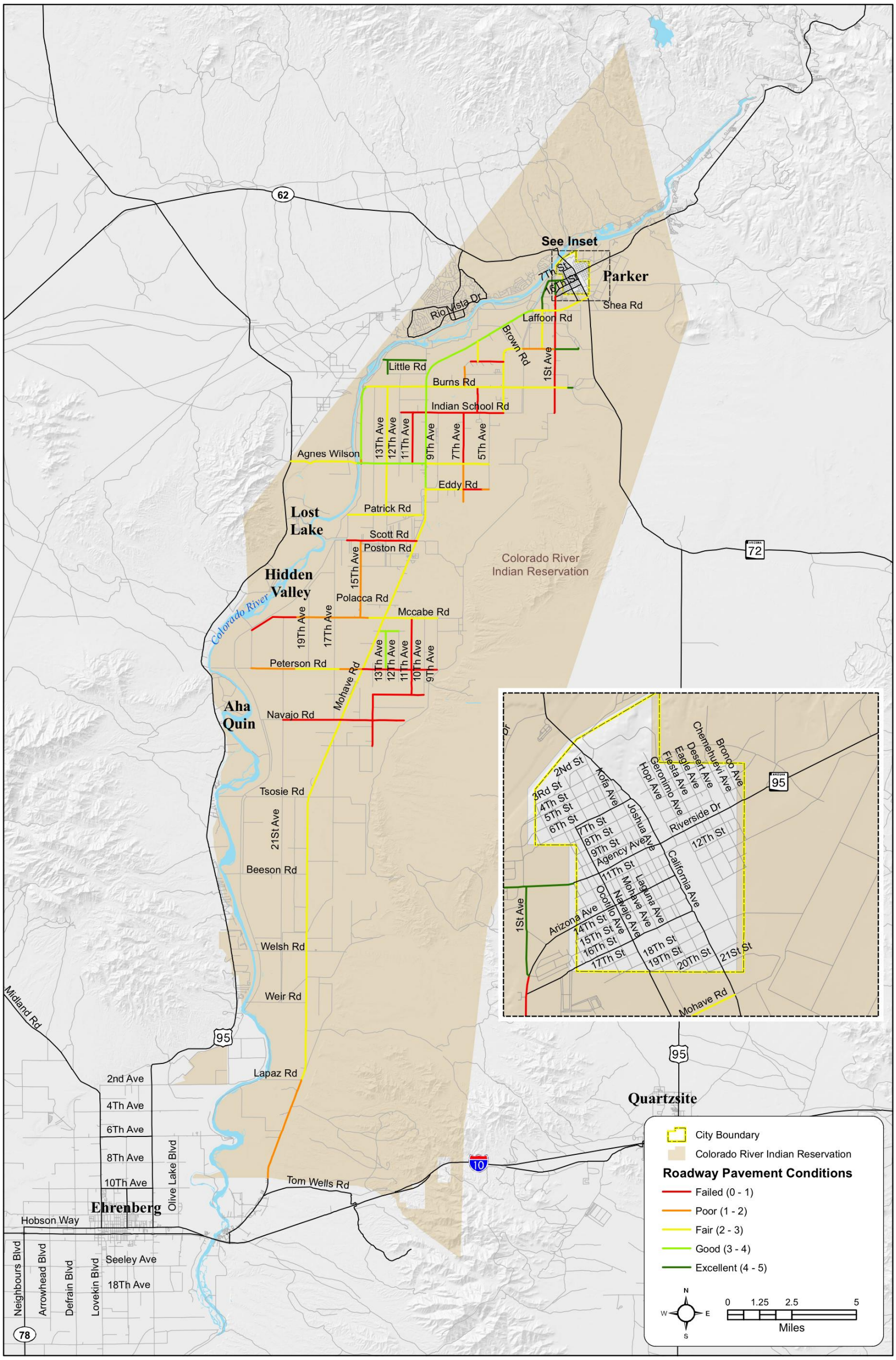


Figure 6 – Pavement Conditions

3.9 ROAD CONDITION ASSESSMENT

A road condition assessment was conducted in coordination with the pavement assessment. The road condition assessment involved observing and recording road conditions such as:

- Whether speed limit signs were in place
- Presence or absence of shoulders
- Presence/condition of lane markings (e.g. were they faded or hard to see)
- Whether there were sight distance issues observed
- Street lighting
- Whether culvert or canal crossing treatments were required
- Whether there was traffic control devices along the route (e.g. stop signs, yield signs, flashers, or other types of traffic control)
- Whether pedestrians were observed
- Whether bicyclists were observed

This section discusses road conditions with respect to signing, striping, traffic control, and other transportation-related road conditions that were observed during the field review, or raised through stakeholder interviews, or survey comments. **Appendix C** summarizes the road conditions observed during the field review. It should be noted that a general need is roadside vegetation control, which can reduce the available road width, and has the potential to increase run off the road crashes.

3.9.1 SPEED LIMIT SIGNING

Speed limits, when not posted, are assumed to be 45 mph according to the CRIT Police Department. Speed limits on some of the key reservation roads are:

- Mohave Road: 55 mph (35 mph at Poston Road, 2nd Avenue, and 1st Avenue, 45 mph north of 1st Avenue) Booth Road: 35 mph (4th Avenue to Bridge H043), 45 mph (Bridge H) 43 to 1st Avenue), 40 mph (1st Avenue to 0.88 mile east of 1st Avenue)
- Burns Road: 45 mph
- 4th Avenue: 45 mph (35 mph at Booth Road)
- 2nd Avenue: 45 mph (35 mph at Agency Road)
- Agnes Wilson Road:45 mph

An issue that was raised during stakeholder interviews was the need for additional speed limit signing and speed control on Mohave Road.

In rural areas where the posted speed limit is less than 55 mph, the recommended maximum spacing for speed limit signs is found by the formula S=V/6. In rural areas where the posted speed limit is 55 mph or greater, the recommended spacing for speed limit signs is found by the formula S=V/5, where S is the maximum spacing in miles and V is the posted speed limit in miles per hour. -ADOT Traffic Engineering Policies, Guidelines, and Procedures, Section 311

Guidelines for posting speed limits indicate that the maximum spacing for speed limit signs on Mohave Road is:

- In 55 mph area: maximum spacing = (55mph / 5) = 11 miles
- In 45 mph area: maximum spacing = (45mph/6) = 7.5 miles

Speed reminders such as solar speed signs can be used to remind drivers of their speed.

3.9.2 OTHER SIGNING NEEDS

Based on information that was obtained through stakeholder interviews, field review, and the Road Safety Assessment, other signing needs identified were:

- Replacement of signs which are damaged or hard to read. Signing needs observed during the field review were:
    - Booth Road, 1st Avenue to .8 miles east of 1st Avenue- bent sign needs replacement
    - 2nd Avenue, Mohave Road to Booth Road – bent “Reduced Speed Ahead” sign needs replacement.
    - 11th Avenue, Mark Road to Peterson Avenue – stop sign needs replacement
    - 15th Avenue, Agnes Wilson Road to Burns Road – chevrons have graffiti markings
    - Patrick Road/16th Avenue - Need street name sign for 16th Avenue
    - Marks Road/11th Avenue - Yield Sign needs to be replaced or removed

- Street name signs at locations that are missing signs and replacement of advance Street name signs, which was particularly noted on Mohave Road during the Road Safety Assessment.
- Improved signage at a number of culvert and canal crossings.

A sign inventory is a requirement for obtaining Highway Safety Improvement Program funds for signing projects, and would be valuable to determine specific sign replacement needs.

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3.9.3 TRAFFIC CONTROL NEEDS

Most of the intersections within the reservation are either stop-sign controlled or uncontrolled. Traffic signals are located at the following intersections:

- US95/Airport Road
- US95/ BlueWater Drive

Flashers are located at:

- Mohave Road/Poston Road
- Mohave Road/Agnes Wilson Road
- Mohave Road/ 2nd Avenue

Flashing beacon at Mohave Road / 2nd Avenue

Traffic control needs that were identified are:

- There is a need to elevate the flashing beacon or remove it at the intersection of Mohave Road and 2nd Avenue. The beacon has been hit by vehicles.
- At the intersection of 4th Avenue and Indian School Road there was a concern expressed during the RSA that the stop signs at this location are not warranted.
- Concerns were expressed regarding the traffic signal at the SR 95/BlueWater Drive intersection needed a protected left turn phase for the northbound SR 95 approach. Discussion with ADOT Traffic Engineering staff indicated that:
  - The traffic signal was installed in 2006.
  - Crash data reports were reviewed for the intersection from both ADOT and the CRIT Police Department and in particular, for all the crashes related to left turns on the northbound and southbound approaches on US 95.
  - The intersection was close but did not meet warrants (requirements) for a protected left turn phase. There was also a concern that adding a protected left turn phase would increase delays at the intersection, and that drivers might not wait for the left turn arrow to activate if there is no opposing traffic.
  - The following improvements were made in mid-2013:
    - To make the southbound approach on 95 more visible to traffic, two more traffic signal faces on side mounts were added.
    - To address the failure to yield on the northbound approach, a “left turn yield on green” sign was added to the signal pole northbound.
  - The improvements will be monitored by ADOT Traffic Engineering staff.

3.9.4 LANE MARKING NEEDS

There were a number of areas with no lane markings, or faded lane markings or edge lines. In general, there is little edge striping, which could help to define a shoulder area for bicyclists.

Many roads had only centerline striping. Roads that were observed during the field review and the RSA with faded lane markings were:

- Mohave Road, south reservation boundary to Tyson Wash Bridge
- Burns Road
- Booth Road
- 4th Avenue
- Indian School Road
- 7th Avenue, Burns to Gould Road
- Indian School Road , 11th Avenue to 4th Avenue (no markings)
- 11th Avenue, Mark Road to Indian School Road
- 13th Avenue, Peterson Road to Hopi Road
- 15th Avenue, McCabe Road to Scott Road and Nez Road to south end of 15th Avenue
- Eddy Road, Mohave Road to 5th Avenue
- McCabe Road, Bridge H020 to 9th Avenue
- Peterson Road , canal crossing east of 17th Avenue to 9th Avenue
- Marks Road, 14th Avenue to 10th Avenue
- Navajo Road, Bridge H027 to road end
- Nez Road , Mohave Road to 14th Avenue
- 6th Avenue, Indian School Road to Mohave Road
- 14th Avenue, Nez Road to Mark Road
- Hopi Road, Mohave Road to 12th Avenue

3.9.5 CULVERT/CANAL CROSSING IMPROVEMENT NEEDS

There were a number of culvert and canal crossings that need improvements such as object markers, warning signs for narrow crossings, and in some cases, headwalls and possibly guardrails. The areas these canals or culverts are located are:

- Burns Road, 15th Avenue to 12th Avenue
- 7th Avenue, Agnes Wilson Road to Indian School Road
- 13th Avenue , Peterson Road to Hopi Road, and Patrick Road to Burns Road
- Agnes Wilson Road, Mohave Road to 7th Avenue
- Scott Road, Bridge 045 to Mohave Road
- McCabe Road, 23rd Avenue to Bridge H020
- Peterson Road, Mohave Road to 9th Avenue
- 6th Avenue, Gould Road to Mohave Road
- 14th Avenue, Bridge 040 to Marks Road

3.9.6 SHOULDER DROP-OFFS IMPROVEMENT NEEDS

A number of locations had drop-offs close to the road edge that need appropriate signage and treatments. These road segments were:

- McCabe Road, 23rd Avenue to Bridge H020
- Peterson Road , Bridge H023 to 23rd Avenue and 23rd Avenue to the canal crossing east of 17th Avenue, and Bridge H024 to Mohave Road

3.9.7 STREET LIGHTING NEEDS

Street lighting needs were identified at the following locations during the RSA:

- Mohave Road/Poston Road
- Mohave Road /2nd Avenue
- 1st Avenue from Mohave Road to the Hospital, along Mohave Road from 1st to 2nd Avenue, and from Mochen housing near Booth Road and 4th Avenue to the Tribal offices on 2nd Avenue.

3.10 BRIDGES

Bridges on the Tribal Transportation Inventory are inspected every two years. This database is an important tool in identifying those existing bridges that have the highest need for repair and/or replacement. A sufficiency rating is assigned to each bridge (greater than 20 feet), which is inventoried. All of the ratings came from the 2012 Bridge Inspection (SI&A) Reports, with the exception of Agnes Wilson Bridge Number H042, which was inspected in 2011.

Table 28 summarizes the bridges that are located on study area roads and their sufficiency rating. The sufficiency rating (SR) is a numerical rating of a bridge based on its structural adequacy and safety, essentiality for public use, and its serviceability and functional obsolesce. It is a rating tool developed by the FHWA for prioritizing bridges for funding. The SR of a bridge varies from 0 (very poor) to 100 (very good). Bridges with an SR of 80 or less will be eligible for rehabilitation, and bridges with an SR less than 50 will be eligible for replacement or rehabilitation.

There are five bridges with a Sufficiency Rating less than 50 and 19 bridges with a Sufficiency Rating of 80 or less.

A bridge is designated as “deficient “if it is either structurally deficient or functionally obsolete. Structurally Deficient (SD) means a bridge become structurally deficient when it reaches the set threshold of one of six criteria from the FHWA national bridge Inventory. There are 12 bridges designated as structurally deficient on the Inventory, which are indicated by the shading on **Table 28**.

Table 28 – Bridge Condition Summary, Colorado River Indian Tribes Reservation

Street Name	BIA Route Number	Bridge Length (Feet)	Section Number	Bridge Number	2012 Sufficiency Rating	SD=Structurally Deficient ND=Not Deficient FO=Functionally Obsolete
Mohave Road	1	94	30	H008	73.3	SD
Mohave Road	1	60	50	H007	77.5	ND
Mohave Road	1	43	80	H006	80.2	ND
Mohave Road	1	76	100	H005	65.8	ND
Mohave Road	1	76	130	H004	46.5	SD
Mohave Road	1	76	150	H003	77.9	ND
Booth Road	4	68	20	H043	96.8	ND
Burns Road	10	60	20	H011	84.0	ND
Burns Road	10	68	40	H044	97.8	ND
7th Avenue	11	100	23	046H	Proposed	
Agnes Wilson Road	18	560	20	H042	92.9	ND *
17th Avenue	21	76	40	H026	68.0	SD
17th Avenue	21	75	60	H025	82.3	ND
Scott Road	24	24	25	H045	No report	
23rd Avenue	27	60	40	H022	94.0	ND
McCabe Road	30	68	20	H020	77.8	ND
McCabe Road	30	91	40	H021	56.8	SD
Peterson Road	34	60	20	H023	83.0	ND
Peterson Road	34	76	60	H024	25.9	SD
Navajo Road	38	60	20	H027	60.0	SD
Navajo Road	38	60	50	H039	67.9	ND
Rodeo Road	39	68	20	H041	98.0	ND
Tsosie Road	44	60	10	H029	81.0	ND
Tsosie Road	44	91	30	H030	47.8	SD
Beeson Road	50	60	30	H031	71.5	ND
Beeson Road	50	76	50	H032	49.8	SD
Welsh Road	56	76	30	H033	54.0	SD
Welsh Road	56	76	50	H034	59.5	SD
Weir Road	60	60	20	H035	58.5	SD
Weir Road	60	80	40	H036	47.0	SD
14th Avenue	117	60	30	H040	71.5	ND
Kennedy Road	501	92	30	H051	96.0	ND

Source: Bureau of Indian Affairs

* This bridge was inspected in 2011

Note: Shading indicates structurally deficient bridges

3.11 TRANSIT

3.11.1 EXISTING TRANSIT SERVICES

Transit facilities exist on a limited basis for specific clientele. More detailed stakeholder interviews with La Paz County Transit, Mo-Chem-Ho-Na Senior Center, Head Start, and Parker Unified School District are provided in **Appendix A.** These services are described as follows:

La Paz County Transit

La Paz County transit is based in Parker, Arizona and is a flexible service offered to persons aged 60 and over, disabled and caregivers. The general public is allowed to ride if space permits. Rides are usually scheduled to the grocery stores, post office, bank, food bank, senior center, and other businesses. The service also schedules medical appointments, but as noted in their brochure, those with Arizona Health Cost Containment System (AHCCCS) should schedule their medical appointment transportation with AHCCCS as it is a covered service.

Pick up and departure times are approximate, but the general schedule is:

- Parker (Town): Mondays through Thursdays
- Parker Dam Route: Mondays through Thursdays
- Salome/Wenden/Bouse/Brenda Route – to Parker: Mondays through Thursdays
- Parker to Ehrenberg Route: Wednesdays. This route brings riders to Parker, makes various stops in Parker, and returns to Ehrenberg.

The program, which is funded in part by Western Arizona Council of Governments (WACOG) AAA/Department of Economic Security, also requests a $3.00 donation for rides in La Paz County and $5.00 for rides out of La Paz County.

A stakeholder interview was conducted with representatives of La Paz County Transit and is provided in **Appendix B**. A suggestion for transit was to provide periodic trips to Phoenix, since there is no Greyhound service, and they receive periodic calls for medical trips there.

Mo-Chem-Ho-Na Senior Center Transit

The Mo-Chem-Ho-Na Senior Center operates a limited transit service for clients that are 55 years of age or older, or younger clients with physical or mental disabilities. The service is very flexible—persons call for a ride and they do accept same day calls. Examples of trip purposes include:

- Take persons to and from meals at the Senior Center
- Drop off to pay bills
- Shopping
- Trips to Community Health Representatives (CHR)
- Field trips
- Check mail

Vehicles include:

- 14-passenger bus
- 15-passenger van—used for home-delivered meals (there are two meal runs—one in the south part of the Reservation (29-32 meals) and one in the north part of the Reservation (45-42 meals)

- Impala van
- Quest van
- Astrovan

The current transportation service is funded through the Inter Tribal Council of Arizona (ITCA) Title 3 and Title 20 grants.

CRIT CHR Transportation Services

The CRIT CHR is part of the Tribal Department of Health and Social Services. The Department provides non-emergency transportation to health-related appointments such as:

- Dialysis
- Out of town medical appointments – scheduled through the Parker Indian Health Center
- Local non-emergency medical appointments
- Discharges from the Parker Indian Health Center
- Medical transport for AHCCCS (Arizona Medicaid) eligible patients

Head Start Student Transportation

Head Start, located centrally on the CRIT Reservation (located on Mohave Road, near the intersection of Indian School Road), provides transportation to 183 students, aged three to five. They operate five bus routes and have seven buses (five on regular routes and two spare buses). On parent nights, the schools pick up parents to attend, if needed.

The school buses operate Monday through Friday from 9am to 1:30pm. The ages of the vehicles vary—there is one 2009 vehicle, and the rest of the buses vary in age from 1994 on up. Maintenance is a key concern, and at times, the vehicles need to be transported to Phoenix to be repaired. In some cases the buses are maintained at the CRIT Auto Shop, or through a privately owned auto shop in Blythe, California.

Parker Unified School District Transportation

The Parker Unified School District operates 17 school buses operating on 15 regular routes, and two special needs routes. The district serves La Pera Elementary School, as well as the Junior High School, Parker High School, and Wallace Elementary and Blake Primary School. In addition, there are four tutoring routes, and six activity routes. The buses also travel to school sporting events to areas such as Havasu, Blythe, Buckeye, Goodyear, and the North River Valley. There is a 15-year rotation for school buses. The School District Bus Barn Manager purchased one new school bus in the 2012-2013 school year. In 2000, he purchased five new buses. Currently, there is approximately 170,000-200,000 miles on each of the buses. The gas pumps in the school maintenance yard are over 20 years old, but the tanks are in good shape.

There was a discussion about whether there might be an opportunity to use the Parker Unified School District for maintenance services if a transit system was established for the Tribes. The School District Bus Barn Manager said that the school buses would have priority, but there might be potential if the transit system would hire their own mechanic. He said that would be something the school district could consider.

Bonnie Baker Senior Center Transit Services

Bonnie Baker Senior Center provides transit services for senior and persons with disabilities in the Big River area.

3.11.2 DEMOGRAPHIC INFORMATION

2010 United States Census data was used to obtain demographic characteristics for the CRIT Reservation area. Demographic parameters used in this section include:

- Age distribution and locations
- Household characteristics and locations
- Employment characteristics
- Commuting to work characteristics
- Travel time to work

Understanding the demographics of the area can help indicate appropriate transit service options that meet the needs of the community. These data are described as follows.

Age Distribution

As **Table 29 shows**, the age distribution of the CRIT tends to reflect a younger demographic—29 percent of the population is 19 years of age or younger. Age distribution is shown graphically in **Figure 7**.

Population Distribution

These data show that 23 percent of the population is 60 years or older. In order to look at where to provide transit service, locations of residents for the following age groups are shown:

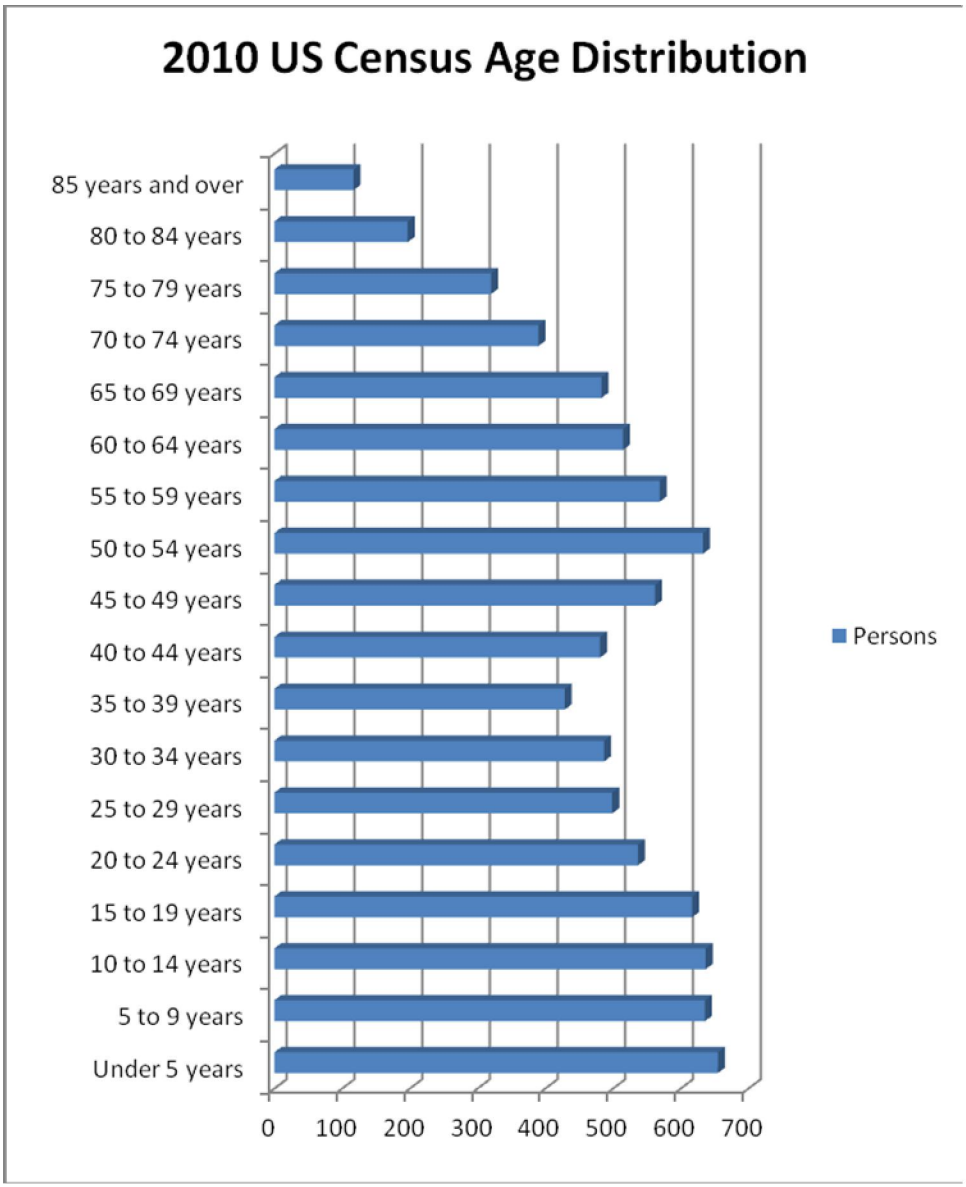
- Location of persons age 65 and older (**Figure 8**).
- Location of persons 18 years of age and older (**Figure 9**).
- Location of all persons (**Figure 10**).

Table 29 – 2010 Census – Age Distribution

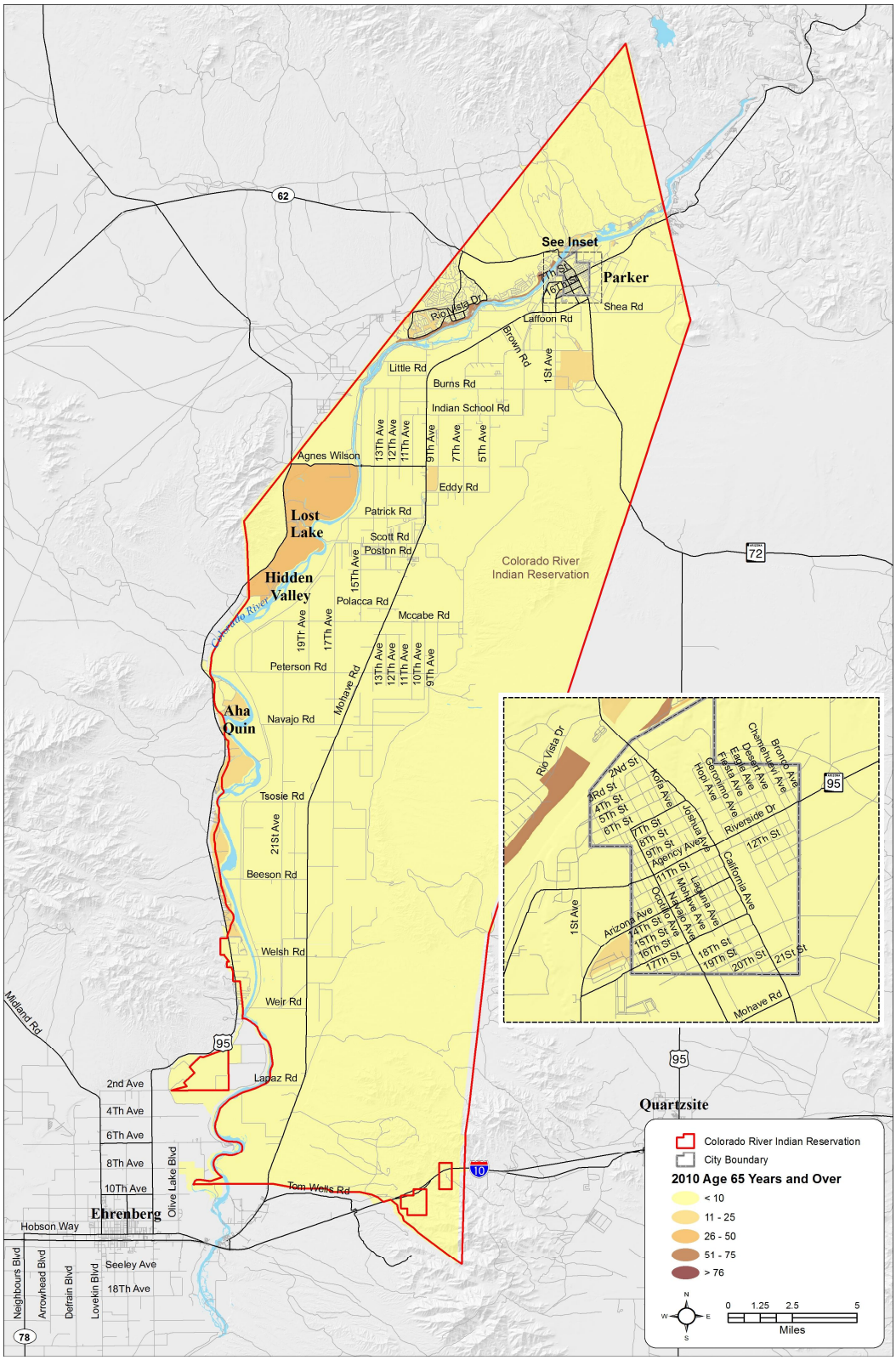
	Persons	Percent
Total population	8,764	100.0
Under 5 years	655	7.5
5 to 9 years	636	7.3
10 to 14 years	637	7.3
15 to 19 years	617	7.0
20 to 24 years	537	6.1
25 to 29 years	499	5.7
30 to 34 years	487	5.6
35 to 39 years	429	4.9
40 to 44 years	481	5.5
45 to 49 years	562	6.4
50 to 54 years	633	7.2
55 to 59 years	569	6.5
60 to 64 years	515	5.9
65 to 69 years	483	5.5
70 to 74 years	390	4.5
75 to 79 years	320	3.7
80 to 84 years	197	2.2
85 years and over	117	1.3

Source: 2010 Census Summary File 1, Age Groups and Sex Table (QT-P1), Colorado River Indian Reservation, AZ-CA

Figure 7 – 2010 U.S. Census Age Distribution

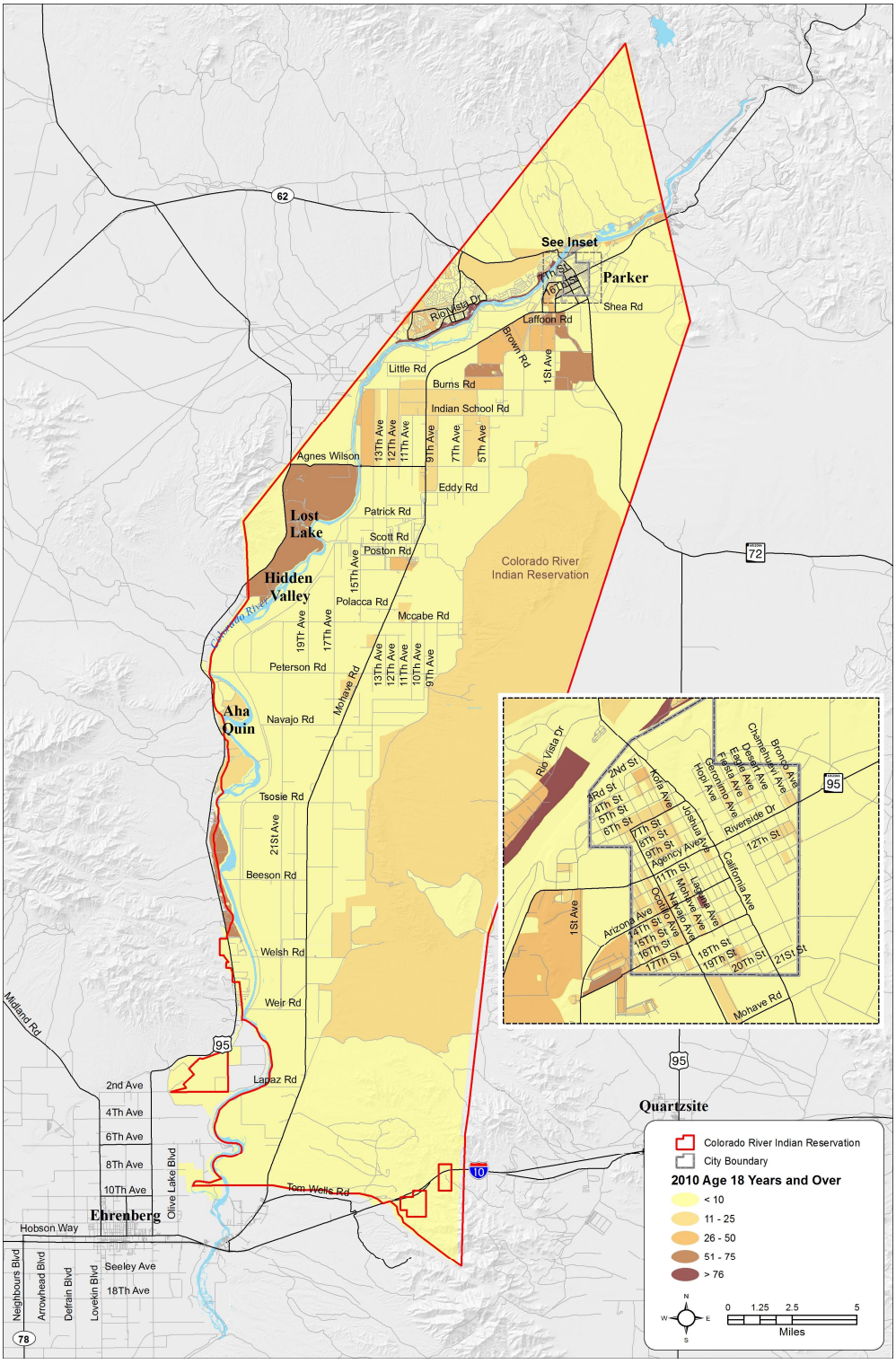


Source: 2010 Census Summary File 1, Age Groups and Sex Table (QT-P1), Colorado River Indian Reservation, AZ-CA



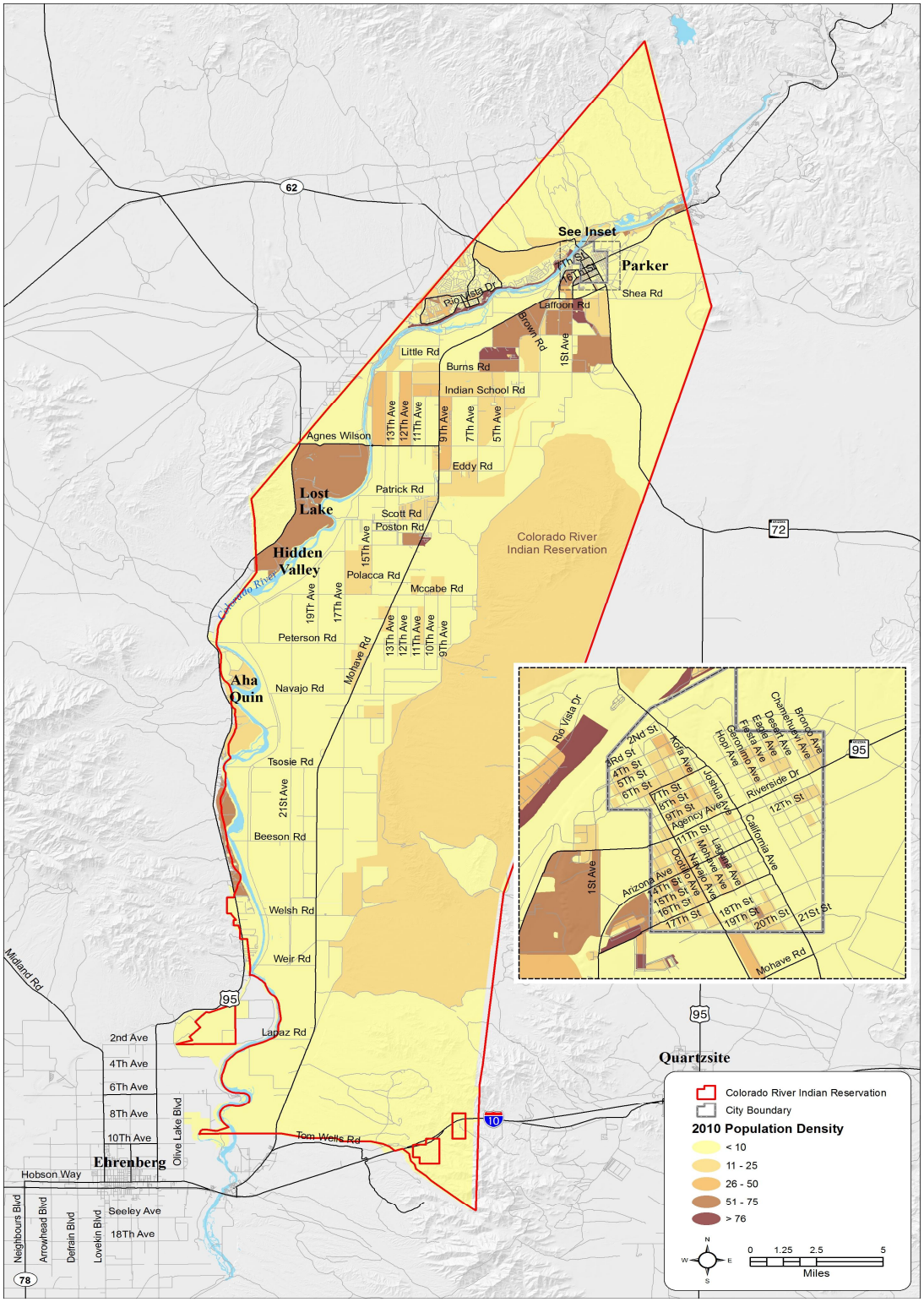
Source: 2010 U.S. Census Bureau

Figure 8 – 2010 Census Data showing Locations of Persons over age 65



Source: 2010 U.S. Census Bureau

Figure 9 – Location of Persons 18 Years of Age or Older



Source: 2010 U.S. Census Bureau

Figure 10 – Population Location, All Residents

Household Characteristics

Household Characteristics are summarized in **Table 30**. There are 3207 households in the Reservation area. Locations of households are shown graphically in **Figure 11**. Location of households with persons 65 and over is shown in **Figure 12**. Employment characteristics are shown in **Table 31**.

Table 30 – 2010 Census – Household Characteristics

Household Characteristics	
Total Population	8,764
Number of Households	3,207
Female Householder	1,388
Average Household Size	2.64
Owner-Occupied Units	2,230
Renter-Occupied Units	977
Median Household Income*	$28,544

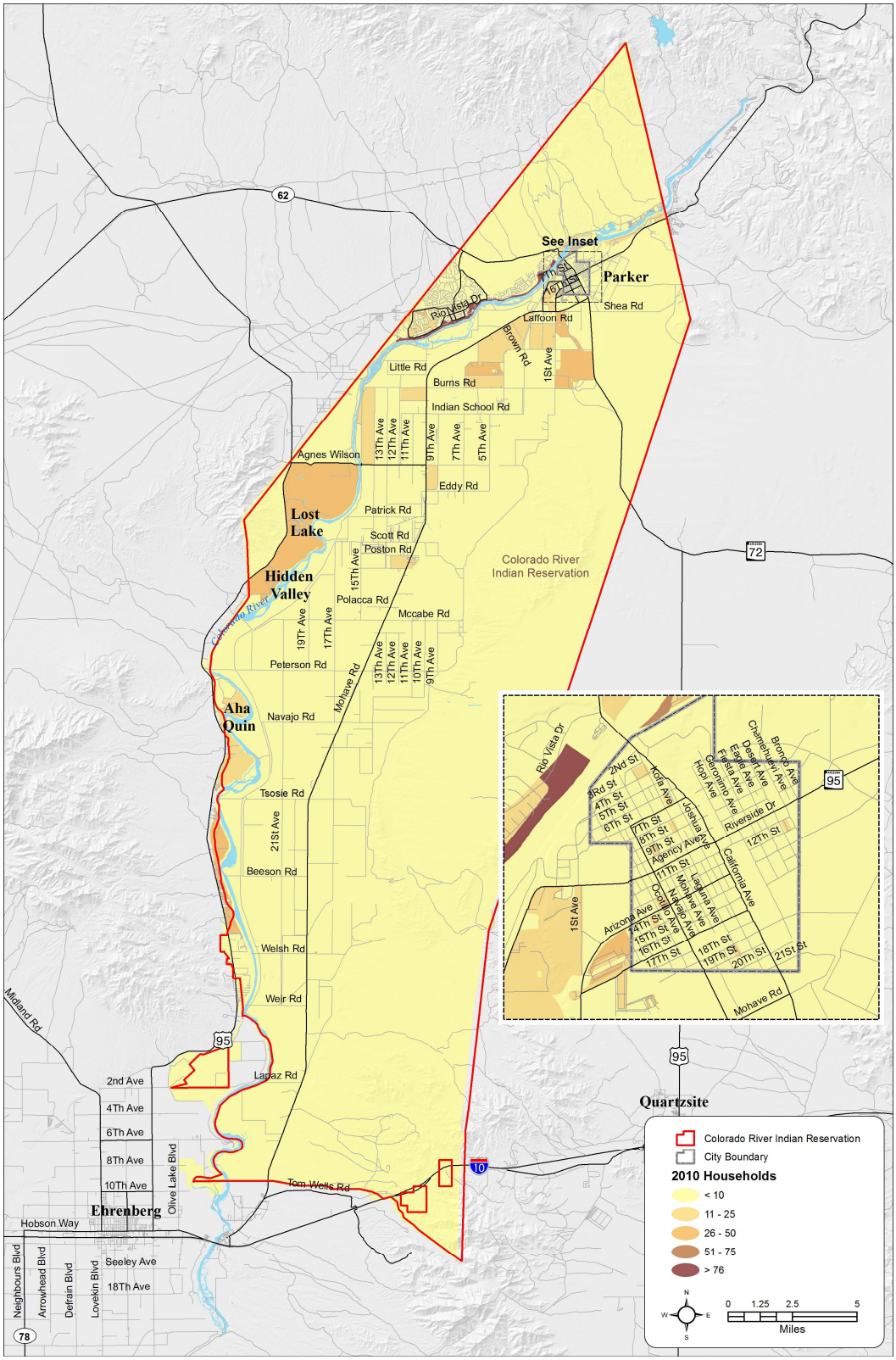
Source: 2010 Census Summary File 1, Household and Families Table (QT-P11); General Housing Characteristics (QT-H1); Colorado River Indian Reservation, AZ-CA

*Source: U.S. Census Bureau, 2006-2010 American Community Survey, Median Household Income in the Past 12 Months (in 2010 Inflation-Adjusted Dollars) (B19013)

Table 31 – Employment Characteristics

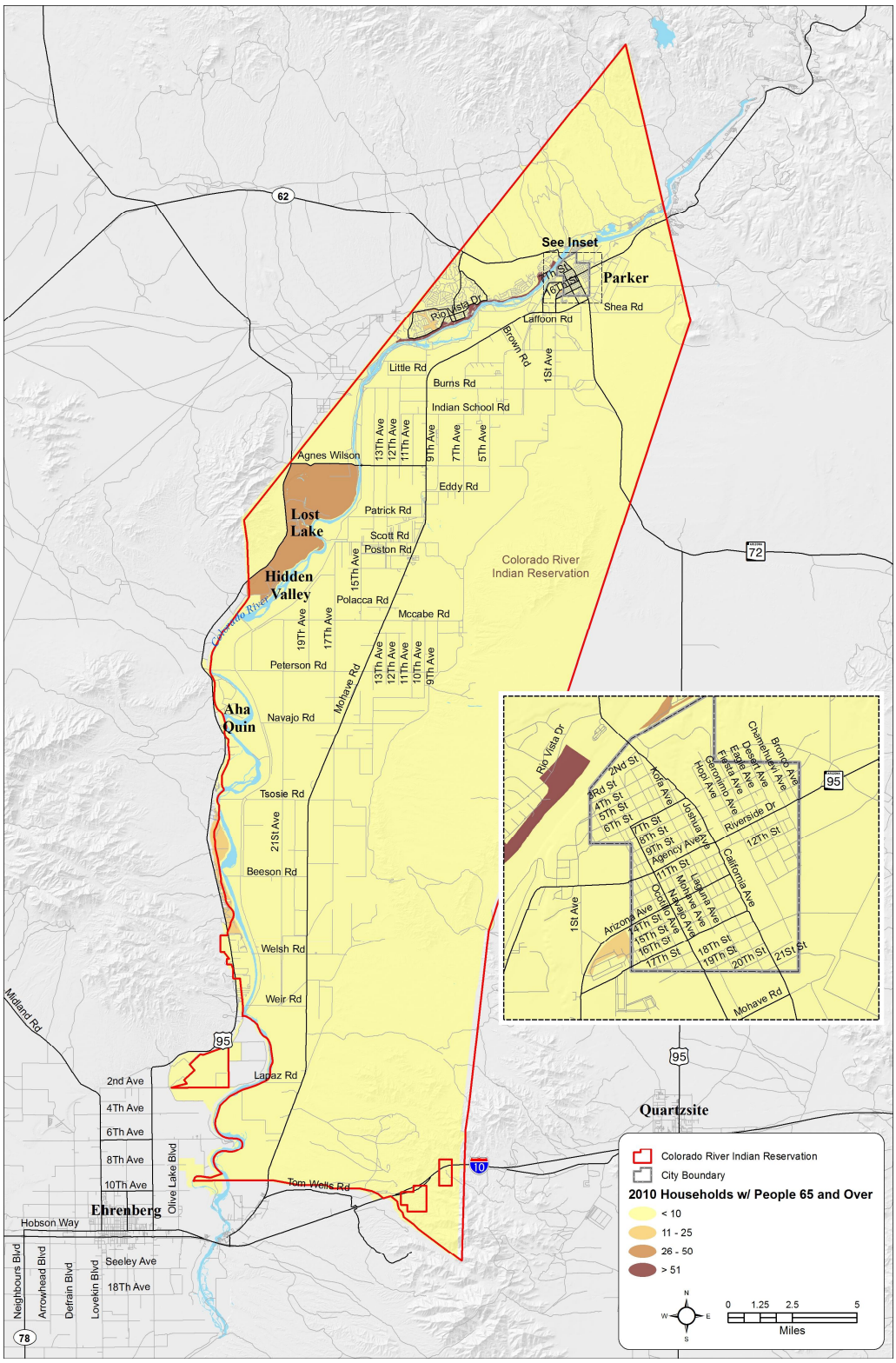
Employment Status	Population
Population 16 Years or Over	7,400
In Labor Force (Civilian)	4,085
Employed	3,875
Unemployed	210
Armed Forces	0
Not In Labor Force	3,315

Source: U.S. Census Bureau, 2006-2010 American Community Survey, Selected Economic Characteristics (DP03)



Source: 2010 U.S. Census Bureau

Figure 11 – Number of Households by Location



Source: 2010 U.S. Census

Figure 12 – Number of Households with Persons 65 and Over

Commuting to Work Characteristics

Table 32 and **Table 33** provide information on commuting characteristics that were obtained through the U.S. Census American Community Survey. Within the CRIT Reservation area, the majority of workers drove alone (76%). A significant number of persons carpooled (12%), and there were also a significant number of persons (6%) who walked to work. Travel time to work, shown in **Table 31** and graphically in **Figure 13**, show that most workers have a commute time of less than 20 minutes.

Table 32 – Commuting to Work

Means to Work	Population	Percent
Workers 16 Years or Over	3,784	100
Drove Alone	2,881	76%
Carpooled	457	12%
Used Public Transportation (excluding taxi)	9	0.2%
Walked	213	6%
Other Means	66	2%
Worked at Home	158	4%

Source: U.S. Census Bureau, 2006-2010 American Community Survey, Selected Economic Characteristics (DP03)

Table 33 – Travel Time to Work

Travel Time Category	Number
Less than 5 minutes	482
5 to 9 minutes	1,337
10 to 14 minutes	804
15 to 19 minutes	449
20 to 24 minutes	194
25 to 29 minutes	54
30 to 34 minutes	191
35 to 39 minutes	6
40 to 44 minutes	38
45 to 59 minutes	17
60 to 89 minutes	35
90 or more minutes	19
Mean Travel Time to Work	**11.5 Minutes**

Source: U.S. Census Bureau, 2006-2010 American Community Survey, Travel Time to Work (B08303)
Source: U.S. Census Bureau, 2006-2010 American Community Survey, Selected Economic Characteristics (DP03)

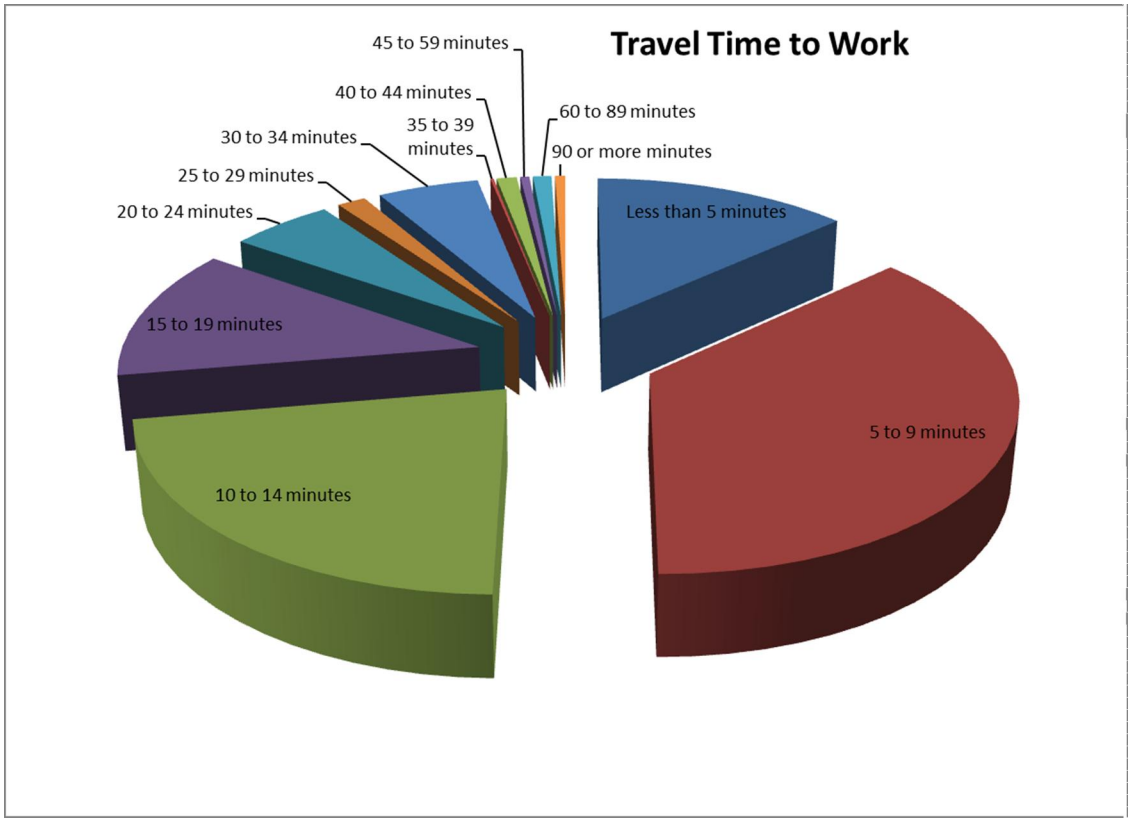


Figure 13 – Travel Time to Work

3.11.3 TRANSIT INPUT FROM SURVEYS

Data was available from two surveys. One survey was conducted during the course of this study and was distributed at a number of locations, including a Tribal Community Awareness Nights and at other locations. This survey included questions related to transit as well as other transportation needs. The complete survey responses are provided in **Appendix A**. The other survey was distributed prior to this study and was distributed at the La Paz County Fair. Responses were received from that survey. Data from these surveys is summarized as follows:

Survey Data from 2014 Strategic Long-Range Transportation Plan for the CRIT

A total of 48 respondents completed the 2014 Strategic LRTP survey. Of these respondents, 23 persons indicated that they were tribal members, nine respondents were non-tribal members and 16 persons did not respond to that question.

Lack of transportation and remoteness of homes in the Valley created a migration of families to town, where housing is limited. Also elders have difficulty obtaining transportation.

A total of 29 persons, or 60% of respondents commented that a lack of shuttle or transit service was a transportation need or issue. Examples of comments were:

- *I'm from Coeur d'Alene, Idaho. We have a free transit shuttle bus that takes us to and from the casino. Works amazingly. No problems.*
- *Need a bus going down into the valley and to Mo-Chem in the morning and in the late afternoon so those that need transport to work can get there consistently*
- *Shuttle service could be of use to tribal members without transportation*
- *Lack of transportation and remoteness of homes in the Valley created a migration of families to town, where housing is limited. Also, elders have difficulty obtaining transportation.*
- *Shuttles that run from Parker to Poston would be nice.*
- *Maybe work shuttle at designated pick up areas.*

Table 34 summarizes areas where survey respondents live.

Table 34 – Areas Where Survey Respondents Live

Location	Number of Survey Respondents
Parker	14
Parker Valley	9
100 Homes	4
Mo-Chem	3
Poston	4
Peterson Road	1
Lost Lake	1
Lakeside	1
Parker Strip	2
Up River California Side	1
Big River	3
LHC	2
Desert Sun	1
Up river at the Bill Willow	1

The survey was also aimed at finding out where people want to travel. Key locations that were mentioned by type of trip were:

Employment Locations

- CRIT Administration Complex
- CRIT Departments located on Agency Avenue
- Indian Health Service Hospital
- BlueWater Casino and Resort

Medical Locations

- Indian Health Service Hospital
- La Paz Regional Hospital
- Dialysis
- Other locations within the Town of Parker
- Locations out of town- Lake Havasu City and Phoenix

Shopping Locations

- Walmart
- Safeway
- Bashas
- Family Dollar

- Dollar General
- Woodys II
- Locations out of town- Lake Havasu City, Blythe

School locations

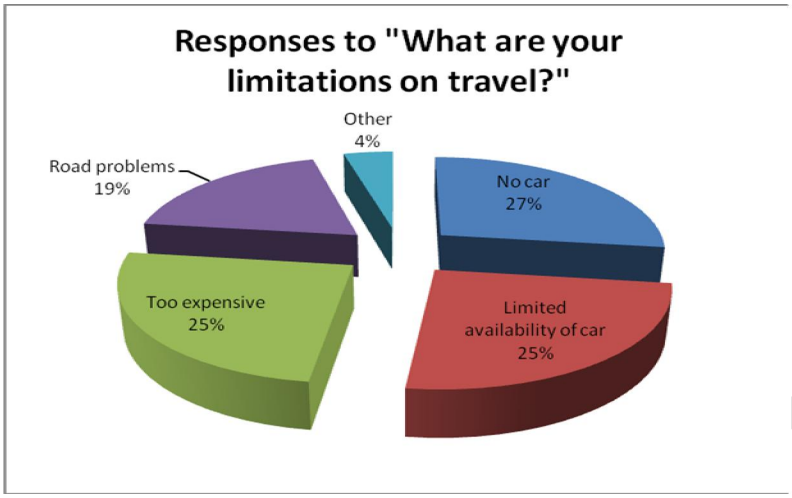
- Parker High School
- La Pera Elementary School
- Head Start
- Blake Primary School
- Wallace Elementary School

Other Locations

- Phoenix
- DES
- Church
- Banks
- St. Vincent De Paul

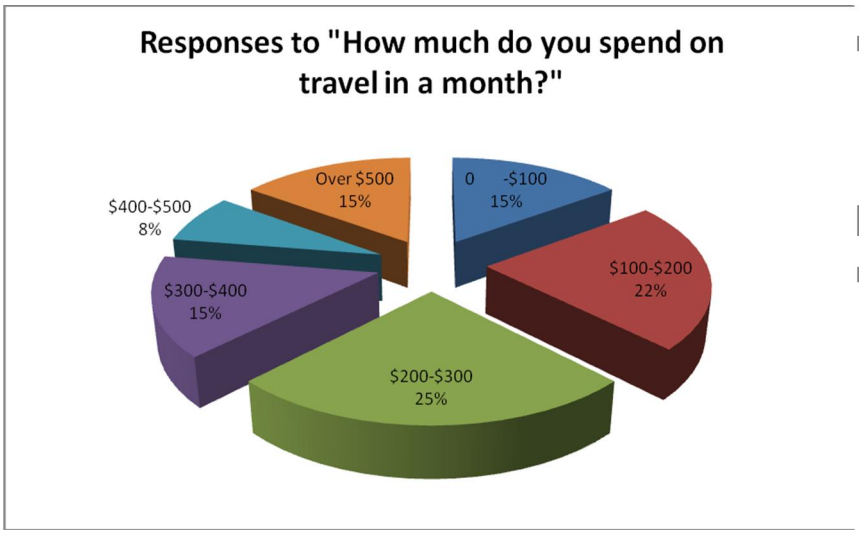
In response to the question "What are your limitations on travel?," the most common responses were:

- No car
- Limited availability of car
- Too expensive



Another question asked on the survey was "If you have limitations on travel, what are your top five locations that you need travel assistance with?" Responses were:

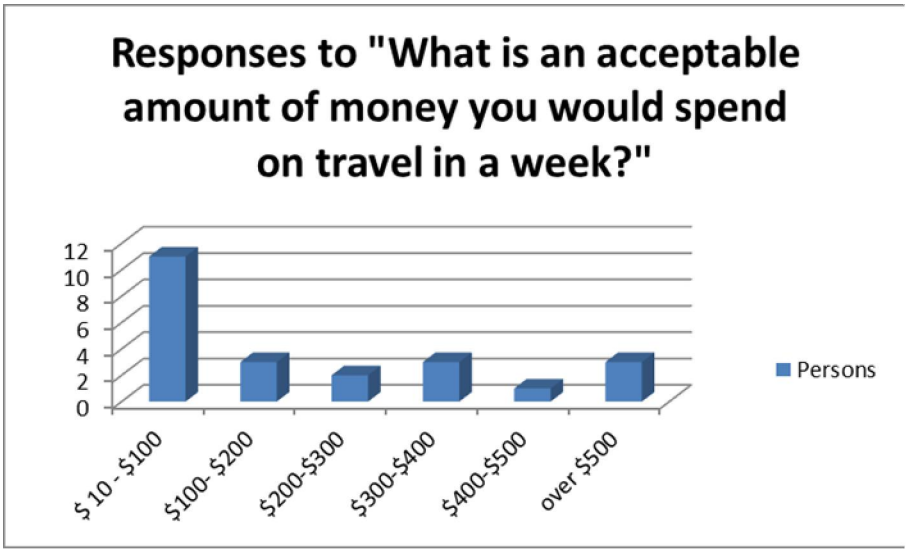
- Walmart
- Safeway
- Bashas grocery store
- Family Dollar
- Out of town locations – Phoenix, Lake Havasu City, Bullhead City, Blythe
- Tribal offices
- BlueWater Casino
- Indian Health Services Hospital
- Doctor appointments
- DES, ACCHSS
- Big River



Responses to the question "How much do you spend on travel in a month?" indicated that the largest proportion of survey respondents spent between $200 and $300 per month, followed by 22 percent of respondents who spent between $100 and $200 per month. Example travel costs

include cost of car, insurance, fuel, and maintenance.
In response to the question "Would you use the internet, telephone, or your cell phone to schedule a trip?" approximately 60 percent indicated that they would use one of those methods. Persons that responded yes to this question typically used a cell phone or internet.

Another question asked "Do you like to travel in groups, especially if it will cut costs?" Sixty-three percent of respondents said yes. Comments were that it depends on how far the travel is and whether it would be in small groups.



Responses to the question "What is an acceptable amount of money you would spend on travel for a week?" indicated that the majority of persons would consider an amount of less than $100 per week acceptable.

Other comments were that

- *Right now our bus area isn't marked for slow crossing or watch for kids or lights in the winter. Kids go to the bus at 6:45 am when it's still dark. Our kids are in danger when they walk to the bus area.*
- *Try using a free bus system.*
- *More senior transportation and a transit system for lower Valley (Mo-Chem – 50 homes).*

Survey Data from Transit Survey Conducted by CRIT

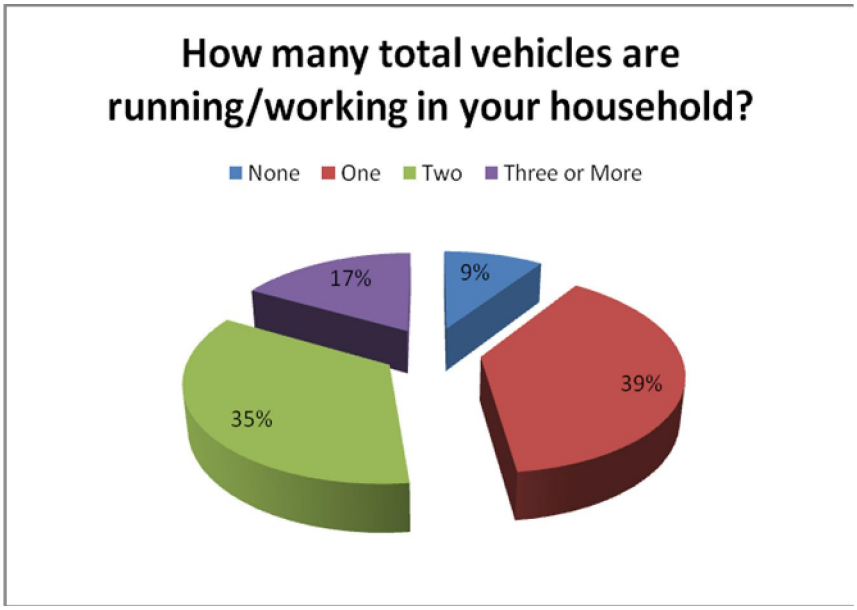
A transit survey was conducted by CRIT and was distributed widely at the La Paz County Fair. A large number of responses were received from both tribal members and non-tribal members, 315 responses in total. The survey was comprised of 10 questions, which included:

1. If public transportation were available, would you use it?
2. Do you think that there is a need for public transportation on the reservation?
3. Do you currently have a reliable source of transportation (car, truck, etc.)?
4. How many vehicles (running/working) are in your household?
5. What would you most likely use public transportation for (check all that apply)?
6. Would you be willing to pay a small fee for public transportation?
7. What is your age?
8. What is your occupation?
9. Where do you live?
10. Are you Physically Challenged?

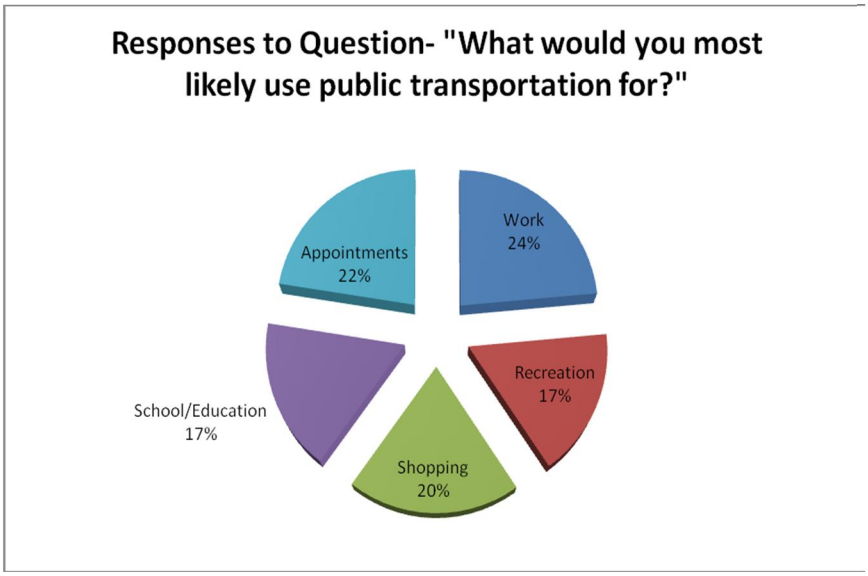
An overwhelming majority of respondents (90%) thought there was a need for public transportation, and 88% of survey respondents said they would use it if it was available.

Ninety percent of respondents thought that were was a need for public transportation.

A number of questions on the surveys were focused on getting information about transit dependent persons. For example, in response to the question "*Do you currently have a reliable source of transportation (car, truck, etc.)?*" 77% of respondents indicated they currently had a reliable means of transportation. Another question asked *"How many vehicles (running/working) are in your household? "* Approximately 91% of respondents indicated they had one or more vehicles in working condition, as shown in the pie chart below. Another survey question asked *"Are you physically challenged?"* Nineteen percent of the respondents said "Yes."

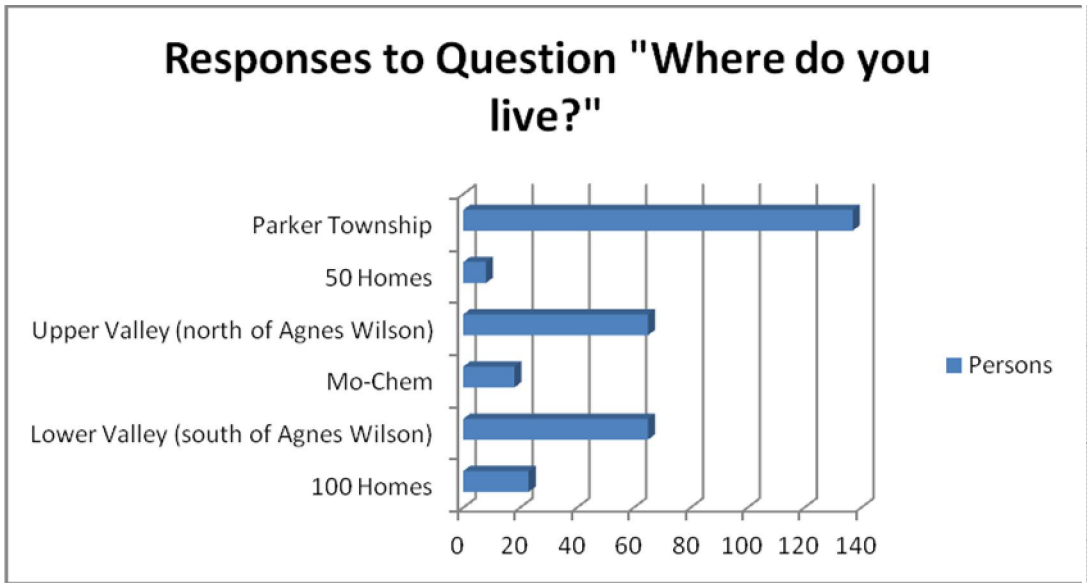


When asked, *"What would you most likely use public transportation for?"* responses (which could include one or more choices) tended to be relatively equally distributed between work, school, shopping, recreation, and appointments, as shown in the chart.

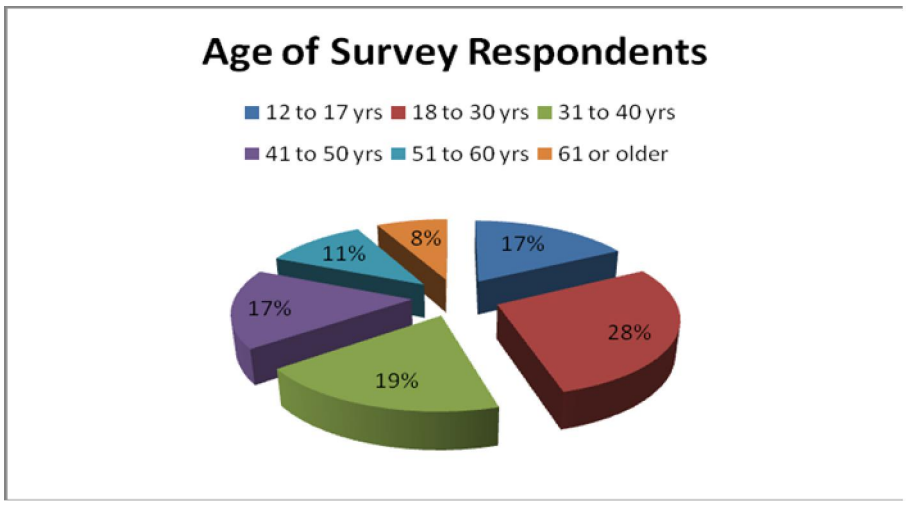


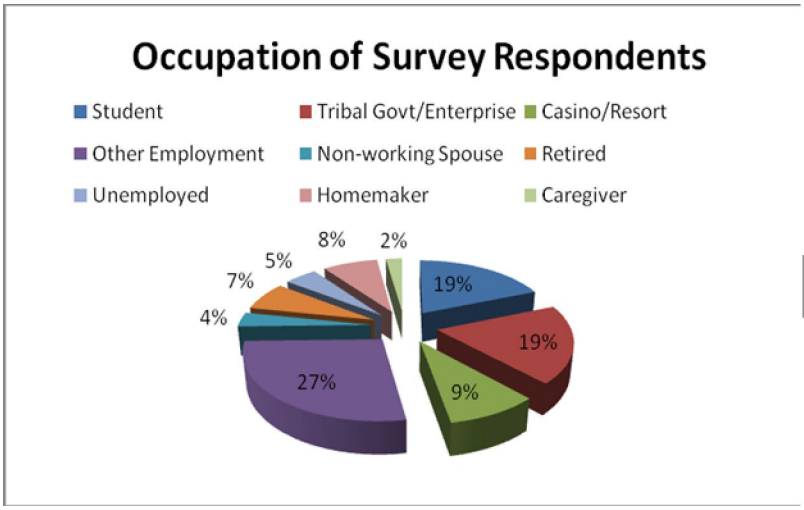
Most of the survey respondents were willing to pay a small fee for transit service (85% of respondents said yes).

Persons responding to the survey tended to live primarily in Parker Township, followed almost equally by the Upper Valley (area north of Agnes Wilson Road) and the Lower Valley (area south of Agnes Wilson Road) and in the neighborhoods of 100 Homes, 50 Homes, Mo-Chem, and 50 Homes.



The age distribution of survey respondents was fairly well distributed, with the highest proportion of respondents in the 18-30 years old age bracket.





The survey asked "What is you occupation" and gave nine choices. The most frequent choices were "Other employment," followed by tribal government/enterprise employee and student.

3.11.4 TRANSIT NEEDS AND DEMANDS

Transit needs and demands were estimated using procedures described in *Transit Cooperative Research (TCR) Program Report 161 – Method for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook*.

Transit need is estimated according to (1) the number of people likely to need passenger transportation and (2) the need for trips based on the mobility gap. The mobility gap is the total number of trips not taken because members of zero vehicle households do not have the ease of mobility available to members of households with ready access to a car. These estimates were computed as described in the following sections. It should be noted that these data are based on information from the 2008-2012 American Community Survey. The population and number of households from this Survey do not match the 2010 Census data.

Number of People Likely to Need Passenger Transportation

The total number of people estimated to need transportation service is the sum of persons living in households with income below the poverty level and persons living in households without an automobile. For the Colorado River Indian Tribes Reservation area this estimate is approximately 3,100 persons who are in need of passenger transportation services, as shown in **Table 35**.

Table 35 - Estimate of Persons with Transportation Needs

	Number of Persons
Number of Households without access to a vehicle	349
Persons residing in households with income below the poverty level	2238
Persons residing in households owning no automobile	880
Persons in Need of Passenger Transportation Services	3,118 (rounded to 3,100 persons)

Sources: American Community Survey Tables B17001 and B08201, 2008 - 2012 5-Year Estimates

Need for Trips Based on Mobility Gap

The need for trips is estimated using a factor called the mobility gap. The mobility gap was estimated by the TCR Report 161 to be 0.8 for Arizona. The need for trips is estimated using the formula:

Need (one–way trips per day) =Number of households having no car x mobility gap

Using this formula, the need in trips is estimated to be approximately 280 one-way passenger trips per day. On an annual basis, this is approximately 83,800 one-way passenger trips per year. TCR Report 161 noted that this estimate is typically high, because the need for trips can sometimes be met by friends or relatives. In the testing of these methodologies with a number of rural transit agencies, it was found that at best, only about 20 % of the mobility gap trip-based need was met. This would indicate a need closer to 16,760 one-way trips annually if the 20 % figure is assumed.

Transit Demand

Demand for non-programmed general public transportation services was estimated based on a formula in TCR Report 161:

Demand (trips per year) = (2.2 x population age 60 +) + (5.21 x mobility limited population age 18-64) + (1.52 x residents of household having no car)

For the Colorado River Indian Tribes, the data on disability is not available from the U.S. Census. Using available data, the demand for trips is shown in **Table 36**, and is estimated to be 6,567 or approximately 6,600 annual one way passenger trips.

Table 36 - Transit Demand

Criteria	Number of Persons	Factor	Trips Per Year
Age 60+	2377	2.2	5,229
Mobility Limited	Data not available	5.21	----
Residents of households with no car	880	1.52	1338
Estimated demand			6,567 (25 passengers per weekday)

3.11.5 FINDINGS OF NEED

In recent years the Colorado River Indian Tribes community has communicated via surveys and public input their desire and need for transit services in the community. This clearly demonstrated demand for transit on the Colorado River Indian Tribes Reservation area warrants a preliminary or pilot transit service in the community. The analysis conducted using the analysis procedures of *Transit Cooperative Research (TCR) Program Report 161 – Method for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook* also indicated a need for transit services. Stakeholder interviews with local transportation providers also reiterated need for additional transit services.

Based on the information in the section above, and comments from Tribal Planners, a need has been defined for the following:

1. A phased implementation of a fixed route system.
    a. Focused on the Tribal community near the Parker area.
    b. Point to point fixed route to outlying concentrations of tribal activity.
2. Phased implementation of demand-responsive service for rural communities.
    a. Prioritization by tribal leaders of rural focus areas.
    b. Reservation-wide services.

3.12 BICYCLE FACILITIES

Bicycle and pedestrian facilities are an important part of the multimodal transportation network in that they provide various options for travel (which is especially critical for travelers who cannot drive). Currently, there are very few bicycle facilities within the reservation area.

Elements that make up bicycle networks can include designated bike routes, striped bike lanes, paved shoulders along roadways, wide curb lanes, multi-use paths, and sidewalks.

Per the AASHTO Guide for the Development of Bicycle Facilities (2012), paved shoulders provide adequate bicycle facilities on rural highways (speed limits 45 to 55 mph) that connect town centers and other major attractors. Shoulder width should be a minimum of four feet on uncurbed sections with no vertical obstructions immediately adjacent to the roadway. Shoulder width of five feet is recommended from the face of guardrail, curb, or other roadside barrier to provide additional operating width. Additional shoulder width is desirable on roadways with higher vehicle speeds, or if use by heavy vehicles, recreational vehicles, or buses is considerable. In constrained locations, where pavement width is limited, a paved shoulder may be considered on uphill sections.

A review of the Tribal Transportation Inventory indicates that only a few state routes have shoulder of five feet or more:

- California SR 62 – From Vidal Junction east 8.4 miles, the shoulder width is 5 feet.
- State Route 95 – Eight feet through the Town of Parker (southern town limits to Riverside Drive/SR 95 North, shoulder width varies elsewhere).

Road segments that have a shoulder width of four feet include:

- Mohave Road – Milepost 0-8. Further north, Mohave Road generally has a shoulder width of three feet.
- Patrick Road, between 14th Avenue and Mohave Road – Patrick Road serves primarily agricultural areas, however.
- SR 95 – Shoulder width of four feet between the East Reservation Boundary and the southern Town of Parker limits.

Comments from the survey that was distributed as part of this study indicated the following needs with respect to bicycles:

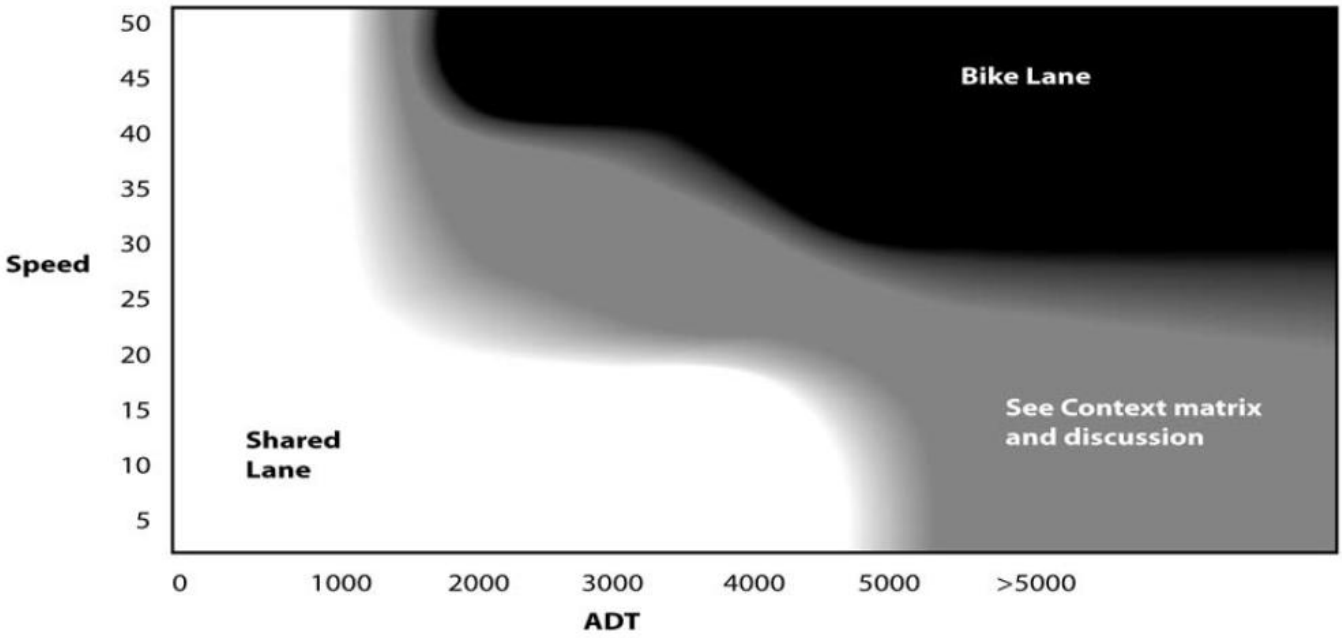
- Bike paths or trails, possibly with a map and tour information.
- Safer bicycle access to the BlueWater Casino and Resort and to shopping centers.
- Provide bicycle lanes on main road like California Avenue and also at Riverside.
- Provide wider shoulders and marked bike lanes.
- Hold a bike safety program with free helmet and pads, and mandatory training for kids and parents before you get it free.
- There are more sidewalks to ride on, with being able to ride from street to street with curbing.

Suggestions for specific locations included:

- Mohave Road south to Poston Road
- Desert area near Mo-Chem neighborhood.
- Bicycle path from Parker to Indian Health Center

The Oregon Department of Transportation publishes a matrix (**Figure 14**) to help determine what types of roadways should include bicycle lanes or striped paved shoulders. The matrix shows that roadways with less than 1,000 vehicles per day typically do not require bicycle lanes/striped paved shoulder. The matrix also shows that roads with traffic volumes that exceed 5,000 vehicles generally should be considered for bicycle lanes/striped paved shoulders.

Although no tribal roads currently meet those criteria, in the future BlueWater Drive and 2nd Avenue are anticipated to grow to that level of traffic. These roads also reflected some comments on bike paths that were mentioned in the surveys, particularly with respect to providing bike lanes or paths from the casino to shopping and neighborhood areas.



Source: Oregon Department of Transportation

Figure 14 – Bike Lane Decision Matrix

3.13 SIDEWALKS, CROSSINGS, AND PATHS

Providing sidewalk connections to activity centers was an important need.

Sidewalks and paths are limited on the Colorado River Indian Tribes Reservation. An overriding need expressed was the need for linkages between residential areas and activity centers such as the Tribal Headquarters, health care facilities and schools, and other activity centers. Providing sidewalks to link to the sidewalk system within the Town of Parker was expressed as another important need.

Input on needs for sidewalks, paths, and pedestrian crossing were obtained from the following sources:

- Stakeholder Interviews and input from the Tribal Planner
- Finding from the RSA that related to pedestrian facilities
- Input from the surveys that were distributed at Community Awareness Night and through the Tribal Administration offices, and other locations within the community.

Needs that were identified through this input are shown graphically in **Figure 15** and are summarized in the following sections.

3.13.1 PEDESTRIAN NEEDS IDENTIFIED IN RSA

The RSA recommended that sidewalks be considered at the following locations:

- Construct sidewalks/trails and install lighting along 1st Avenue from Mohave Road to Hospital, along Mohave Road from 1st to 2nd Avenues, and from the Mochen housing near Booth Road and 4th Avenue to the tribal offices on 2nd Avenue.
- Coordinate with BIA Irrigation Branch to provide walking and biking facilities along the canals.

3.13.2 PEDESTRIAN NEEDS IDENTIFIED FROM SURVEYS AND STAKEHOLDER INPUT

"Need safe paths and trails on well-traveled rural roads" – quote from CRIT 2014 Strategic Long Range Transportation Plan survey

Input from the survey conducted as part of this study indicated that sidewalks and paths were a desired improvement, and there is also a need to repaint existing crosswalks. Comments on sidewalks, paths, and other pedestrian–related needs from the survey, stakeholder comments and input from the Tribal Planner were:

- More sidewalks and paths in general, especially in subdivisions, on well-travelled rural roads.
- Provide better markings and re-paint crosswalks.
- Specific locations that were mentioned are:
    - 4th Street/Little Rd (Mo-Chem subdivision)
    - SR 95 between Blue Water Resort and Casino and the intersection with Wal-Mart at Airport Drive.
    - 16th street from 1st Avenue to the town boundary.
    - First Avenue to the Parker town boundary.
    - First Avenue in Parker.

  - Second Avenue from Mohave Road to the Indian Health Center or the town of Parker
  - Mohave Road from 1st Avenue to La Paz Regional Hospital and to new roundabout at Mohave Road/SR 95.
  - Navajo Street from the Parker town boundary to Mohave Road

- Sidewalks to the Indian Health Center – Agency Road area to Ocotillo Drive.
- Trails along the Colorado River.

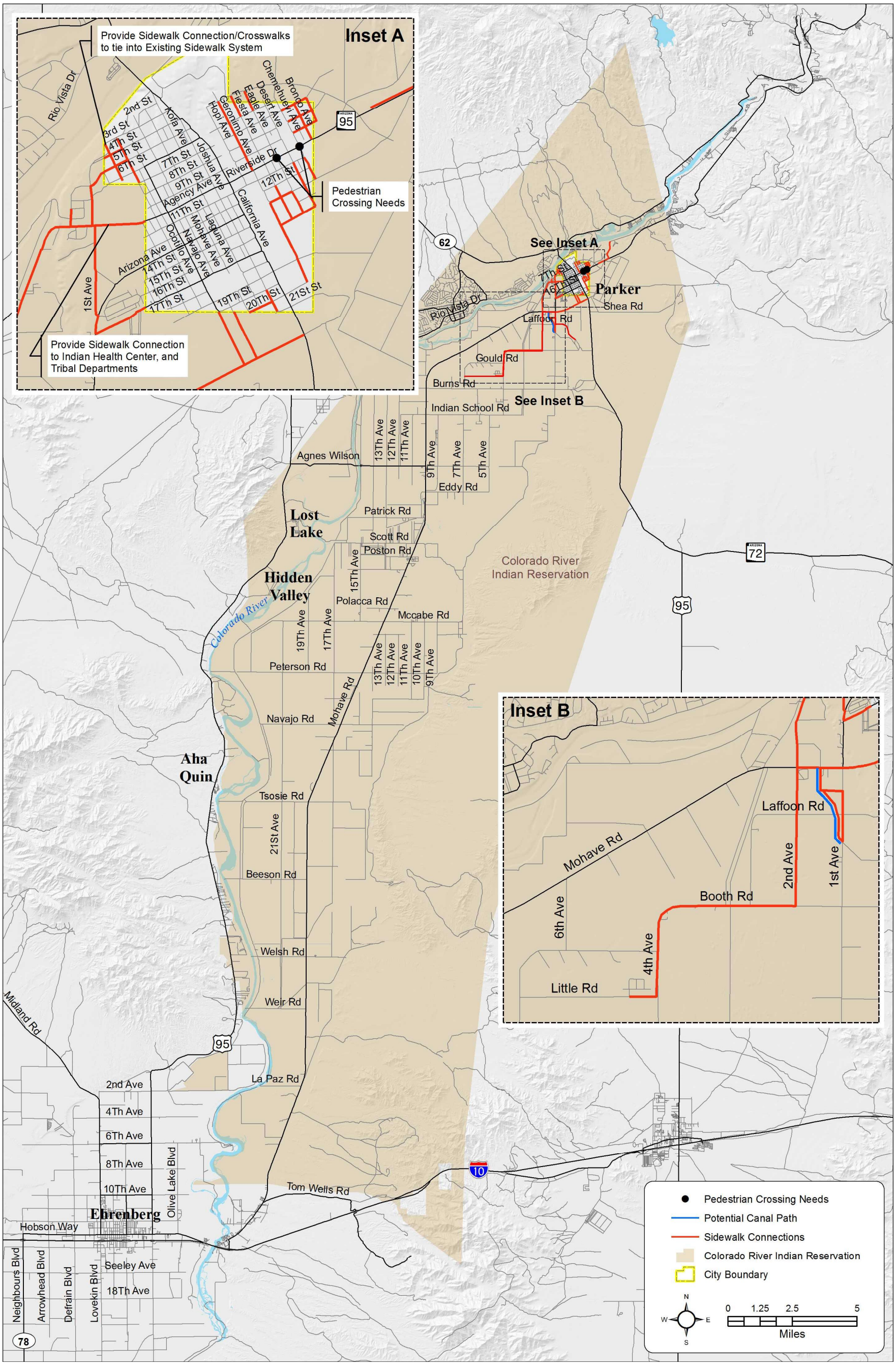


Figure 15 – Pedestrian Improvement Needs

3.13.3 PEDESTRIAN CONNECTIONS TO EXISTING SIDEWALKS

Working with the Tribal Planner, the project team identified locations to improve connectivity to existing sidewalks. For example, an extension of the sidewalk east to BlueWater Drive would connect the BlueWater Casino and Resort area to the downtown area of Parker. A further sidewalk connection would be north on BlueWater Drive to its termination at the Colorado River.

Photo showing where sidewalks end on SR 95, east of Airport Road

Stakeholders identified the need to provide sidewalks in the residential areas north and south of Parker that would connect to the existing Town of Parker sidewalk system.

A focus is to improve pedestrian connections to existing sidewalks.

Needs includes sidewalk connections on segments of Geronimo Avenue, Fiesta Avenue, Eagle Avenue Bronco Avenue, 4th, 5th, 6th, 7th, 8th, and 9th Streets, Palo Verde Avenue, Quartz Avenue, Joshua Avenue, and Agency Avenue.

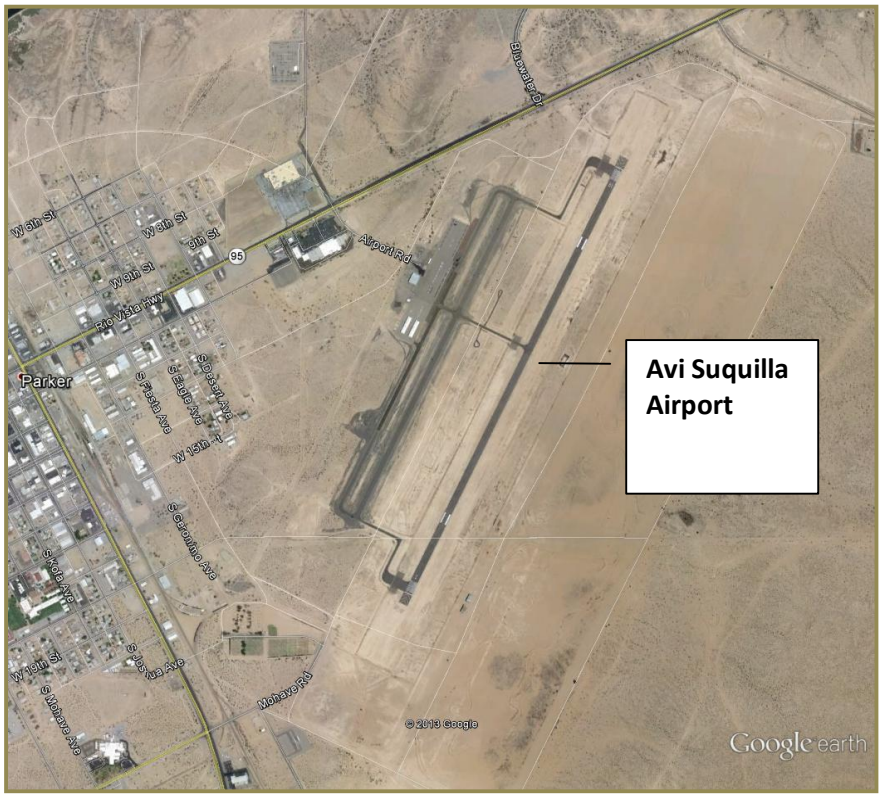
3.13.4 SAFER PEDESTRIAN CROSSINGS

Comments from the Tribal Planner and others indicated that there is a need to provide more pedestrians crossing opportunities across SR 95 between Airport Drive and California Avenue. Locations suggested were at Chemehuevi Avenue and Eagle Avenue.

A finding of the RSA conducted in early 2013 was that pedestrian crossing warning signs are needed on Mohave Road at the approach to Poston Road. In addition, new pavement markings are needed as well as sidewalks and curb and gutter along the intersection legs. Upgraded street lighting was also recommended, which can help improve pedestrian safety.

3.14 AIRPORTS

Avi Suquilla Airport is a public use airport located approximately one mile east of downtown Parker, Arizona. It is owned and operated by CRIT. The Avi Suquilla Airport is an enterprise department of the tribal government.



Airside facilities consist of runways, taxiways, and apron areas along with associated markings, lighting systems, and instrumentation. The existing runway configuration consists of one active runway, Runway 1-19. It is 6,250 feet long and 100 feet wide. There are also two taxiways aligned with Runway 1-19 and several connecting taxiways.

Landside facilities include the GA terminal building/pilots' lounge, automobile parking, and vehicle access as well as general aviation (GA), airport support, and non-aviation related commercial and industrial tenants. Access to the terminal is provided from Airport Road, approximately one-quarter mile long, connects Riverside Drive with the GA terminal parking lot. The Draft Airport Master Plan Update states that the Airport Road is in poor condition. Signage to the airport from Riverside Drive is limited to a single 24 x 24 way finding sign. A small visitors parking area is located north of the GA terminal. Spaces are unmarked; however it is estimated that there are spaces for approximately 15 vehicles. At the present time, rainfall run off from a portion of the apron and public parking lot floods the terminal and main hangar buildings.

Entrance to the Avi Suquilla Airport- note pavement improvement needs in foreground

The airport also has two lots which it leases for vehicle storage—one is an unfenced, covered parking lot for short-term vehicle storage and an unpaved, fenced parking lot for long-term vehicle storage. It is estimated that the long-term lot has spaces for 60 to 70 vehicles and the short-term lot has spaces for eight vehicles.[16] There are currently three hangar buildings on the airport, including two units which each contain 10 units and one large hangar known as the CRIT hangar that currently stores four aircraft.

CRIT Air, owned by CRIT, is the Airport's sole fixed base operator. CRIT Air offers fueling, hangar storage, and tie downs storage, and has personnel available daily. Limited maintenance services are available through a part-time on-call contractor.

There are two above ground tanks—one 12,000-gallon jet fuel tank and one 12,000-gallon avgas tank. The Airport does not have the ability to provide fueling for larger capacity jet aircraft.

Airport activity, according to the Draft Master Plan Update, is heavily oriented towards weekend travel, starting as early as Thursday and extending to Monday. During the week, much of the activity is due to Medi-vac flights and corporate flights. Total based aircraft at the airport is 35 aircraft in 2012, according to airport records reported in the Draft Airport Master Plan Update.

3.14.1 DRAFT AIRPORT MASTER PLAN UPDATE RECOMMENDATIONS

A draft Airport Master Plan Update was submitted in June 2013, and is in the process of being finalized and accepted by Tribal Council.

Key recommendations from the draft Airport Master Plan Update are summarized in **Table 37**. Projects related to the road system serving the airport include:

- Construct an all-weather perimeter road around the Airport.
- Provide signage upgrades and improve aircraft storage area.

[16] Morrison, Marierle, Avi Suquilla Airport, Master Plan Update, June 2013, page I-21,

Table 37 – Draft Avi Suquilla Airport Capital Improvement Plan

Time Frame	Project Description	Estimated Total Cost ($)
Short Term	Airfield Pavement Preservation	800,000
	Runway 1-19 Easterly Erosion Control	562,000
	Drainage Improvements/Fire Water Line	2,150,000
	Construct parallel Taxiway C	2,100,000
	Runway 1-19 Westerly Erosion Control	562,000
	Eastern Apron Expansion – Phase 1	2,471,000
	Signage Upgrades and Develop Aircraft Storage Area	54,000
	Runway 1-19, Taxiway A and Taxiway B Crack seal	411,000
	GA Apron Pavement Preservation	518,000
	Construct Perimeter Road	1,725,000
Intermediate Term	Eastern Apron Expansion – Phase 2	1,364,000
	Runway 1-19 Overlay	1,764,000
	Transient Apron Overlay	520,000
	Northern Apron Expansion- Phase 1	1,821,000
	Taxiway C Crack Seal	49,000
	Taxiways A and B Overlay	1,676,000
	Northern Apron Expansion- Phase 2	900,000
	Terminal, ARFF Building, Hangar and Parking Lot Construction	3,290,000
	Crack Seal – Runway 1-19, Taxiways A and B, Apron and Perimeter Road	377,000
	Seal Coat-Taxiway C and North Apron Expansion	224,000
Long Term	Southern Apron Expansion- Phase 1	1,500,000
	Southern Apron Expansion- Phase 2	1,714,000
	Seal Coat - Runway 1-19, Taxiways A and B, Apron and Perimeter Road	1,351,000
	Crack Seal- Taxiway C and North Apron Expansion	56,000
	Acquire Land for Southern Runway Extension	875,000
	Runway 1-19 Southern Extension	1,734,000
	Crack Seal- Runway 1-19, Taxiways A and B, Apron and Perimeter Road	377,000
	Seal Coat - Taxiway C and North Apron Expansion	224,000
	Acquire Land for Northern Runway Extension	625,000
	Runway 1-19 Northern Extension	1,848,000
	Seal Coat - Runway 1-19, Taxiways A and B, Apron and Perimeter Road	1,351,000
	Crack Seal- Taxiway C and North Apron Expansion	56,000
	Acquire land east of existing property line for future development	2,200,000

Source: Draft Avi Suquilla Airport Master Plan Update, June 2013

3.14.2 AIRPORT FUNDING

Airport improvements can funded through federal monies distributed through the Federal Aviation Administration, local funds, and recently through the State's Transportation Aviation Fund Program.

Senate Bill 1317, which allows tribally-owned airports to participate in the state's Department of Transportation's Aviation Fund program, was signed into law by Governor Jan Brewer on June 20, 2013. The purpose of the fund is to allow competitive grants for infrastructure and improvements to public airports in Arizona. The fund is financed by aviation fuel and aircraft registration fees imposed upon pilots in Arizona. The bill amended the Arizona Revised Statutes 28-8202, to include tribal governments to participate in the program.

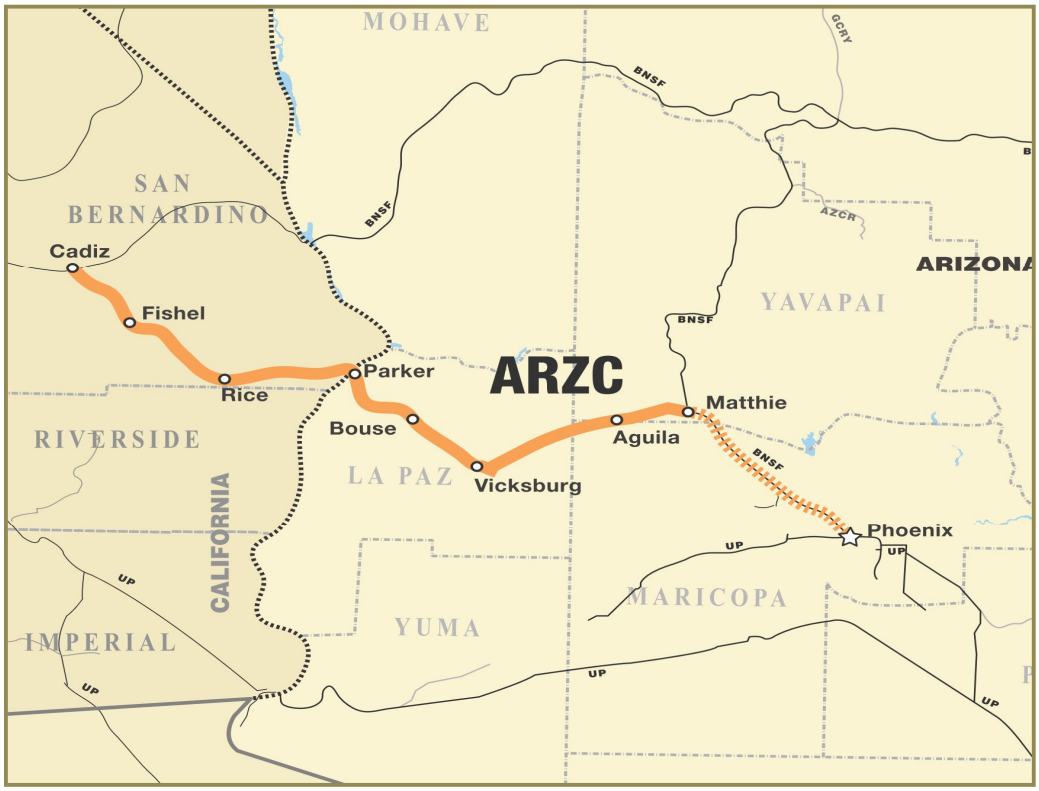
Annually, the Arizona Aviation Fund allows airports to compete for 10% of the fund which hovered around $20 million, which means each individual airport could compete for up to $2 million, according to Corinne Nystrom, president of the Arizona Aviation Association. Aviation fuel and aircraft registration fees imposed upon pilots who register their aircraft in Arizona are the sources of funding.[17]

Pilots on the reservation have been contributing to the fund every year, but the original legislation did not include American Indian-owned airports in the language.

[17] "Proposed State Legislation would Allow Arizona Tribes to Compete for Airport Funding", Native News Network, April 4, 2013, accessed 6/12/2013.

3.15 RAIL TRANSPORTATION

The Arizona & California Railroad is a short line railroad which runs a 190-mile route between Mathie, Arizona (five miles northwest of Wickenburg on the Burlington Northern Santa Fe (BNSF) Phoenix Subdivision) and Cadiz, California. This route is shown in **Figure 16**. Operating up to five trains per day, this railroad is primarily a carrier of BNSF bridge traffic between Mathie and Cadiz, according to the *Arizona State Rail Plan* (2011). This line is now part of Rail America.



Source: Genesee and Wyoming,Inc. http://www.gwrr.com/operations/railroads/north_america/arizona_california_railroad.be, accessed 7/8/13

Figure 16 – Map of Arizona & California Railroad Line

Public railroad crossings, type of traffic control at each crossing, and daily number of trains are summarized in **Table 38**. A review of rail safety statistics from the Federal Railroad Administration[18] indicated that between Fiscal Year 2004 and 2013, there were three total accidents/incidents involving rail in La Paz County, involving one fatality and two non-fatal injuries.

Table 38 – Railroad Crossings

Crossing#	Railroad	Type of Crossing	Street	Traffic Control Devices at the Crossing	Advance Warning Signs?	Pavement Markings?	Number of Daily Trains
025928D	ARZC	At Grade	Mohave Road	2 cross bucks	Yes	No	2
025929K	ARZC	At Grade	SR 95	2 cross bucks	No	No	2
025931L	ARZC	At Grade	18th St.	2 cross bucks	Yes	No	2
025933A	ARZC	At Grade	11th St.	2 cross bucks	Yes	No	2
025934G	ARZC	At Grade	SR 95/Riverside Drive	2 cross bucks	Yes	Yes- stop lines and RR x-ing symbols	4
914399C	ARZC	At Grade	Central Avenue	2 cross bucks	Yes	Yes- stop lines and RR x-ing symbols	5

Source: Federal Railroad Administration, Office of Safety Analysis, http://safetydata.fra.dot.gov/OfficeofSafety/PublicSite/Crossing/XingLocResults.aspx?state=04&countycity=012&railroad=&reportinglevel=ALL&radionm=County&street=&xingtype=3&xingstatus=1&xingpos=1, accessed 8/1/13

3.16 TRUCKED FREIGHT

The Colorado River Indian Reservation is a located in the midst of trucking network comprising SR 62 and 95 in California, and US 95, SR 72, and I-10 and in Arizona. Information from the Tribal Planner indicated that CRIT is going to begin Commercial Enforcement Program that is going to target trucking traffic and begin enforcing restrictions on overweight and illegal trucking through the reservation.

[18] Federal Railroad Administration, Office of Safety Analysis, http://safetydata.fra.dot.gov/officeofsafety/publicsite/Query/tenyrFiscal2a.aspx, accessed 7/31/13

4. Transportation Needs

This chapter provides an overview of needs for each of the modes of transportation, including roadway needs and alternate mode transportation needs, which include pedestrian needs, bicycle needs, and transit needs. The needs analysis was developed through a process which considered:

- Stakeholder/TAC member/public input
- Traffic analysis
- Crash data assessment
- Field review of road conditions and pavement conditions
- RSA findings

4.1 ROADWAY NEEDS

Key roadway related needs include:

1. Paving needs for existing paved roads
2. Paving needs for gravel/unpaved roads
3. Striping and pavement marking needs
4. Signing needs
5. Traffic control needs
6. Street lighting needs
7. Culvert/canal crossings and bridge improvement needs
8. Intersection improvement needs
9. Shoulder/bicycle lane needs

These needs are summarized in **Figure 17** and are described in more detail below.

4.1.1 PAVING NEEDS FOR EXISTING PAVED ROADS

Paving needs are those roads that were assessed as “poor or failed” during the pavement evaluation. During the next phase of the project, prioritized projects to address paving needs will be developed in coordination with CRIT and the BIA.

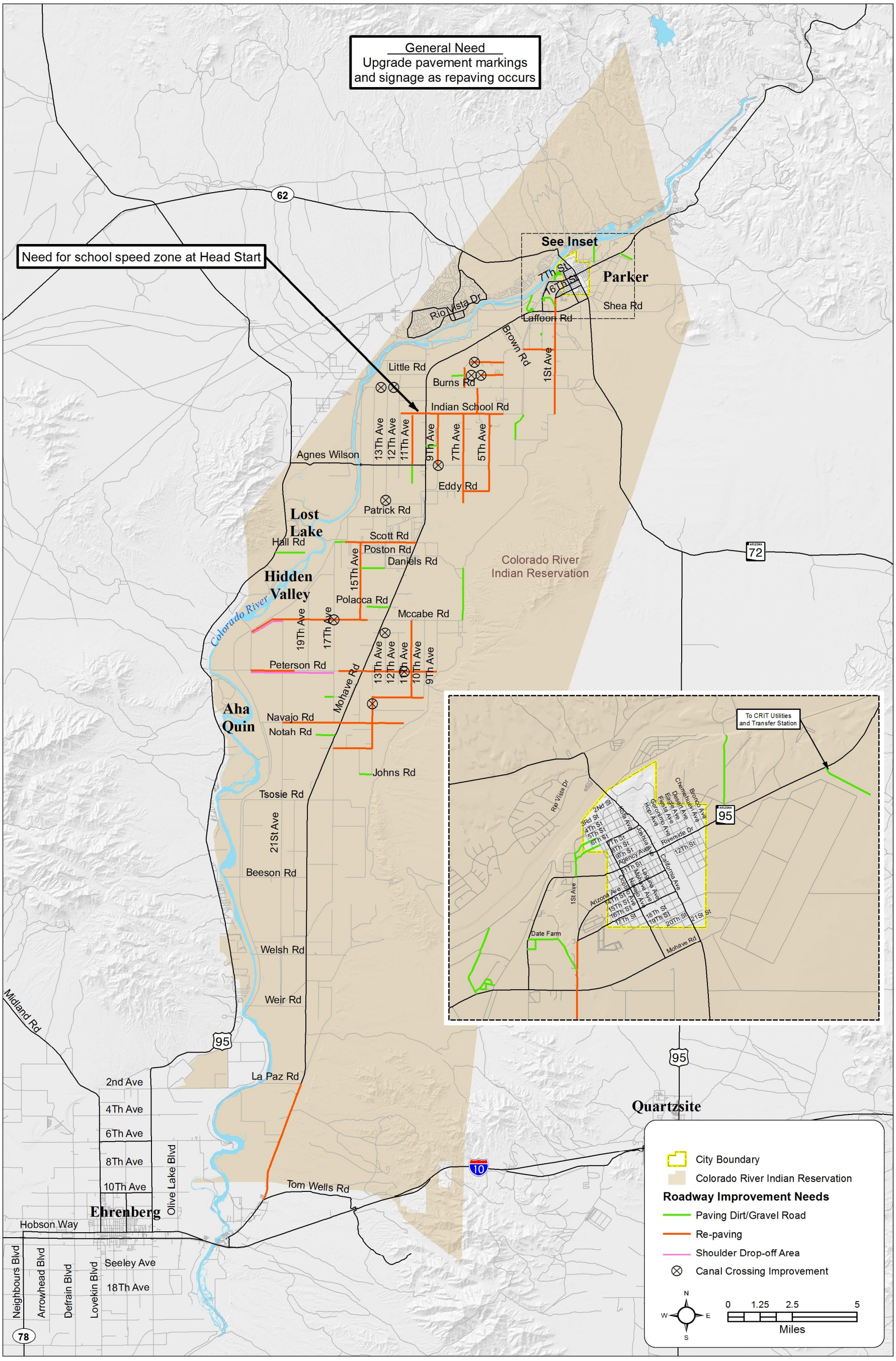


Figure 17 – Road Improvement Needs

4.1.2 PAVING NEEDS FOR GRAVEL OR DIRT ROADS

Input from the Tribal Planner and stakeholders regarding unpaved roads that should be considered for paving include:

- Rodeo Road (Rte 39)
- Polacca Road (Rte 280)
- Daniel Road (Rte 260)
- Shirley Road (Rte 380)
- Mitchell Road (Rte 360)
- Notah Road (Rte 340)
- Johns Road (Rte 42)
- 7th Avenue (Rte 11) , between McCabe Road and Scott Road
- 11th Avenue (Rte 15)
- 14th Avenue (Rte 117)
- 15th Avenue (Rte 19), south of Agnes Wilson Road
- Hall Road (in California)
- West end of Scott Road (Rte 24)
- End of Levee Road
- Little Road(Rte 8), 8th Avenue to Mo-Chem subdivision
- Date Farms subdivision roads
- Mission District subdivision roads
- Appaloosa subdivision roads
- Landfill Road
- Kudu Farms Road
- Service road between Walmart and the BlueWater Resort and Casino

4.1.3 STRIPING AND PAVEMENT MARKING NEEDS

Striping needs were observed on a number of roads. In many cases, centerline striping is faded. As roads are repaved, striping could include centerline and edge striping. There were a number of areas with no lane markings, or faded lane markings or edge lines.

4.1.4 SIGNING NEEDS

Some key signing needs that were mentioned by stakeholders and were observed during project field reviews were:

- Need for more speed limit signs on Mohave Road as speed control devices, such as solar speed monitors.
- Need for driver awareness messages such as “Remember to use your seat belt,” “don’t text while driving,” and “don’t drink and drive.”
- Hazard markers needs at the culvert crossings/canal crossings.
- General sign replacement program, particularly on Mohave Road.
- A sign inventory would be valuable to compete for Highway Safety Improvement Program (HSIP) funds.

4.1.5 TRAFFIC CONTROL NEEDS

Traffic control needs that were identified are:

- There is a need to elevate the flashing beacon or remove it at the intersection of Mohave Road (Rte 1) and 2nd Avenue (Rte 5) and at Mohave Road (Rte 1) and Poston Road (Rte 240).

- At the intersection of 4th Avenue (Rte 77) and Indian School Road (Rte 14), there was a concern expressed during the Road Safety Assessment that the stop signs at this location are not warranted.

4.1.6 STREET LIGHTING NEEDS

Street lighting needs were identified at the following locations:

- Mohave Road (Rte 1)/Poston Road (Rte 240)
- Mohave Road (Rte 1) /2nd Avenue(Rte 5)
- 1st Avenue(Rte 3) from Mohave Road to the Hospital, along Mohave Road from 1st Avenue (Rte 3) to 2nd Avenue(Rte 5), and from Mochen housing near Booth Road (Rte 4)and 4th Avenue (Rte 77) to the Tribal offices on 2nd Avenue (Rte 5).

4.1.7 CULVERT/CANAL CROSSINGS AND BRIDGE IMPROVEMENT NEEDS

There were a number of culvert and canal crossings that need improvements such as object markers and in some cases, headwalls, and possibly guardrails. The areas these canals or culverts are located are:

- Burns Road (Rte 10): 15th Avenue (Rte 19)to 12th Avenue(Rte 115)
- 7th Avenue (Rte 11): Agnes Wilson Road (Rte 18)to Indian School Road (Rte 14)
- 13th Avenue (Rte 17): Peterson Road (Rte 34) to Hopi Road (Rte 330), and Patrick Road (Rte 22) to Burns Road (Rte 10)
- Agnes Wilson Road (Rte 18): Mohave Road (Rte 1) to 7th Avenue (Rte 11)
- Scott Road (Rte 24): Bridge 045 to Mohave Road (Rte 1)
- McCabe Road (Rte 30): 23rd Avenue (Rte 27) to Bridge H020
- Peterson Road (Rte 34): Mohave Road (Rte 1) to 9th Avenue (Rte 213)
- 6th Avenue (Rte 99): Gould Road (Rte 6) to Mohave Road (Rte 1)
- 14th Avenue(Rte 117): Bridge 040 to Marks Road (Rte 36)

Bridges with a Sufficiency Rating of SR of 80 or less will be eligible for rehabilitation, and bridges with an SR less than 50 will be eligible for replacement or rehabilitation. These bridges are summarized in **Table 39.**

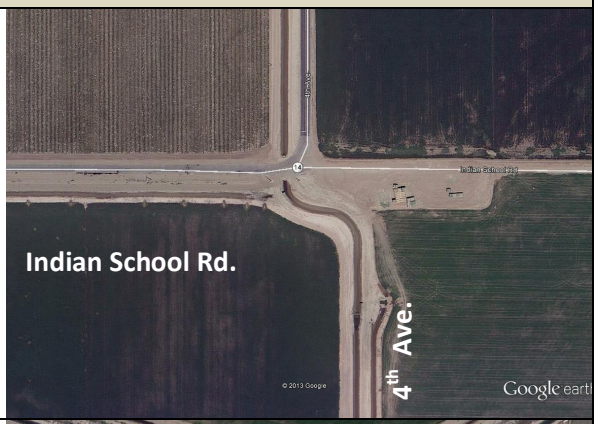
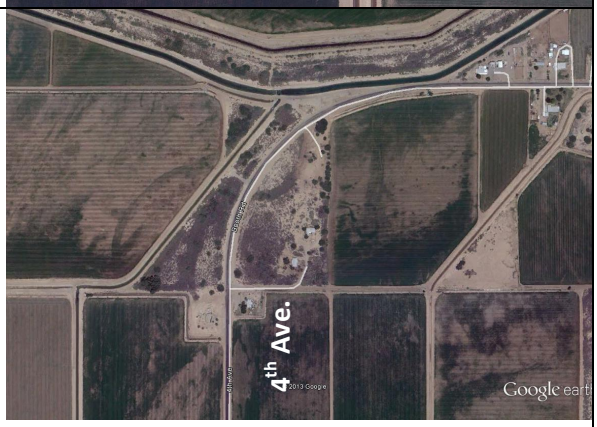
Table 39 – Bridges Rated as Structurally Deficient

Street Name	BIA Route Number	Bridge Length (Feet)	Section Number	Bridge Number	2012 Sufficiency Rating	SD=Structurally Deficient ND=Not Deficient FO=Functionally Obsolete
Mohave Road	1	94	30	H008	73.3	SD
Mohave Road	1	76	130	H004	46.5	SD
17th Avenue	21	76	40	H026	68.0	SD
McCabe Road	30	91	40	H021	56.8	SD
Peterson Road	34	76	60	H024	25.9	SD
Navajo Road	38	60	20	H027	60.0	SD
Tsosie Road	44	91	30	H030	47.8	SD
Beeson Road	50	76	50	H032	49.8	SD
Welsh Road	56	76	30	H033	54.0	SD
Welsh Road	56	76	50	H034	59.5	SD
Weir Road	60	60	20	H035	58.5	SD
Weir Road	60	80	40	H036	47.0	SD

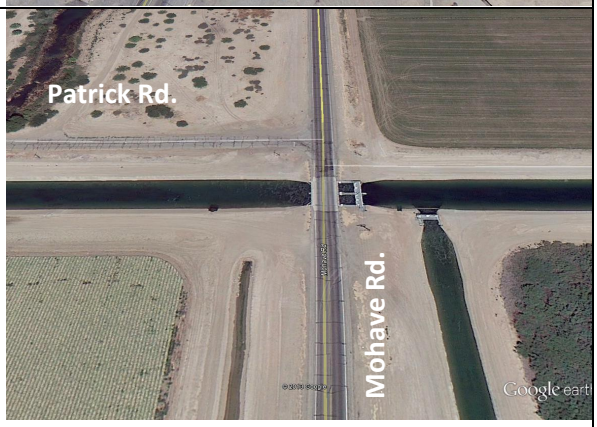
4.1.8 INTERSECTION IMPROVEMENT NEEDS

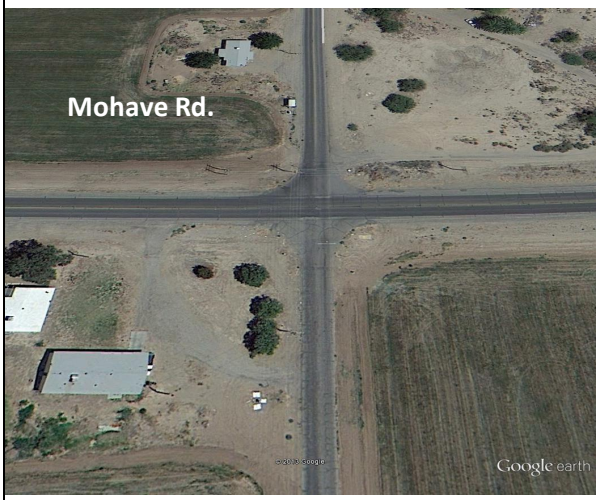
Intersection improvement needs that were identified are shown in tabular form in **Table 40** and graphically in **Figure 18**.

Table 40 – Intersection Improvement Needs

Intersection	Needs Identified	
2nd Avenue(Rte 5) at Agency Road	• 2nd Avenue becomes Agency Road north of Mohave Road in a horizontal curve. The Tribal planner indicated that some motorists enter this curve at excessive speeds. The northbound approach to the curve has transverse rumble strips to encourage motorists to slow down before entering the curve. The southbound approach has a curve warning sign. • Guardrail and chevrons have been installed along the curve; however, it appears that the guardrail and chevrons do not extend to the end of the curve on the south side.	
4th Avenue Intersections		
4th Avenue(Rte 77) at Indian School Road(Rte 14)	• This intersection is actually a sharp horizontal curve with stop signs. Field observations showed that many drivers do not stop at the unwarranted stop signs. • Wooden barricades within the clear zone on the south side of the curve are not breakaway. • Graffiti-covered large arrow signs and stop sign are difficult to see. • The irrigation ditch is 6 feet from the edge of the road along the turning radius.	
4th Avenue(Rte 77) at Booth Road (Rte 4)	• 4th Avenue becomes Booth Road in a horizontal curve. • Transverse rumble strips have been installed on the curve approaches. • There are multiple unpaved accesses within the curve that lead to the canal roads. A concrete barrier has been placed across one of the accesses apparently to prevent vehicles from entering; however, vehicles can maneuver around the barrier due to its location and gain access to the canal road. • Chevrons on the east side do not extend to the end of the curve. • Chevron spacing through the curve is approximately 200 feet. The MUTCD recommends chevron spacing of 120 feet for curve speeds of 35 to 45 mph.	

Sources: Google Earth for photos

Mohave Road Intersections		
Mohave Road (Rte 1)at Poston Road (Rte 240)	• This location has turning movements and pedestrian activity due to Woody's convenience store, post office, residences, and the Poston Memorial Monument that are in the immediate vicinity. • The intersection has uncontrolled access on all four quadrants. • Large trucks parking at Woody's create a sight obstruction. • Even though there are some street lights in the area, the intersection is not well-lit at night.	
Mohave Road (Rte 1)at Patrick Road (Rte 22)	• It is difficult to see the Patrick Road intersection from the northbound approach due to the canal crossing and guardrail • The guardrail on the east side of the crossing has been damaged. The curb in front of the guardrail reduces crashworthiness of the guardrail. • There is no barrier to keep vehicles that run off the road from striking the concrete structure or falling into the canal • Chevron spacing in the curve is approximately 250 feet; the MUTCD recommends 160 foot spacing for curve speeds of 50 to 60 mph.	
Mohave Road (Rte 1) at Agnes Wilson Road (Rte 18)	• The team observed higher speeds (55 mph speed limit), higher volumes, and more numerous turning movements at this intersection than at other intersections on Mohave Road • Commercial activity at the intersection includes the truck scales, which creates a high amount of large truck activity • The left-turn lanes on Mohave Road are approximately 180 feet long (including taper and storage length), which is too short for the current operating speeds. The turn lane pavement markings are faded. • There are two closely spaced intersection warning signs (both directions between Agnes Wilson Road and Patrick Road) for Eddy Road and 9th Avenue.	

Mohave Road Intersections		
Mohave Road (Rte 1) at the Head Start School	• Speed control by school. • Even though there is a no passing zone at the school, it is not always observed. • There is no defined access at the school, leading to vehicles pulling on and off of Mohave Road at multiple locations. • Vehicles pulling onto the shoulder at the mailboxes just north of the school (southwest corner of Mohave Road/Indian School Road intersection) lead to shoulder erosion and create a potential hazard for motorists along Mohave Road.	
Mohave Road (Rte 1) at 2nd Avenue (Rte 5)	• Tribal offices are located at this intersection, and the rodeo grounds and a park are nearby, leading to numerous turning movements and pedestrian activity. • The intersection is dark at night due to lack of street lighting. • Excessive speeds are an issue. • The flashing beacon is too low and has been struck by vehicles.	
Mohave Road (Rte 1) at 1st Avenue (Rte 3)	• There are no turn lanes on Mohave Road at 1st Avenue; the Tribe indicated that there are frequent turning movements at this intersection. • The westbound Mohave Road speed limit changes from 45 to 35 mph on the downgrade and in the horizontal curve. • There are redundant Speed Reduced Ahead and 35 mph Speed Zone signs for westbound Mohave Road east and west of 1st Avenue.	

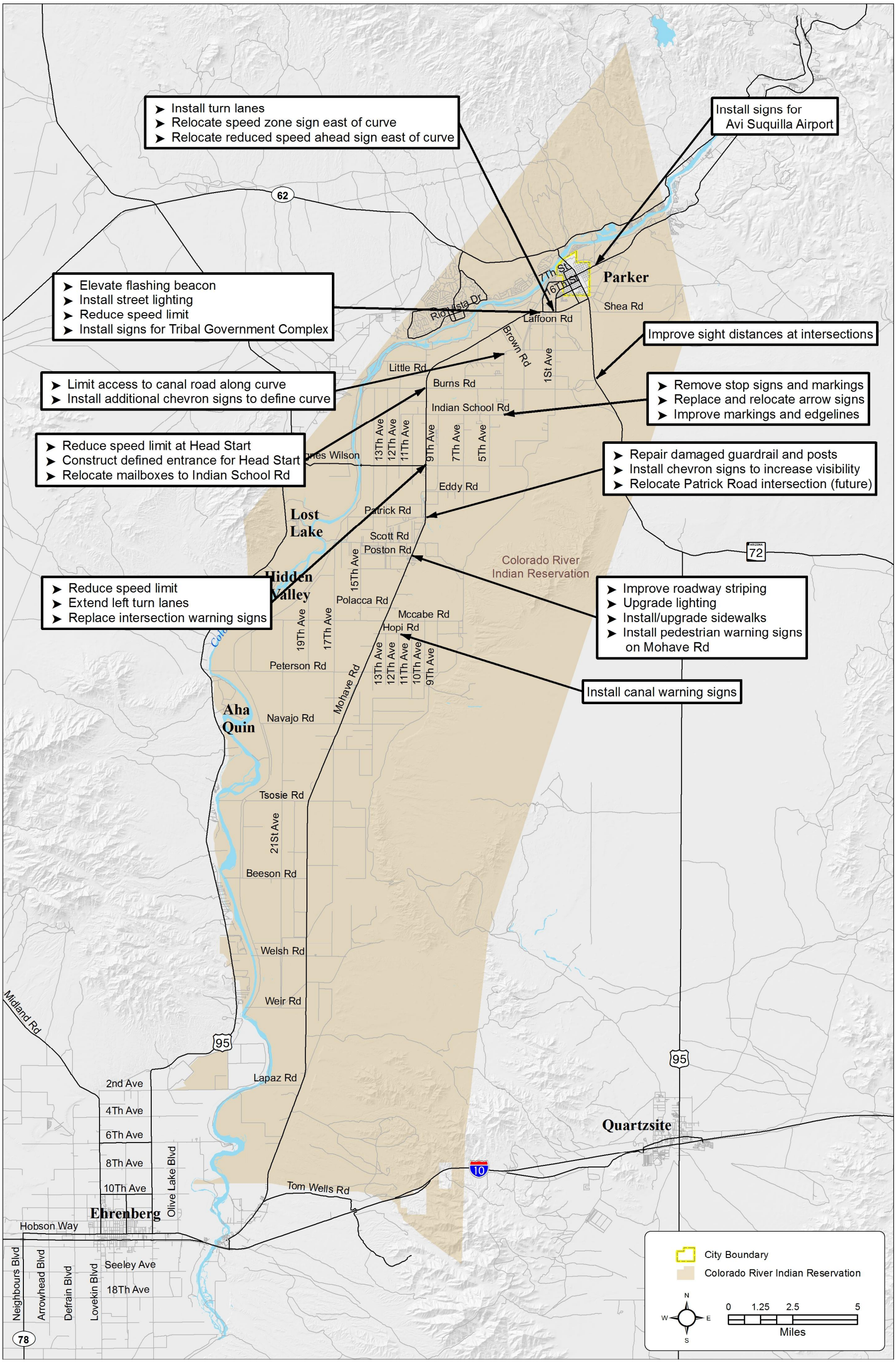


Figure 18 – Intersection Improvement Needs

4.1.9 SHOULDER / BICYCLE LANE IMPROVEMENT NEEDS

As roads are repaved, there is a need for striping to define shoulder areas and to provide a bicycle lane. The shoulders need to be maintained free from vegetation to serve their purpose and integrity.

During the field review, a number of locations had drop-offs close to the road edge that need appropriate signage and treatments. These road segments were:

- McCabe Road, 23rd Avenue to Bridge H020
- Peterson Road, Bridge H023 to 23rd Avenue and 23rd Avenue to the canal crossing east of 17th Avenue, and Bridge H024 to Mohave Road

4.2 TRIBAL TRANSPORTATION INVENTORY NEEDS

A review was made of updates needed for the Tribal Transportation Inventory. These updates include:

Addition of new existing roads – A review of the inventory indicated that roads could potentially be added to the inventory in these areas:

- Segments of Shea Road, east of Mutahur Drive to east reservation boundary
- Sections of Levy Road
- Roads in Big River development, with the exception of Rio Vista Drive
- Some additional roads in the Water Wheel RV Park area
- Some additional roads in Aha Quin Resort area
- Streets in Lazy D Subdivision, with the exception of 16th Street (this area is south of Arizona Avenue and north of 16th Street)
- Tribal roads with the Town of Parker city limits, shown in pink in the Parker Central Zoning Map in Figure 4.
- Proposed perimeter road around the Avi Suquilla Airport
- Roads in BlueWater Lagoon area.

Updated Traffic Counts – Traffic counts were conducted at approximately 25 locations and these will be added to the Inventory.

Updated pavement conditions – Pavement conditions were reviewed at a number of locations and the results of the reviews will be included in the inventory.

4.3 FUNCTIONAL CLASSIFICATION NEEDS

Potential federal functional classification changes are summarized in **Table 41**. It is CRIT's desire to update functional classification of roads and also to determine what roads can be added to the system of federally functionally classified routes.

Table 41 – Potential Federal Functional Classification Changes

Road name	Current Federal Functional Classification	Proposed Change
Mohave Road, SR 95 to south Reservation boundary	Rural major collector	Rural minor arterial
Agnes Wilson Road, Mohave Road to US 95	Rural major collector	Rural minor arterial
Peterson Road, 9th Avenue to 23rd Avenue	Unclassified	Minor collector
Burns Road, 15th Avenue to 1st Avenue	Unclassified	Major collector
2nd Avenue, Booth Road to Agency Road	Unclassified	Minor collector
Rio Vista Drive, SR62 to Bluff Road	Unclassified	Minor collector
Booth Road/4th Avenue, from 2nd Avenue to Indian School Road	Unclassified	Minor collector

4.4 PEDESTRIAN NEEDS

Sidewalks and paths are limited on the CRIT Reservation. An overriding need expressed was the need for linkages between residential areas and activity centers such as the Tribal Headquarters, health care facilities and schools, and other activity centers. Providing sidewalks to link to the sidewalk system within the Town of Parker was another principal need expressed.

Pedestrian needs are shown graphically in **Figure 19** and include:

Sidewalk Needs

- Construct sidewalks/trails and install lighting along 1st Avenue from Mohave Road to Hospital, along Mohave Road from 1st to 2nd Avenues, and from residential areas near Booth Road and 4th Avenue to the Tribal offices on 2nd Avenue.
- Coordinate with BIA Irrigation Branch to provide walking and biking facilities along the canals.
- 4th Street/Little Rd (Mo-Chem subdivision)
- SR 95 between Blue Water Casino and the intersection with Walmart at Airport Drive.
- An area that was identified by stakeholders was the need to provide sidewalks in the residential areas north and south of Parker that would connect to the existing Town of Parker sidewalk system. Needs includes sidewalk connections on segments of Geronimo Avenue, Fiesta Avenue, Eagle Avenue Bronco Avenue, 4th, 5th, 6th,7th, 8th, and 9th Streets, Palo Verde Avenue, Quartz Avenue, Joshua Avenue, and Agency Road.
- 16th street from 1st Avenue to the town boundary.
- First Avenue area.
- Second Avenue area.
- Mohave Road from 1st Avenue to La Paz Regional Hospital and to new roundabout at Mohave Road/SR 95.
- Navajo Street from the Parker town boundary to Mohave Road

- Provide sidewalks in the vicinity of the Mohave Road/Poston Road intersection.

Pedestrian Crosswalks and Crossing Devices

A key need is to provide more pedestrian crossing opportunities across SR 95 between Airport Drive and California Avenue. Locations suggested were at Chemehuevi Avenue and Eagle Avenue.

A finding of the RSA conducted in early 2013 was that pedestrian crossing warning signs are needed on Mohave Road at the approach to Poston Road. In addition, new pavement markings are needed as well as sidewalks and curb and gutter along the intersection legs. Upgraded street lighting was also recommended, which can help improve pedestrian safety.

Multiuse Paths

Trails are a need on the Reservation. Suggested trail locations are along canals and provide access to Colorado River locations.

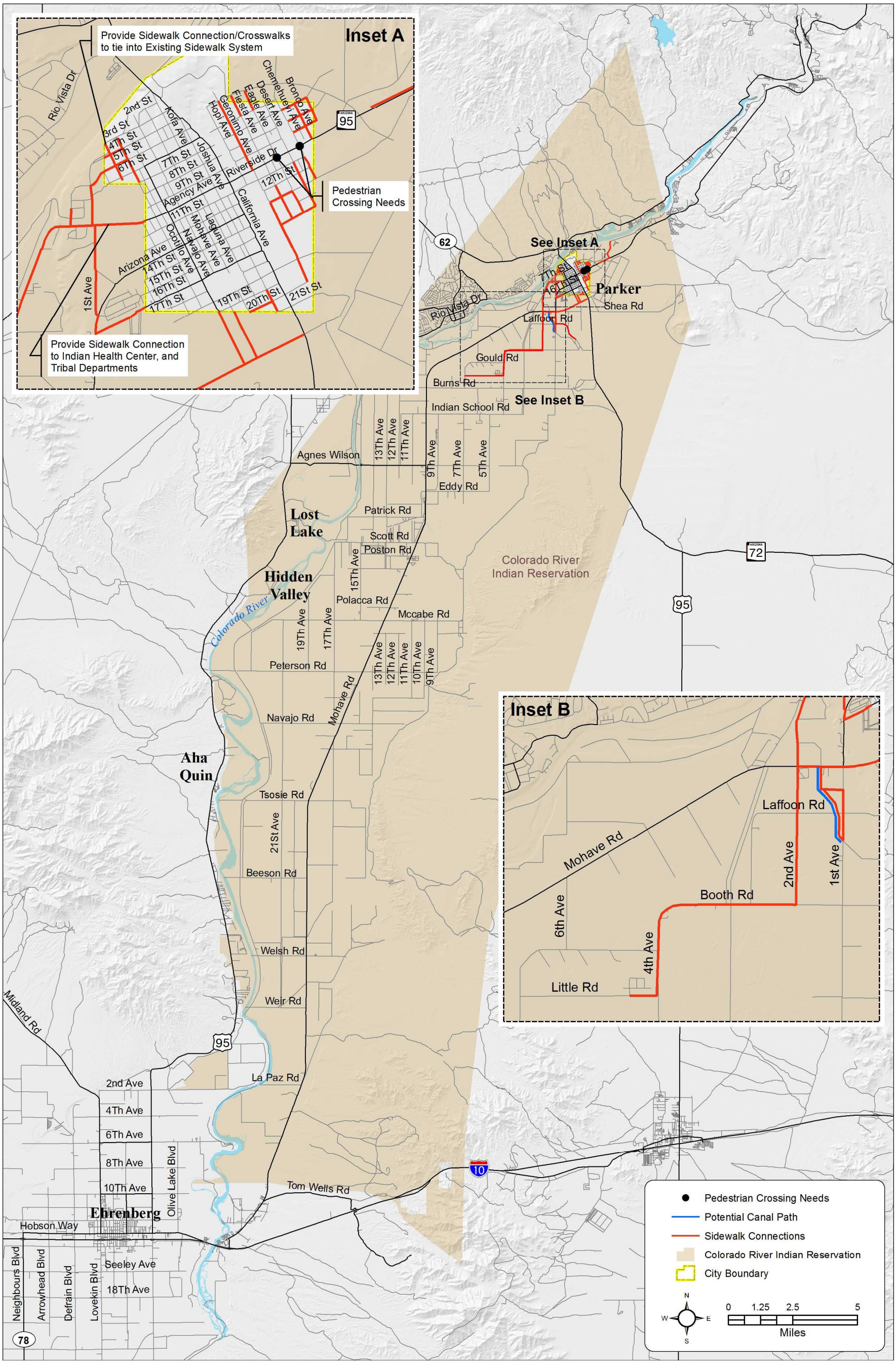


Figure 19 – Pedestrian Improvement Needs

4.5 AVIATION ACCESS NEEDS

The following transportation needs related to airport access were identified:

- Repave the airport access road, and needed drainage improvements.
- Provide additional airport identification signing.
- Construct a perimeter road around the airport.

4.6 TRANSIT NEEDS

Based on the information in the section above, and comments from Tribal Planners, a need has been defined for the following:

1. A phased implementation of a fixed route system.
    a. Focused on the Tribal community near the Parker area.
    b. Point to point fixed route to outlying concentrations of tribal activity.
2. Phased implementation of demand-responsive service for rural communities.
    a. Prioritization by tribal leaders of rural focus areas.
    b. Reservation-wide services.

4.7 OTHER TRANSPORTATION RELATED NEEDS

Other transportation-related needs that were identified include:

- Parking lot repavement needs for many community facilities, such as:
    - Poston Fire Station parking lot
    - Mo-Chem-Ho-Na Senior Center
    - Ahakhav Preserve
    - Tribal-related businesses and department office parking lots on First Avenue and in the areas on Roosevelt Street, Adams Street, Grant Street, and Kennedy Street
    - Tribal Headquarters
- Safety-related educational programs geared towards school children of all ages.
- Roadside vegetation control.
- There are high numbers of crashes involving canals and in and adjacent to the Blue Water Casino and the Moovalya Plaza. There is a need to conduct a Road Safety Assessment (RSA) at these locations to identify strategies to reduce the number and severity of crashes at these locations. Another consideration is the need to conduct full road length RSAs for some of the other roads, such as 1st Avenue, 2nd Avenue, 4th Avenue and Agency Road that have high crash rates.

Appendix A – Stakeholder Interviews

MERCEDES HILL, MO-CHEM-HO-NA SENIOR CITIZEN CENTER

Overview of Transportation Service – The transit service serves clients that are 55 years of age or older or younger clients with physical or mental disabilities. The service is very flexible- persons call for a ride and they do accept same day calls. Examples of trip purposes include:

- Take persons to and from meals at the Senior Center
- Drop off to pay bills
- Shopping
- Trips to CHR
- Field trips
- Check mail

Vehicles include:

- 14 passenger bus
- 15-passenger van - used for home –delivered meals (there are two meal runs- 1 in the south part of the reservation (29-32 meals and one in the north part of the reservation (45-42 meals)
- Impala van
- Quest van
- Astrovan

The current transportation service is funded through the ITCA Title 3 and Title 20 grants

Transportation needs – transportation needs/ issues include:

- Paving the parking lot of the senior center
- Purchasing new vehicles as the existing vehicles age
- Farm equipment causes delays (Mercedes thought there was a tribal law that farm equipment could only be used before daybreak or early evening)

Roads that were mentioned as needed paving improvements included:

- 5th Avenue, between Agnes Wilson Road and Indian School Road
- 6th Avenue, between Indian School Road and Burns Road
- 9th Avenue, south of Indian School Road
- Marks Road, between 10th Avenue and 14th Avenue
- Navajo Road, between Mohave Road and 12th Avenue

MONICA CORSINO AND VEHICLE MAINTENANCE STAFF - HEAD START SCHOOL

Overview of Head Start and Transportation Service for Head Start – There is 183 students that attend the Head Start School, ages 3 to 5, in 10 classrooms. School is in session from 9 am to 1:30 pm, Mondays through Fridays. Teacher assistants are bus monitors.

They operate 5 bus routes and have 7 total buses (2 are spares). The buses drive 350 miles per day, and the ages of the buses range from 1994 to 2009. There is a shaded bus parking area that was installed to keep the buses cooler.

Transportation Needs
School bus maintenance is a major concern. The bumpy roads tend to knock out the air conditioning system. Reinstalling the air conditioning system can be extremely expensive- $13,000 per bus. Usually the buses need to be transported out of town to get repaired- typically to Phoenix.

Regarding the need for transit- a lot of parents don't have cars. On parents nights the school will pick up parents for events.

A map was marked with problem roads for the buses. The routes marked were:

- 11th Avenue, between Peterson Road and McCabe Road and between Agnes Wilson Road and Indian School Road
- 9th Avenue, between Agnes Wilson Road and Indian School Road
- 7th Avenue, between Agnes Wilson Road and Indian School Road
- 5th Avenue, between Agnes Wilson Road and Indian School Road
- Indian School Road
- Little Road, between 4th Avenue and 7th Avenue
- Peterson Road, Mohave Road to 10th Avenue

Other needs that were mentioned were:

Areas with canals with no guard rails:

- Burns Road, between 12th Avenue and 14th Avenue

Narrow canal crossings:

- Little Road, east of 7th Avenue (two canals)

With respect to transportation needs at the Head Start School, there is a need for turn lanes into the school and school speed zone to slow drivers down through the school area. Another need is for alternative access to the school, because they are currently constrained by the location of the canals.

ROBB COZBY- PARKER UNIFIED SCHOOL DISTRICT

Overview of Transportation System for Parker Unified School District

There are 17 school buses operating on 15 regular routes, and two special needs routes. The district serves La Pera Elementary School, as well as the Junior High School, Parker High School, and other elementary schools. In addition, there are 4 bus routes for tutoring and 6 bus routes for after school activities. The buses also travel to school sporting events to areas such as Havasu, Blythe, Buckeye, Goodyear, and the North River Valley. There is a 15-year rotation for school buses. He purchased one new school bus this year. In 2000, he purchased 5 new buses. Currently there is approximately 170,000-200,000 mileage on each of the buses. The gas pumps in the school maintenance yard are over 20-years old, but the tanks are in good shape.

Transportation Needs

A map was marked with routes that are in poor condition. Mr. Cozby said he had buses stop going down 9th Avenue two years ago after he spent $8,000 on repairs.

He said there are a lot of homes and streets that are not marked- the Fire Dept. relies on GPS coordinates.

The rough roads impact the air conditioning systems on the buses. The school district services the buses in-house.

There was a discussion about whether there might be an opportunities to use the Parker Unified School District for maintenance services if a transit system was established for the Tribes. Mr. Cozby said that the school buses would need to come first, but maybe there might be potential if the transit system would hire their own mechanic. He said that would be something the school district could consider.

He thought solar panels for school bus shelters were an interesting idea.

He was supportive of 1st Avenue being improved as the next priority and then 11th Avenue. McCabe and Peterson Road were also mentioned as needs. He said there were a lot of potholes on Peterson Road.

KAREN TURK, CONNIE MATHEWSON- LA PAZ COUNTY TRANSIT

Overview of La Paz County Transit System

La Paz County transit is based in Parker, Arizona and is a flexible service offered to persons aged 60 and over, disabled and caregivers. The general public is allowed to ride if space permits. Rides are usually scheduled to the grocery stores, post office, bank, food bank, senior center, and other businesses. Sometimes they take persons to the BlueWater casino, because, in addition to gambling, there is a movie theater there as well as a restaurant. The service also schedules medical appointments, but as noted in their brochure, those with Arizona Health Cost Containment System (AHCCCS) should schedule their medical appointment transportation with AHCCCS as it is a covered service.
Pick up and departure times are approximate, but the general schedule is:

- Parker (Town): Mondays through Thursdays
- Parker Dam Route: Mondays through Thursdays
- Salome/Wenden/Bouse/Brenda Route – to Parker: Mondays through Thursdays
- Parker to Ehrenberg Route: Wednesdays. This route brings riders to Parker, makes various stops in Parker and returns to Ehrenberg.

The program, which is funded in part by Western Arizona Council of Governments Area Agency on Aging /Department of Economic Security, also requests a $3.00 donation for rides in La Paz County and $5.00 for rides out of La Paz County. The funding is a match with La Paz County. The vehicles are funded through a 5310 grant. It was mentioned that the local match for vehicles has risen from 10% to 20%.

The service has:

- 4 wheelchair vans with lifts
- 2 minivans
- 2 Ford Escapes (other depts. Also use these vehicles)

The vehicles are maintained through La Paz County. They are also insured through the County.

The transit service is open to Reservation residents, but is not well used by residents. The service normally goes to the Head Start on Mohave Road when they travel to Ehrenburg on Wednesdays. Serving elderly or disabled persons is a priority.

It was mentioned that trips for AHCCCS (Arizona's Medicaid Agency) are serviced through a contract with AAA Transportation Service. This is just for medical trips. California has Bonnie Baker Transit Service in Big River. The Town of Parker Senior Center also provides a limited ride service to the Senior Center.

With respect to ridership, they typically have more rides scheduled at the beginning of the month. The route to Salome, which runs Monday through Thursday, typically has five riders or more. In June, the numbers of trips ranged from 5 to 10 persons per trip.

They felt that a gap in transportation was the lack of transportation to Phoenix. Greyhound goes from Ehrenberg to Blythe, California, but does not go to Parker. They occasionally get calls for medical trips to Phoenix.

The service uses a 10-mile radius for pick-ups. Some people come to Mohave Road or Poston Road to be picked up. They have also gotten a call from the Peterson Road area.

Another need they have observed is that sometimes youth need to go into town for training to the Career Center. They have also gotten calls from the Dialysis unit to schedule trips.

There is a bus shelter in front of Basha's grocery store.

They keep a daily ridership log and gas log. They use both Microsoft Excel and Access databases.

TED SWENDRA – AVI SUQUILLA AIRPORT

Overview

The Airport Master Plan is currently in draft. Access in the future is planned to include:

- Airport Road (existing)
- Mohave Road
- Casino Drive (currently there is a stub out at the signalized intersection)

Future development plans include:

- Airport industrial park;
- Aviation related growth areas, including more aircraft storage; and
- A conference center and restaurant

Needs

Key airport needs include:

- No fire hydrants;
- Parking lot floods and 4 buildings have mold damage and can't be used;
- Need for high speed internet; and
- Improve the access road paving.

He is planning a $2.2M project on the Airport Road to address these issues. There is right of way available on the road. He is trying to obtain funding to do this project in the next three years. Once this project is complete, it will help in the effort to market the services of the airport.

He sees development at the airport in three phases:

1. Repair and rehabilitation
2. Enhance infrastructure
3. Marketing

They are in they are in Phase 1 now, but also overlapping into phase 2 with planned water and sewer improvements. In the next 5 years they are planning $8-9M in programmed improvements.

With respect to ground transportation, there is no information in the Draft Airport Master Plan. Currently they do provide transportation to the casino using two vehicles, an Impala and a Ford Blazer. The casino does not have a shuttle. They also work with cabs in the area. He said they need a nine passenger van. They use Head Start buses for fly-ins.

With respect to air ambulance service, Careflight is based here. Also their helicopter fuels at the airport. Native Air lands at the Indian Health Service and fuels there.

He said that major air carriers are not enlarging services to rural areas.
He said if transit service was implemented the airport may be a user, especially if it ties into the casino.

Mr. Swendra referred to an ADOT report that was to assess the economic impact of airports. He was wondering about the status of that report.

He said that he received inquiries from the Marines and the British RAF to use the airport. He has had requests from them for fueling, and to potentially support operations such as Ospreys and HALO jumps (high altitude jumps). He said that they are now using facilities in El Centro, but as El Centro is developing, there are complaints about noise, so there may be an opportunity for them to use Avi Suquilla Airport in the future.

TERRILYNN LITTLE AND ROBERT ESQUERRA, COLORADO RIVER INDIAN TRIBES FIRE DEPARTMENT

Overview

There are two fire stations. Each has two trucks and two rescue vehicles. A new station is a long range Plan. They respond to calls on the California side, but these are mainly non-tribal calls.
The Fire Department staff provides educational presentations periodically at Community Awareness Nights and has provided fire safety information to the Head Start School.
There is a rural addressing system, but they have been having problems with it.

They deal with approximately 5-10 fatalities per year and indicated the location of fatalities on a map.

Needs

- Agnes Wilson Road /Mohave Road intersection (Four Corners) needs a stop light – there is a flasher there now. There are no clearance signs for the flasher, and trucks can hit it.
- Pullouts for school buses are needed. The buses serve two elementary schools - La Pera Elementary and Wallace Elementary Schools. Currently Brown Road is a school bus stop location. There are also bus stops at Poston Road and at the Head Start. Buses also drop at Poston Road and at the Head Start.
- A need is to revise the left turn at the US 95/Casino entrance to provide a protected left turn only. Also, there are times when direct sunlight makes the signal hard to see.
- With respect to transit, they would use it to travel from Poston to Parker. If it directly served homes, they would use it. CHR is a good service, but they provide trips just to a doctor or the hospital.
- Transit would be useful for people that work at the BlueWater Casino - from Poston to Parker is a 13-mile trip. Stop locations could be Poston, Peterson, Nez Roads.

TONY LEYVAS, COLORADO RIVER INDIAN TRIBES POLICE DEPARTMENT

Overview

The Police Department has 14 to 19 staff members, typically. Their fleet includes standard police cars, and some SUV's. He said their 2009 and 2010 vehicles are starting to get a lot of mileage on them. The vehicles are serviced through CRIT Auto.

The Police Department provides support for numerous events, particularly between November through March every year, including:

- Annual Native American Days – October
- Off-road races- Desert Challenge 250, Parker 425 race and others.
- Patrol boat races- Thanksgiving Regatta, Parker Enduro

The San Bernardino County Sheriff and Highway Patrol mainly respond to call on the California side of the Reservation.

The Police Department just finished a "click it or ticket" program for seat belt enforcement.

Needs

There is a need for more signage:

- Seat belt signage. Hannah Harper wants to order seat belt signs through the Bureau of Indian Affairs.
- More farm equipment signage. 6th Avenue and 9th Avenue get used a lot by Farm equipment.
- More speed Limit signage (find out appropriate spacing/standards for speed limit signs). If the speed limit is not posted it is 45 mph. Speed monitoring is needed, perhaps through solar speed monitors. Most of the speeders are from California Areas for speed control are:
    - Poston
    - Tribal Headquarters
    - La Pera Elementary School
    - Indian School Road

Mohave Road south of Tyson Wash needs striping.
Issues with the flasher at Poston Road and Agnes Wilson – drivers do not stop at the stop signs.
Roads that are in poor condition are:

- Patrick Rd – consider getting rid of pavement and grading it.
- The existing shoulders appear to be adequate – they are 4-5 feet wide

If tribes are pursuing safety projects they need to be consistent with Strategic Highway Safety Plan.

Sidewalks are needed between Mo-Chem to Tribal Headquarters, and from Tribal Offices to Indian Health Services and 100 Homes. Sidewalks are also needed on 1st Avenue/Mohave, from the offices to 100 Homes neighborhood. Most densely populated areas are subdivisions of Mo-Chem, 50 Homes, and 100 Homes.

There are traffic impacts from special events such as the Parker 425 race, Head Start graduation, 4th of July, and other events. There is a big impact at the casino entrance. They could use a portable LED sign for traffic control.

DENNIS PATCH – COLORADO RIVER INDIAN TRIBES EDUCATION DEPARTMENT

Overview

Mr. Patch is the head of the Education Department and has been a Tribal Council Member for many years.

Needs

Issues that he would like to see addressed in the Plan are:

- Roads are narrow in general. Farmers cut weeds with disks and it encroaches on the pavement, with the effect of making the road narrower. Potholes are also created by the heavy equipment. The buses need to be able to pass the farm equipment.
- There are steep drop-offs in the right-of-way on some of the roads. The roads need to be wider to pass busses.
- Shea Road is planned for future development.
- There is a need to extend sidewalks from the existing sidewalk system in Town of Parker sidewalk system on both the north and south sides of town. Specific streets mentioned were Bronco Avenue, Chemehuevi, roads from 100 Homes Subdivision to the hospital.
- There is a need for a more pedestrian crossing opportunities on Riverside Drive (SR 95) from the north side to the Safeway and McDonalds on the south side of the street.

ED HOOPER, BUREAU OF INDIAN AFFAIRS, COLORADO RIVER AGENCY MAINTENANCE DIRECTOR

Overview

The Bureau of Indian Affairs provides maintenance services on BIA roads throughout the reservation area.

Comments on Roadway Needs / Procedures

- 9th Avenue is a blading road, they blade it every two weeks
- 11th Avenue and 1st Avenue are both on the TIP and the Tribal Council will decide what road is reconstructed first. 1st Avenue has more people living on it and the School District would prefer that to be reconstructed first. 11th Avenue is also an issue.
- The School District complains about Peterson , McCabe and 11th Avenue to the BIA staff
- 11th Avenue – they have talked about turning it back to gravel, they patch it all the time
- Indian School Road- starting to need reconstruction – there is lots of potholes
- They try to do school bus routes first- that is the top of their priority.
- Rodeo Road has been bladed- it is back in fair condition.
- Roads that should be reconstructed: McCabe Road to CRIT Farms, Peterson Road, 2nd Avenue
- Peterson Road- BIA has spent a lot of time patching. The water table is high from Mohave Road to 13th Avenue; they have used AB gravel and cloth to stabilize it- very spongy conditions. 14th Avenue has the same problems- there is a need to stabilize the base. The water table is also higher there, and they will need something in the near future.
- A sign inventory was done a few years ago. They have tried graffiti resistant signs, but it has not been effective. They try to keep the signs up primarily on Mohave Rd, 1st Avenue, 2nd Avenue, Agnes Wilson Road, which are more heavily traveled.
- The southern end of Mohave Road needs striping- the crack seal covered up the reflectors. Also Ed noted that the culvert pipes are rusting and will start collapsing. One pipe did cave in on Burns Road.
- There was a comment to save construction funds for more maintenance and save reconstruction funds for the worst needs.

Bridge Needs

- Agnes Wilson Bridge gets lots of heavy truck traffic. There are stress cracks on the piers. The concrete is chipping out on the south side of the bridge. 2014 is the next bridge inspection. Bridge lighting is another issue, because people shoot the lights out, and it is hard to find a vehicle to reach under the bridge. There is a need for a redesign of the lighting system on the bridge. The Coast Guard is also checking lights. Oversize load permit fees are supposed to be paying for it.

General traffic control needs

- Road Closed signs
- Cones
- Traffic control devices

Equipment needs

There is a need for equipment that would make their work more effective. Suggestions were:

- A small grinding machine ("zipper") to recycle materials.
- Milling machine to put down materials with oil
- There was a demonstration of new technologies and equipment.
- BIA used to have a striping machine, but they no longer have one.
-

They do not have access to good material-the only pit is the Poston Pit behind Kudu Farms.

Street lighting needs

- Agnes Wilson Road
- Burns Road
- Patrick Road
- Poston Road
- McCabe Road
- Peterson Road
- Indian School Road

BIA is upgrading their power system and they will put up the flasher for BIA. He will purchase a light and get it upgraded.

Other comments

- Next year their budget is estimated to be 229,000.
- During storm season they help with checking barricades.
- Chip seal over mag chloride- the soil will not compact. A good base material, then mag chloride, was too sandy and the material did not bind together.
- They used a pine seal, diluted with oil, then a chip seal tended to last.
- California side of the reservation- very little maintenance work is done.

CRIT HOUSING IMPROVEMENT PROGRAM – MR. STEVE PEREZ AND TINA EVANS

Overview

CRIT Housing provides housing improvements over the entire reservation area.

Needs

A summary of needs that were marked on the map were:

Paving Improvement Needs:

- Agnes Wilson Road, east of Mohave Road
- Burns Road, between 10th Avenue and 4th Avenue
- Booth Road- east of First Avenue
- Indian School Road, between Mohave Road and 4th Avenue
- Navajo Road, Mohave Road to east end of road
- Nelson Road- needs paving improvement and a road sign
- Eddy Road
- McCabe Road
- Mitchell Road, 14th Avenue to approximately 10th Avenue
- 13th Avenue, Burns Rd to Patrick Road
- 14th Avenue, Burns Road to Patrick Road
-

Other Improvement Needs

- Mohave Road, curve north of Little Road- curve needs improvement , called “deadman’s curve”
- Burns Road, with SR 95 needs improvement, because it is hard to see the intersection because of elevation changes (a hilly area)
- 2nd Avenue - the curve area needs improved signing.
- Dirt road needs to be paved to Kudu Farms (extend 1st Avenue)

Other comments

- East end of Hopi Road at a canal had two drowning, but the signing is improved there now.
- 15th Avenue- paving is good.

Appendix B – Road Safety Assessment Report

Colorado River Indian Tribes
Road Safety Assessment

Prepared for:
Colorado River Indian Tribes
BIA Colorado River Agency

Prepared by:

Arizona Road Safety Assessment Program
Arizona Department of Transportation Traffic Safety Section
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Phoenix, Arizona 85007-3217
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April 2013

Table of Contents

Project Request

The Road Safety Assessment (RSA) of various locations was conducted at the request of the Colorado River Indian Tribes (CRIT). Assessment locations include:

- Mohave Road
  - Milepost 0 to 9
  - Patrick Road intersection
  - Poston Road intersection
  - Agnes Wilson Road intersection
  - Milepost 36 to 39
- Burns Road
  - 1st to 4th Avenue
  - 12th to 14th Avenue
- 4th Avenue at Indian School Road and at Booth Road
- 2nd Avenue at Agency Road

The study area is shown in Figure 1. An RSA was requested to improve safety and reduce crashes, and to identify safety projects to include in the new Long Range Transportation Plan.

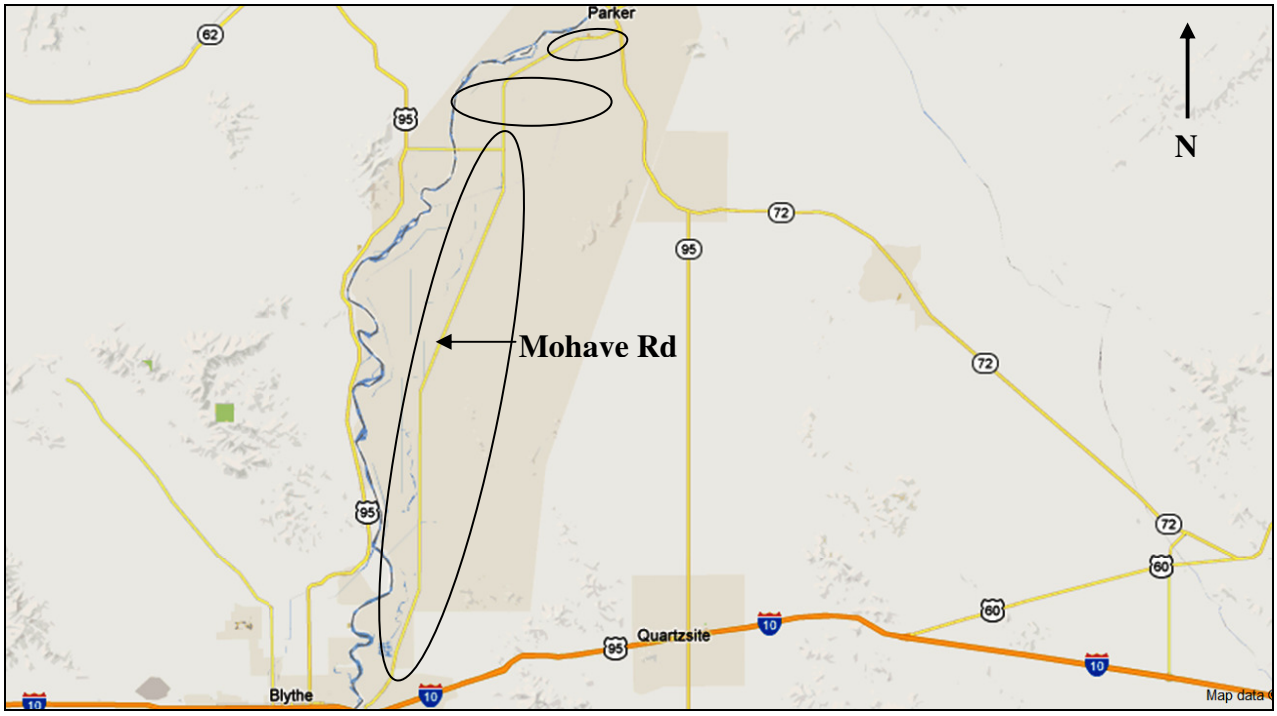

Figure 1: Study Area

RSA Team

The independent, multi-disciplinary RSA team was led by Mike Blankenship, the Arizona RSA Program Manager. The RSA team included:

- Greg Fisher, CRIT Planning
- Hannah Harper, CRIT Police Department
- Don Sneed, ADOT Multimodal Planning
- Tomi St. Mars, RN, MSN, CEN, FAEN, AZ Dept. of Health Services, Injury Prevention
- Richard Weeks, P.E., PTOE, ADOT Traffic Safety Section

RSA Process

A Road Safety Assessment is a formal examination of user safety of a roadway by an independent, multi-disciplinary team which includes experienced and knowledgeable members. RSAs have been shown to help promote safety by: identifying a range of safety issues; promoting awareness of safer transportation planning, design, construction, and maintenance practices; integrating multimodal interests; and, more directly considering the effect of human factors, enforcement and education activities, and emergency responder practices.

The RSA team conducted this assessment to the best of its abilities within the time allotted. The initial recommendations are based upon background information provided during the Start-up and Preliminary Findings Meetings, an evaluation of recent crash data, and both day and night field reviews, as discussed in the following paragraphs. This information helped the RSA team identify potential opportunities to improve the safety performance of roads within the study limits. This information was initially presented at the Preliminary Findings Meeting. While every attempt has been made to identify potential safety issues, the safety performance of the roadway remains the responsibility of the roadway owner and roadway users.

The RSA team is available to provide additional clarification as the CRIT and the Bureau of Indian Affairs (BIA) review and respond to this report and pursue countermeasures.

Start-Up Meeting

The assessment team met with CRIT and BIA staff to discuss background information on February 27, 2013 at the Parker Indian Health Center. In addition to the RSA team members, participants included Sarah Snyder, IHS, Edward Hooper, BIA Colorado River Agency, Doris Burns, CRIT Health Services, and Ruben Carmona, CRIT Head Start. During the Start-up meeting background information was presented by the owners and the following topics were discussed:

- Canals
    - Headwalls
    - Road departure crashes into canal
    - Need participation from BIA Irrigation Branch
- Roadway lighting
- Pedestrian activity
    - Between Tribal offices and Town of Parker
    - Between subdivisions and Tribal offices, Town
- Saturation patrols and checkpoints are conducted
- Mock crash staged at high school every other year
- Coordination of multiple law enforcement agencies (CRIT, BIA, La Paz County, Town, DPS, Riverside County, San Bernardino County, Rangers, Fish and Game)
- Numerous school bus stops on Mohave Road

Field Reviews

Daytime field visits were conducted on Wednesday, February 27, 2013, and Thursday, February 28. A nighttime field visit was also conducted on Wednesday, February 28. The specific times of the site visits can be found on the RSA Agenda in the **Appendix**. The

weather was warm and dry. Site reviews consisted of driving and walking the roads and observing road users.

The RSA team noted several existing roadway features that appear to enhance safety in the study area, including:

- Good roadside recovery area
- Signing (intersection ahead, street name, stop ahead, chevrons)
- Raised pavement markers (RPMs)
- Object markers at headwalls
- Shoulders
- Transverse rumble strips
- Turn lanes
- Some breakaway sign posts
- Guardrail with breakaway terminals
- Flashing beacons
- Milepost markers
- Mailboxes set back from edge of road
- Community Safety Advisory Board
- CDC Motor Vehicle Injury Grant
- IHS Tribal Injury Prevention Grant
- School traffic safety events
- Helicopter transport at both hospitals
- CRIT Fire Department:
    - 24/7 coverage
    - Cover non-Tribal areas
    - 2-man stations
    - Automated external defibrillator (AED)
    - Community outreach/education

Some of these examples are highlighted in Figure 2.

Figure 2: Examples of Features that Appear to Enhance Safety in the Study Area

Preliminary Findings Meeting

The RSA team presented the preliminary findings to CRIT and BIA personnel on Friday, March 1, 2013 at the Parker Indian Health Center. In addition to the RSA team members, participants included Sarah Snyder, IHS, Doris Burns, CRIT, Packy Sevada, BIA, Isaac

Ampadu, IHS, Laryn Welsh, BIA, and Michael Driscoll, American Medical Response. Observations and potential opportunities for improvements were discussed during this meeting.

Physical Roadway Characteristics

Mohave Road, Burns Road, 4th Avenue, and 2nd Avenue are 2-lane roads. Traffic volumes were not available for these roads. Speed limits are as follows:

- Mohave Road: 55 mph (35 mph at Poston Road, 2nd Avenue, and 1st Avenue, 45 mph north of 1st Avenue)
- Burns Road: 45 mph
- 4th Avenue: 45 mph (35 mph at Booth Road)
- 2nd Avenue: 45 mph (35 mph at Agency Road)

Evaluation of Crash Data

For the crash data analysis, the most recent thirteen years of crash data (2000 through 2012) was collected from the ADOT Information Technology Group's Safety Data Mart, which is ADOT's crash database. Following is a summary of the crashes that occurred during this time period.

The following crash data is for:

- Mohave Road (69 crashes, 13 fatal crashes)
- Burns Road: 1st Avenue to 4th Avenue, 12th Avenue to 14th Avenue (4 crashes, 1 fatal)
- 4th Avenue at: Indian School Road, Booth Road (2 crashes)
- Agency Road at 2nd Avenue (1 crash)

76 crashes
Severity:

- 14 fatal crashes
- 5 incapacitating injury
- 7 non-incapacitating injury
- 10 possible injury
- 40 property damage only

Crash Type:

- 14 rollover (18%)
- 14 rear-end (18%)
- 13 fixed object (17%)
- 9 angle (12%)
- 6 sideswipe same direction (8%)
- 4 other non-collision (5%)
- 3 sideswipe opposite direction (4%)
- 3 head-on (4%)
- 2 left-turn (3%)
- 1 pedestrian (1%)
- 1 bicyclist (1%)
- 6 other (8%)

Light Conditions:

- 55% daylight
- 37% dark
- 8% dawn/dusk

Fatal Crash Type (14 fatal crashes, 20 fatalities):

- 5 overturn
- 3 angle
- 1 head-on
- 1 sideswipe opposite direction
- 1 rear-end
- 1 pedestrian
- 1 immersion
- 1 other fixed object

Fatal Crash Locations by Milepost:

- MP 6
- MP 20.3
- MP 23
- MP 23.9
- MP 24
- MP 27
- MP 29
- MP 36.7
- MP 37
- MP 38 (2)
- MP 38.3
- MP 38.6
- Burns Road at 14th Ave

Crashes by Year:
2000: 15 crashes
2001: 14 crashes
2002: 14 crashes
2003: 12 crashes, 1 fatal
2004: 4 crashes, 1 fatal
2005: 1 crash
2006: 3 crashes, 3 fatals
2007: 3 crashes, 2 fatals
2008: 2 crashes, 2 fatals
2009: 3 crashes, 2 fatals
2010: 0 crashes
2011: 5 crashes, 3 fatals
2012: 0 crashes

Data from "Building a Foundation for Motor Vehicle Crash Injury Reduction on the Colorado River Indian Tribes Reservation" IHS report indicates that alcohol is involved in:

- 24% of all crashes, compared to statewide average of 5%
- 39% of injury crashes, compared to statewide average of 8%
- 63% of fatal crashes, compared to statewide average of 33%

The report also estimated seatbelt usage at 56%, compared to the statewide average of 83%.

Site Review Observations and Initial Recommendations

Education, Enforcement, and Emergency Medical Services

Traffic safety issues cannot be solved with engineering solutions alone, which is why the RSA team addresses the "4 Es" of safety: engineering, education, enforcement, and emergency medical services. This multidisciplinary approach is beneficial and can lead to leveraging of resources in these resource challenged times.

Preventability is determined by whether something could have been done (by an individual such as the caretaker or supervisor, or by the community as a whole) that would have prevented the death or injury. Preventing injuries and death is not always achievable and there are many challenges to implementing successful prevention interventions. The greatest challenge is to change behavior of individuals, followed by identification of funding streams for programs, limited people resources, apathy from individuals/community and the belief that bad things will happen to others but not to "me."

On Going Prevention Efforts:

The Colorado River Indian Tribes have strong concern for the crashes that occur in the community as illustrated by the request to have this RSA. Efforts have occurred to ensure that homes in the community are numbered in order for public safety to locate and respond in the event of an emergency. The tribe has a 24/7 staffed fire department that provides first response for both tribal and non-tribal emergencies. The tribal police department has begun to use the state traffic crash report form which will allow uniformity with data collection. La Paz Regional Hospital is a Level IV trauma center and the community of Parker has two air ambulance companies (Native Air and Care Flight); ground emergency medical services are provided by a private ambulance service (American Medical Response).

American Indians and Alaska Natives (AI/AN) are at increased risk of motor-vehicle related injury and death with rates 1.5 to 3 times higher than rates for other Americans. To address this disparity, CRIT has received funding from the CDC's Injury Center to tailor, implement, and evaluate evidence-based interventions to reduce motor vehicle-related injury and death in their communities. Additionally, CRIT has an Indian Health Service Tribal Injury Prevention Cooperative Agreement Program (TIPCAP) that provides multi-year funding to hire a full-time Injury Prevention Coordinator and to develop programs based on effective strategies or best practices in injury prevention. Both of these programs are demonstrating the value of having paid staff to address traffic safety and community injury prevention issues.

Recommendations:
Tribal employees should be required to use seatbelts when in a tribal vehicle. The Tribe should enact a primary seat belt law and consider stronger child passenger safety laws. Even though the State of Arizona does not have a primary seat belt law, several tribes in Arizona do have primary seat belt laws, which is very commendable. The Navajo Nation amended their child passenger safety law to include booster seats; this legislation could provide example language for the Colorado River Indian Tribes if they decide to pursue this recommendation. At the minimum, CRIT should align their child passenger safety ordinance to mirror Arizona's statute ARS 28-907.

It was noted during the interview with fire and EMS personnel that the town of Parker does not have 24/7 fire department coverage but CRIT does. CRIT should advocate to the town of Parker that adding this level of service is a necessary public safety benefit. At the minimum, CRIT should conduct a cost benefit analysis to determine what the costs of fire department coverage are to the tribe.

The community is served by two air ambulances, one of which is the Indian Health Service's contracted provider, Native Air. It is strongly recommended to use only the contracted provider and if a situation arises that the non-contracted air ambulance (Care Flight) is used that the providers document why this decision was made. The documentation will allow Indian Health Service to assess the provided contracted services.

As many as eight law enforcement agencies interact with the community. It is recommended that these agencies meet on a quarterly basis to discuss mutual issues.

From an injury prevention outreach perspective, it is recommended the TIPCAP and CDC funded motor vehicle projects consider addressing adolescent traffic safety using the Battle of the Belt and continue with the child passenger safety efforts.

Pavement Markings
Centerline and edgeline markings are faded or non-existent on many of the roads in the study area (Figures 3 and 4), including:

- Mohave Road between mileposts 0 and 9
- Burns Road
- Booth Road
- 4th Avenue
- Indian School Road

There are also missing raised pavement markers (RPMs) on some segments of road. Lack of pavement markings can contribute to lane departure crashes. Figure 5 shows nighttime views of sections of Burns Road with and without pavement markings and RPMs.

Figure 3: No Pavement Markings on Mohave Road near Milepost 1

Figure 4: No Pavement Markings on Burns Road

Figure 5: Sections of Burns Road With and Without Pavement Markings and RPMs

Pavement marking recommendations include:

- Install 6-inch wide centerline and edgeline markings with centerline RPMs on the southern section of Mohave Road (milepost 0 to 9), Burns Road, Booth Road, 4th Avenue, and Indian School Road
- If centerline and edgeline markings can't be installed, consider installing centerline RPMs at canal crossings and through curves

Signing

Most advance street name signs on Mohave Road are faded and difficult to read (Figure 6). It is recommended that the advance street name signs be upgraded to Manual on Uniform Traffic Control Devices (MUTCD) standards.

Figure 6: Advance Street Name Sign for Agnes Wilson Road

Stop Lines

Most stop lines are faded and located too far back from the intersection, limiting sight distance for motorists on the side road. For example, the stop line for the Tsosie Road westbound approach to Mohave Road is located 42 feet from the intersection; combined with an embankment, this creates a sight obstruction for motorists entering the intersection from the stop line (Figure 7). It is recommended that the stop lines be refreshed and relocated closer to the intersection (the MUTCD allows stop lines to be located within 4 feet of the intersecting through lane).

Figure 7: Stop Line Location and Driver's View from the Stop Line on Westbound Tsosie Road at Mohave Road

Pedestrians and Bicyclists

There are very few accommodations for pedestrians and bicyclists: no trails, sidewalks, or bike lanes. Figure 8 shows a bicyclist on 2nd Avenue riding toward Agency Road. Pedestrian and bicyclist recommendations include:

- Construct sidewalks/trails and install lighting along 1st Avenue from Mohave Road to Hospital, along Mohave Road from 1st to 2nd Avenues, and from the Mochen housing near Booth Road and 4th Avenue to the tribal offices on 2nd Avenue
- Coordinate with BIA Irrigation Branch to provide walking and biking facilities along the canals

Figure 8: Bicyclist on 2nd Avenue

Burns Road From 1st to 4th Avenue

Other than the bridge barrier and railing, there is nothing to keep vehicles that run off the road while approaching the canal crossing from plunging into the canal (Figure 9). The drainage ditch on the south side of Burns Road just east of 4th Avenue is in the recovery area and near an unpaved travel area (Figure 10).

Figure 9: Burns Road Canal Crossing East of 4th Avenue

Figure 10: Drainage Ditch Just East of 4th Avenue

Recommendations for the segment of Burns Road between 1st and 4th Avenues include:

- Install barrier extending from the bridge to along the side of the canal approximately 30 feet; if this can't be done, install object markers along the side of the canal
- Install delineators to delineate the drainage ditch just east of 4th Avenue

Burns Road From 12th to 14th Avenue

As with the canal crossing east of 4th Avenue, there is nothing to keep vehicles that run off the road while approaching the canal crossings east of 13th and 14th Avenues from plunging into the canal (Figure 11). There are inadequate post connections at the 12th Avenue bridge guardrail: bolts are loose and pulling away from the concrete (Figure 12). The object markers along the north side of the headwall east of 13th Avenue are in the wrong location (Figure 13); according to the MUTCD, the edge of the object marker that is closest to the road user shall be installed in line with the closest edge of the obstruction. The westbound direction of Burns Road has a Narrow Bridge sign for the 12th Avenue bridge, but there is no sign for the eastbound direction (Figure 14).

Recommendations for the segment of Burns Road between 12th and 14th Avenues include:

- At the canal crossings east of 13th and 14th Avenues install curved W-Beam guardrail extending from the crossing to approximately 30 feet along the side of the canal; if this can't be done, install object markers along the side of the canal
- Repair post connections at the 12th Avenue bridge
- Relocate object markers at the headwall east of 13th Avenue
- Install Narrow Bridge sign for westbound direction at 12th Avenue bridge

Figure 11: Burns Road Canal Crossings East of 14th and 13th Avenues

Figure 12: Inadequate Connections of Guardrail Posts to Concrete at 12th Avenue Bridge

Figure 13: Object Markers East of 13th Avenue Should Be Located at Edge of Headwall Closest to Road

Figure 14: Narrow Bridge Near 12th Avenue

2nd Avenue at Agency Road

2nd Avenue becomes Agency Road north of Mohave Road in a horizontal curve. The Tribal planner indicated that some motorists enter this curve at excessive speeds. The northbound approach to the curve has transverse rumble strips to encourage motorists to slow down before entering the curve. The southbound approach has a curve warning sign. Guardrail and chevrons have been installed along the curve; however, it appears that the guardrail and chevrons do not extend to the end of the curve on the south side (Figure 15).

Figure 15: Curve at 2nd Avenue and Agency Road. Note the Guardrail and Chevrons Do Not Extend Through the End of the Curve.

Recommendations for the horizontal curve at 2nd Avenue/Agency Road include:

- Extend the guardrail through the curve at the bottom of the hill
- Install additional chevron(s) through the curve at the bottom of the hill
- Install transverse rumble strips at the top of the hill where guardrail starts
- Install northbound curve warning sign with appropriate advisory speed plaque, and add advisory speed plaque to southbound curve sign
- Add reflective tabs to top of guardrail posts

4th Avenue at Indian School Road

This intersection is actually a sharp horizontal curve with stop signs. Field observations showed that many drivers do not stop at the unwarranted stop signs. Wooden barricades within the clear zone on the south side of the curve are not breakaway (Figure 16). Graffiti-covered large arrow signs and stop sign are difficult to see (Figure 17). The irrigation ditch is within 6 feet of the edge of the road along the inside of the turning radius (Figure 18).

Figure 16: Wooden Barricades on Outside of Curve at 4th Avenue and Indian School Road Create a Fixed Object Hazard

Figure 17: Graffiti on Stop Sign and Large Arrow Sign Diminish Visibility of the Signs

Figure 18: Irrigation Ditch is 6 Feet from Edge of Road in Turning Radius

Recommendations for 4th Avenue at Indian School Road include:

- Remove stop signs, stop ahead signs, stop lines, and wooden barricades
- Install turn warning signs with appropriate advisory speed plaques
- Replace and relocate large arrow signs so they are in line with approaching traffic
- Install centerline markings and RPMs and edgelines through curve
- Install transverse rumble strips on the curve approaches

Figure 19 provides a sketch of these recommendations.

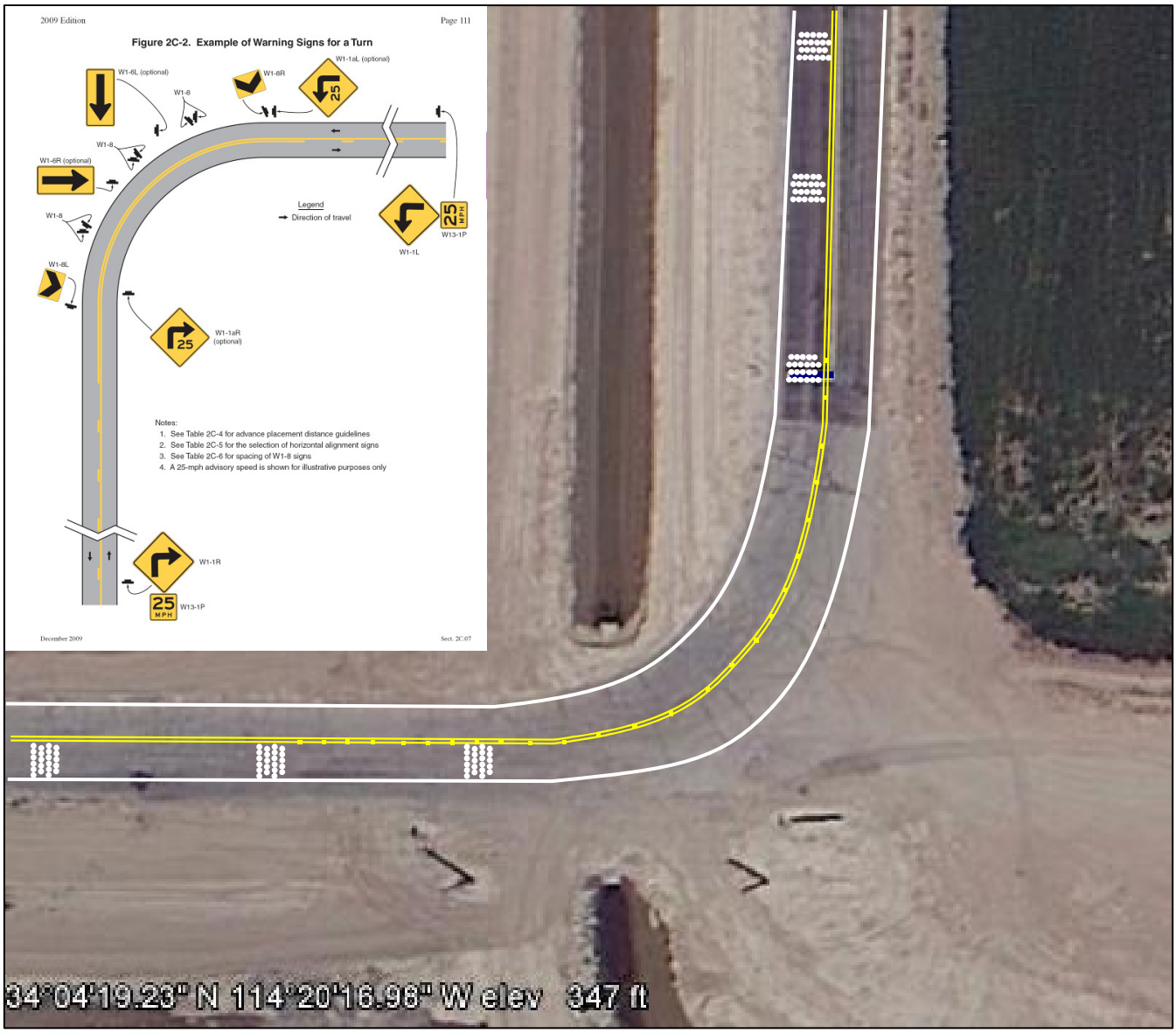

Figure 19: Sketch of Recommendations for 4th Avenue at Indian School Road

4th Avenue at Booth Road

4th Avenue becomes Booth Road in a horizontal curve. Transverse rumble strips have been installed on the curve approaches. There are multiple unpaved accesses within the curve that lead to the canal roads (Figure 20). A concrete barrier has been placed across one of the accesses apparently to prevent vehicles from entering; however, vehicles can maneuver around the barrier due to its location and gain access to the canal road. Chevrons on the east side do not extend to the end of the curve. Chevron spacing through the curve is approximately 200 feet. The MUTCD recommends chevron spacing of 120 feet for curve speeds of 35 to 45 mph.


Figure 20: Unpaved Accesses Leading from 4th Avenue/Booth Road to Canal Roads

Recommendations for 4th Avenue at Booth Road include:

- Relocate access road barrier closer to 4th Avenue to prohibit entrance
- Reduce chevron spacing to 120 feet and extend chevrons through the curve east along Booth Road
- Limit number of accesses to the canal roads in this curve

Mohave Road Southern Section (Mileposts 0 to 9):

The pavement markings on the southern section of Mohave Road (mileposts 0 to 9) are faded or non-existent, and the pavement is aged (Figure 21). The Welcome sign at milepost 0 is faded and may not command driver attention (Figure 22). Gateway signing can have a traffic calming influence on motorists entering a community.

Recommendations for the southern section of Mohave Road include:

- Rehabilitate the pavement with a chip seal treatment
- Install centerline markings and RPMs and edgeline markings to provide 11-foot lanes and 4 foot shoulders
- Install centerline and edgeline rumble strips
- Install a new "Welcome to CRIT" monument sign at milepost 0

Figure 21: Mohave Road Near Milepost 1. Note Pavement Condition and Lack of Markings

Figure 22: Welcome Sign at Milepost 0

Mohave Road at Poston Road

This location has turning movements and pedestrian activity due to Woody's convenience store, post office, residences, and the Poston Memorial Monument that are in the immediate vicinity. The intersection has uncontrolled access on all 4 quadrants (Figure 23). Large trucks parking at Woody's create a sight obstruction. Even though there are some street lights in the area, the intersection is not well-lit at night.

Figure 23: Uncontrolled Access at the Mohave Road/Poston Road Intersection

Recommendations for the Mohave Road/Poston Road intersection include:

- Install pedestrian crossing warning signs on the Mohave Road approaches
- Refresh pavement markings (turn lanes, edgelines, centerlines)
- Construct sidewalks/curb and gutter along the intersection legs
- Upgrade street lighting

Figure 24 provides a sketch of these recommendations.

Figure 24: Sketch of Recommendations for the Mohave Road/Poston Road Intersection

Mohave Road at Patrick Road

It is difficult to see the Patrick Road intersection from the northbound approach due to the canal crossing and guardrail (Figure 25). The guardrail on the east side of the crossing has been damaged (Figure 26). The curb in front of the guardrail reduces crashworthiness of the guardrail (Figure 27). There is no barrier to keep vehicles that run off the road from striking the concrete structure (Figure 28) or falling into the canal (Figure 29). Chevron spacing in the curve is approximately 250 feet (Figure 30); the MUTCD recommends 160 foot spacing for curve speeds of 50 to 60 mph.

Figure 24: Sketch of Recommendations for the Mohave Road/Poston Road Intersection

Figure 25: Northbound Approach to Patrick Road Intersection

Figure 26: Damaged Guardrail at Canal Crossing near Patrick Road

Figure 26 Continued: Damaged Guardrail at Canal Crossing near Patrick Road

Figure 27: Curb in Front of Guardrail

Figure 28: No Barrier to Keep Vehicles from Striking Concrete Structure

Figure 29: Southbound Mohave Road Approach to Patrick Road Canal Crossing

Figure 30: Chevrons South of Patrick Road

Recommendations for Mohave Road at Patrick Road include:

- Extend guardrail on northbound approach to prevent errant vehicles from striking the concrete structure
- Extend guardrail on southbound approach and relocate Patrick Road approach approximately 150 feet north
- Repair damaged guardrail and posts
- Block out guardrail to position the guardrail face flush with the curb
- Reduce chevron spacing to 160 feet by installing additional chevrons
- Install reflective tabs on guardrail posts

Mohave Road at Agnes Wilson Road

The team observed higher speeds (55 mph speed limit), higher volumes, and more numerous turning movements at this intersection than at other intersections on Mohave Road. Commercial activity at the intersection includes the truck scales, which creates large truck activity. The left-turn lanes on Mohave Road are approximately 180 feet long (including taper and storage length), which is too short for the current operating speeds. The turn lane pavement markings are faded (Figure 31).

There are two closely spaced intersection warning signs (both directions between Agnes Wilson Road and Patrick Road) for Eddy Road and 9th Avenue (Figure 32).

Recommendations for Mohave Road at Agnes Wilson Road include:

- Reduce the speed limit to 35 mph
- If the speed limit is not reduced, increase the length of the left-turn lanes
- Refresh intersection pavement markings (Figure 33)
- Replace intersection warning signs for Eddy Road and 9th Avenue with Double Side Road intersection warning signs (Figure 34)

Figure 31: Aerial View of Mohave Road/Agnes Wilson Road Intersection

Figure 32: Closely Spaced Intersection Warning Signs for Eddy Road and 9th Avenue

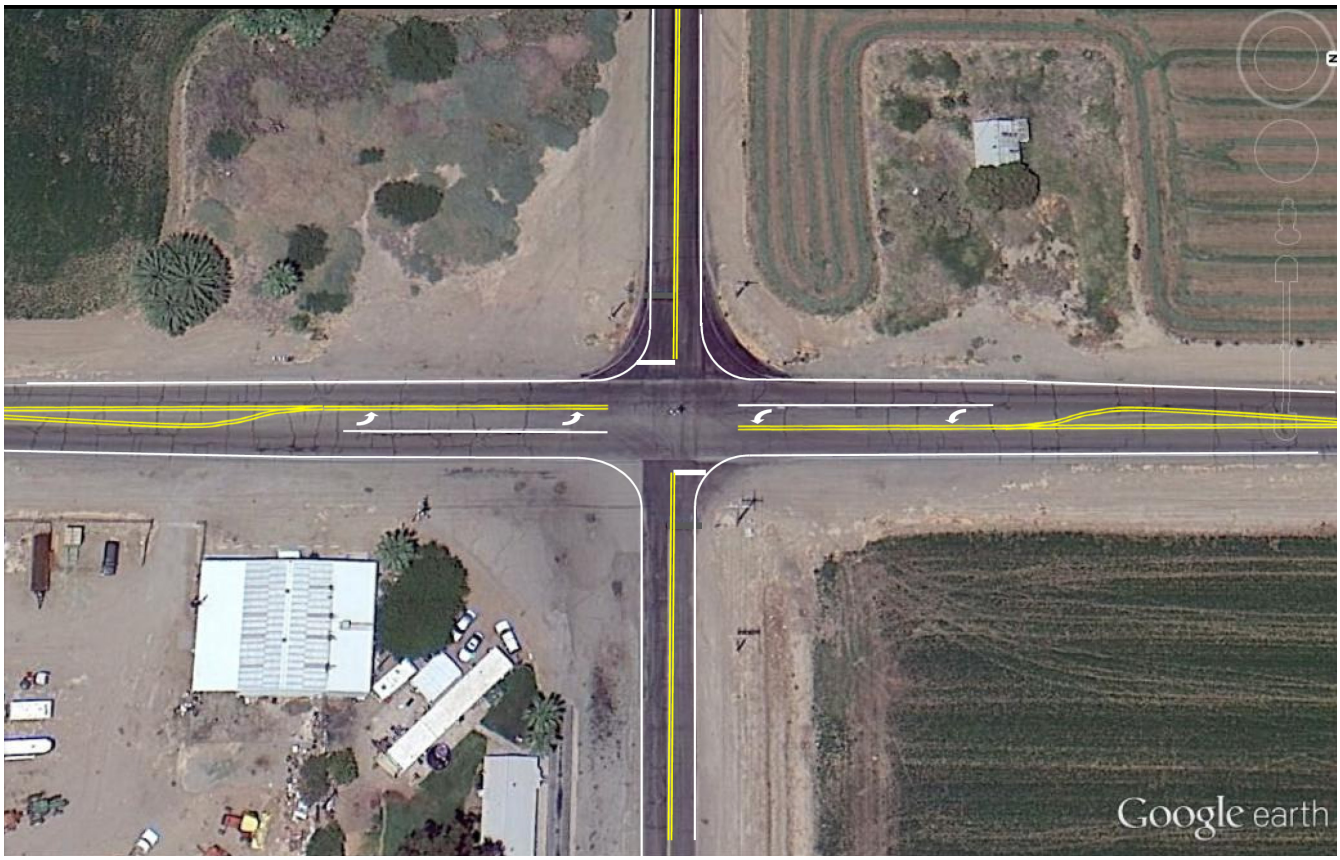

Figure 33: Sketch of Recommendations for the Mohave Road/Poston Road Intersection

Figure 34: Double Side Road Intersection Warning Sign

Mohave Road at the Head Start School

The speed limit at the Head Start School is 45 mph; however, a spot speed check conducted by the RSA team showed many vehicles traveling at speeds of 55 to 60 mph in front of the school. Even though there is a no passing zone at the school, the RSA team vehicle was passed (while traveling at the speed limit). There is no defined access at the school, leading to vehicles pulling on and off of Mohave Road at multiple locations (Figure 35). Vehicles pulling onto the shoulder at the mailboxes just north of the school (southwest corner of Mohave Road/Indian School Road intersection) lead to shoulder erosion and create a potential hazard for motorists along Mohave Road (Figure 36).

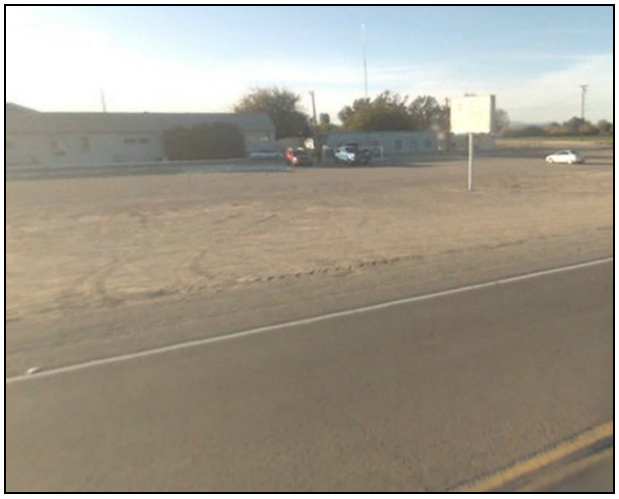

Figure 35: Undefined Access at Head Start

Figure 36: Mailboxes Near Head Start

Recommendations for Mohave Road at the Head Start School include:

- Create a reduced speed school zone and install solar powered “35 MPH When Flashing” signs
- Implement photo enforcement for speeding
- Relocate mailboxes to a cluster mailbox approximately 100 feet west of Mohave Road on the north side of Indian School Road
- Designate a defined school entrance on Indian School Road, and close the undefined access along Mohave Road (with curb and gutter, vegetation, etc.)

Figure 37 provides a sketch of the recommendations.

Figure 37: Sketch of Recommendations for Mohave Road at Head Start School

Mohave Road at 2nd Avenue

Tribal offices are located at this intersection, and the rodeo grounds and a park are nearby, leading to numerous turning movements and pedestrian activity. The intersection is dark at night due to lack of street lighting. The speed limit decreases from 55 to 35 mph for the northbound approach and from 45 to 35 mph for the southbound approach; the Tribe noted that excessive speeds are an issue at this location. The flashing beacon is 14.5 feet above the road surface (Figure 38); the MUTCD states that the bottom of the signal housing shall be at least 15 feet above the pavement. This beacon has been struck by large vehicles in the past.

Figure 38: Flashing Beacon at Mohave Road/2nd Avenue Intersection

Recommendations for Mohave Road at 2nd Avenue include:

- Install a 45 mph speed zone between the 55 and 35 mph speed zones for the northbound approach (install 45 mph sign south of Rodeo Road)
- Install solar-powered speed feedback signs on the approaches to 2nd Avenue
- Elevate the flashing beacon; remove beacon if it can't be elevated
- Install street lighting
- Install pedestrian crossing warning signs on Mohave Road
- Refresh intersection pavement markings
- Install guide signing for Tribal Government Complex
- Conduct pedestrian crossing evaluation to determine if a mid-block pedestrian crossing treatment is warranted

Mohave Road at 1st Avenue

There are no turn lanes on Mohave Road at 1st Avenue; the Tribe indicated that there are frequent turning movements at this intersection. The intersection is at the bottom of a downgrade and just beyond a horizontal curve for westbound traffic.

The westbound Mohave Road speed limit changes from 45 to 35 mph on the downgrade and in the horizontal curve. There are redundant Speed Reduced Ahead and 35 mph Speed Zone signs for westbound Mohave Road east and west of 1st Avenue.

Recommendations for Mohave Road at 1st Avenue include:

- Conduct a turn lane analysis, and if needed, construct turn lanes on Mohave Road at 1st Avenue
- Relocate the 35 mph Speed Zone sign and Speed Reduced Ahead sign for westbound Mohave Road to a location east of the horizontal curve and downgrade
- Remove the Speed Reduced Ahead sign west of 1st Avenue

Suggested Improvements/Countermeasures

The following table summarizes the RSA team's observations and potential opportunities to improve safety. These suggested improvements/countermeasures are presented as options for consideration; the road owner may also identify other effective alternative improvements and countermeasures. While every attempt has been made to identify potential safety issues and provide countermeasure options, the safety performance of the roadway remains the responsibility of the roadway owner and roadway users.

Next Steps

In order to complete this RSA, the RSA Team requests that the road owners prepare a written response that addresses the potential safety issues and countermeasures for consideration highlighted in the following table. This response can be sent to the RSA Program Manager and should identify how each of the safety issues will be addressed or give the basis for why they won't be addressed. The RSA Program Manager can provide an example response letter and the following table in a Word document to assist in the response. Send the response letter to:

Mike Blankenship
Arizona RSA Program
1615 W. Jackson St. MD065R
Phoenix, AZ 85007
mblankenship@azdot.gov

POTENTIAL SAFETY ISSUE	DESCRIPTION	COUNTERMEASURES FOR CONSIDERATION
Education, Enforcement, and Emergency Medical Services	• Traffic safety issues cannot be solved with engineering solutions alone, which is why the RSA team addresses the "4 Es" of safety: engineering, education, enforcement, and emergency medical services	• Require Tribal employees to use seatbelts when in a tribal vehicle • Enact a primary seat belt law and consider stronger child passenger safety laws (at minimum, CRIT should align their child passenger safety ordinance to mirror Arizona's statute ARS 28-907) • Advocate to the town of Parker that adding 24/7 fire department coverage is a necessary public safety benefit; at minimum, CRIT should conduct a cost benefit analysis to determine the costs of providing fire department coverage to the Town of Parker • Use only the contracted air ambulance provider (Native Air) and if a situation arises when the non-contracted air ambulance (Care Flight) must be used, the providers should document why this decision was made. The documentation will allow Indian Health Service to assess the provided contracted services. • Conduct quarterly meetings of the multiple law enforcement agencies serving the community to discuss mutual issues • Continue with the child passenger safety efforts of the TIPCAP and CDC funded motor vehicle projects, and consider addressing adolescent traffic safety using the Battle of the Belt

POTENTIAL SAFETY ISSUE	DESCRIPTION	COUNTERMEASURES FOR CONSIDERATION

Pavement Markings	• Centerline and edgeline markings are faded or non-existent on many of the roads in the study area, including:
	  • Mohave Road between mileposts 0 and 9
	  • Burns Road
	  • Booth Road
	  • 4th Avenue
	  • Indian School Road
	• There are also missing raised pavement markers (RPMs) on some segments of road. Lack of pavement markings can contribute to lane departure crashes.
		• Install 6-inch wide centerline and edgeline markings with centerline raised pavement markers (RPMs) on the southern section of Mohave Road (milepost 0 to 9), Burns Road, Booth Road, 4th Avenue, and Indian School Road
		• If centerline and edgeline markings can't be installed, consider installing centerline RPMs at canal crossings and through curves

Signing	• Most advance street name signs on Mohave Road are faded and difficult to read	• Upgrade advance street name signs to Manual on Uniform Traffic Control Devices (MUTCD) standards
Stop Lines	• Most stop lines are faded and located too far back from the intersection, limiting sight distance for motorists on the side road. For example, the stop line for the Tsosie Road westbound approach to Mohave Road is located 42 feet from the intersection; combined with an embankment, this creates a sight obstruction for motorists entering the intersection from the stop line.	• Refresh and relocate stop lines closer to the intersection (the MUTCD allows stop lines to be located within 4 feet of the intersecting through lane)
Pedestrians and Bicyclists	• There are very few accommodations for pedestrians and bicyclists: no trails, sidewalks, or bike lanes	• Construct sidewalks/trails and install lighting along 1st Avenue from Mohave Road to Hospital, along Mohave Road from 1st to 2nd Avenues, and from the Mochen housing near Booth Road and 4th Avenue to the tribal offices on 2nd Avenue • Coordinate with BIA Irrigation Branch to provide walking and biking facilities along the canals

POTENTIAL SAFETY ISSUE	DESCRIPTION	COUNTERMEASURES FOR CONSIDERATION
Burns Road from 1st to 4th Avenue	• Other than the bridge barrier and railing, there is nothing to keep vehicles that run off the road while approaching the canal crossing from plunging into the canal • The drainage ditch on the south side of Burns Road just east of 4th Avenue is in the recovery area and near an unpaved travel area	• Install barrier extending from the bridge to along the side of the canal approximately 30 feet; if this can't be done, install object markers along the side of the canal • Install delineators to delineate the drainage ditch just east of 4th Avenue
Burns Road from 12th to 14th Avenue	• As with the canal crossing east of 4th Avenue, there is nothing to keep vehicles that run off the road while approaching the canal crossings east of 13th and 14th Avenues from plunging into the canal • There are inadequate post connections at the 12th Avenue bridge guardrail: bolts are loose and pulling away from the concrete • The object markers along the north side of the headwall east of 13th Avenue are in the wrong location; according to the MUTCD, the edge of the object marker that is closest to the road user shall be installed in line with the closest edge of the obstruction • The westbound direction of Burns Road has a Narrow Bridge sign for the 12th Avenue bridge, but there is no sign for the eastbound direction	• At the canal crossings east of 13th and 14th Avenues install curved W-Beam guardrail extending from the crossing to approximately 30 feet along the side of the canal; if this can't be done, install object markers along the side of the canal • Repair post connections at the 12th Avenue bridge • Relocate object markers at the headwall east of 13th Avenue • Install Narrow Bridge sign for westbound direction at 12th Avenue bridge
2nd Avenue at Agency Road	• 2nd Avenue becomes Agency Road north of Mohave Road in a horizontal curve. The Tribal planner indicated that some motorists enter this curve at excessive speeds. The northbound approach to the curve has transverse rumble strips to encourage motorists to slow down before entering the curve. The southbound approach has a curve warning sign. • Guardrail and chevrons have been installed along the curve; however, it appears that the guardrail and chevrons do not extend to the end of the curve on the south side	• Extend the guardrail through the curve at the bottom of the hill • Install additional chevron(s) through the curve at the bottom of the hill • Install transverse rumble strips at the top of the hill where guardrail starts • Install northbound curve warning sign with appropriate advisory speed plaque, and add advisory speed plaque to southbound curve sign • Add reflective tabs to top of guardrail posts

POTENTIAL SAFETY ISSUE	DESCRIPTION	COUNTERMEASURES FOR CONSIDERATION
4th Avenue at Indian School Road	• This intersection is actually a sharp horizontal curve with stop signs. Field observations showed that many drivers do not stop at the unwarranted stop signs. • Wooden barricades within the clear zone on the south side of the curve are not breakaway. • Graffiti-covered large arrow signs and stop sign are difficult to see • The irrigation ditch is 6 feet from the edge of the road along the turning radius	• Remove stop signs, stop ahead signs, stop lines, and wooden barricades • Install turn warning signs with appropriate advisory speed plaques • Replace and relocate large arrow signs so they are in line with approaching traffic • Install centerline markings and RPMs and edgelines through curve • Install transverse rumble strips on the curve approaches
4th Avenue at Booth Road	• 4th Avenue becomes Booth Road in a horizontal curve. Transverse rumble strips have been installed on the curve approaches. • There are multiple unpaved accesses within the curve that lead to the canal roads. A concrete barrier has been placed across one of the accesses apparently to prevent vehicles from entering; however, vehicles can maneuver around the barrier due to its location and gain access to the canal road. • Chevrons on the east side do not extend to the end of the curve • Chevron spacing through the curve is approximately 200 feet. The MUTCD recommends chevron spacing of 120 feet for curve speeds of 35 to 45 mph.	• Relocate access road barrier closer to 4th Avenue to prohibit entrance • Reduce chevron spacing to 120 feet and extend chevrons through the curve east along Booth Road • Limit number of accesses to the canal roads in this curve
Mohave Road Southern Section (Mileposts 0 to 9)	• The pavement markings on the southern section of Mohave Road (mileposts 0 to 9) are faded or non-existent, and the pavement is aged • The Welcome sign at milepost 0 is faded and may not command driver attention. Gateway signing can have a traffic calming influence on motorists entering a community.	• Rehabilitate the pavement with a chip seal treatment • Install centerline markings and RPMs and edgeline markings to provide 11-foot lanes and 4 foot shoulders • Install centerline and edgeline rumble strips • Install a new “Welcome to CRIT” monument sign at milepost 0

POTENTIAL SAFETY ISSUE	DESCRIPTION	COUNTERMEASURES FOR CONSIDERATION
Mohave Road at Poston Road	• This location has turning movements and pedestrian activity due to Woody's convenience store, post office, residences, and the Poston Memorial Monument that are in the immediate vicinity • The intersection has uncontrolled access on all 4 quadrants • Large trucks parking at Woody's create a sight obstruction • Even though there are some street lights in the area, the intersection is not well-lit at night	• Install pedestrian crossing warning signs on the Mohave Road approaches • Refresh pavement markings (turn lanes, edgelines, centerlines) • Construct sidewalks/curb and gutter along the intersection legs • Upgrade street lighting
Mohave Road at Patrick Road	• It is difficult to see the Patrick Road intersection from the northbound approach due to the canal crossing and guardrail • The guardrail on the east side of the crossing has been damaged. The curb in front of the guardrail reduces crashworthiness of the guardrail. • There is no barrier to keep vehicles that run off the road from striking the concrete structure or falling into the canal • Chevron spacing in the curve is approximately 250 feet; the MUTCD recommends 160 foot spacing for curve speeds of 50 to 60 mph.	• Extend guardrail on northbound approach to prevent errant vehicles from striking the concrete structure • Extend guardrail on southbound approach and relocate Patrick Road approach approximately 150 feet north • Repair damaged guardrail and posts • Block out guardrail to position the guardrail face flush with the curb • Reduce chevron spacing to 160 feet by installing additional chevrons • Install reflective tabs on guardrail posts
Mohave Road at Agnes Wilson Road	• The team observed higher speeds (55 mph speed limit), higher volumes, and more numerous turning movements at this intersection than at other intersections on Mohave Road • Commercial activity at the intersection includes the truck scales, which creates a high amount of large truck activity • The left-turn lanes on Mohave Road are approximately 180 feet long (including taper and storage length), which is too short for the current operating speeds	• Reduce the speed limit to 35 mph • If the speed limit is not reduced, increase the length of the left-turn lanes • Refresh intersection pavement markings • Replace intersection warning signs for Eddy Road and 9th Avenue with Double Side Road intersection warning signs

	• The turn lane pavement markings are faded • There are two closely spaced intersection warning signs (both directions between Agnes Wilson Road and Patrick Road) for Eddy Road and 9th Avenue	
Mohave Road at the Head Start School	• The speed limit at the Head Start School is 45 mph; however, a spot speed check conducted by the RSA team showed many vehicles traveling at speeds of 55 to 60 mph in front of the school • Even though there is a no passing zone at the school, the RSA team vehicle was passed (while traveling at the speed limit) • There is no defined access at the school, leading to vehicles pulling on and off of Mohave Road at multiple locations • Vehicles pulling onto the shoulder at the mailboxes just north of the school (southwest corner of Mohave Road/Indian School Road intersection) lead to shoulder erosion and create a potential hazard for motorists along Mohave Road	• Create a reduced speed school zone and install solar powered "35 MPH When Flashing" signs • Implement photo enforcement for speeding • Relocate mailboxes to a cluster mailbox approximately 100 feet west of Mohave Road on the north side of Indian School Road • Designate a defined school entrance on Indian School Road, and close the undefined access along Mohave Road (with curb and gutter, vegetation, etc.)
Mohave Road at 2nd Avenue	• Tribal offices are located at this intersection, and the rodeo grounds and a park are nearby, leading to numerous turning movements and pedestrian activity • The intersection is dark at night due to lack of street lighting • The speed limit decreases from 55 to 35 mph for the northbound approach and from 45 to 35 mph for the southbound approach; the Tribe noted that excessive speeds are an issue at this location • The flashing beacon is 14.5 feet above the road surface; the MUTCD states that the bottom of the signal housing shall be at least 15 feet above the pavement. This beacon has been struck by large vehicles in the past.	• Install a 45 mph speed zone between the 55 and 35 mph speed zones for the northbound approach (install 45 mph sign south of Rodeo Road) • Install solar-powered speed feedback signs on the approaches to 2nd Avenue • Elevate the flashing beacon; remove beacon if it can't be elevated • Install street lighting • Install pedestrian crossing warning signs on Mohave Road • Refresh intersection pavement markings • Install guide signing for Tribal Government Complex • Conduct pedestrian crossing evaluation to

		determine if a mid-block pedestrian crossing treatment is warranted
Mohave Road at 1st Avenue	• There are no turn lanes on Mohave Road at 1st Avenue; the Tribe indicated that there are frequent turning movements at this intersection. The intersection is at the bottom of a downgrade and just beyond a horizontal curve for westbound traffic. • The westbound Mohave Road speed limit changes from 45 to 35 mph on the downgrade and in the horizontal curve • There are redundant Speed Reduced Ahead and 35 mph Speed Zone signs for westbound Mohave Road east and west of 1st Avenue	• Conduct a turn lane analysis, and if needed, construct turn lanes on Mohave Road at 1st Avenue • Relocate the 35 mph Speed Zone sign and Speed Reduced Ahead sign for westbound Mohave Road to a location east of the horizontal curve and downgrade • Remove the Speed Reduced Ahead sign west of 1st Avenue

Appendix

ROAD SAFETY ASSESSMENT AGENDA
COLORADO RIVER INDIAN TRIBES
BIA WESTERN REGION, COLORADO RIVER AGENCY

Wednesday, February 27, 2013

10:00 AM Road Safety Assessment Start-up Meeting ***All***
1. Road Safety Assessments: Objectives, Procedures ***RSA Team***
2. Background on Study Area ***Tribe/BIA***
   Overview, History, Challenges, Specific Concerns
3. Questions and Answers ***All***

- *The road safety assessment team will be led by Mike Blankenship, Arizona RSA Program Manager. The RSA Team includes Gregory Fisher (CRIT), Richard Weeks (ADOT), Don Sneed (ADOT), and Tomi St. Mars (Arizona Dept. of Health Services).*
- *For the start-up meeting, information will be provided by Gregory Fisher, CRIT Tribal Planner.*

11:30 AM Break

12:30 PM Daytime Site Visits ***RSA Team***

7:15 PM Nighttime Site Visits ***RSA Team***

Thursday, February 28

7:30 AM Daytime Site Visits ***RSA Team***

10:00 AM Work Session/Analysis ***RSA Team***

11:30 AM Break

12:30 PM Work Session/Analysis ***RSA Team***

Friday, March 1

8:30 AM Presentation of Preliminary Findings ***All***

- *Findings Report to owner: March 29*
- *Owner's Response to findings: May 2*

10:30 AM Adjourn

All meetings will be conducted at the Indian Health Service Colorado River Service Unit at 12033 Agency Road, Parker.

Feb. 27: Computer Training Room
Feb. 28: Meditation Room
March 1: Medical Library

Appendix C – Survey Results

2014 STRATEGIC LONG-RANGE TRANSPORTATION PLAN FOR THE COLORADO RIVER INDIAN TRIBES SURVEY

Please Check One:	Total # of Responses
Tribal community member	23
Non-Tribal community member	9
<NO RESPONSE>	16

What do you believe are the current transportation needs/issues within the Colorado River Indian Tribes Reservation area? Please consider:

Roadways

Yes
Beautifully kept highway between Parker & Blyth, CA. I never see garbage etc.
Trash receptacles at locations
Roads repaved
Need to fix our highway roads here in Parker/The Valley. Too many holes in the roads.
Re-do 1st Avenue – Agnes Wilson – 5th & Indian School, 9th Avenue
On the reservation need to be better maintained by the BIA Roads (potholes, ridges, etc.)
Too many potholes
Mohave Road
In our area 4th & Little Rd the road ends at the ditch next to our house, but the road is used a lot (dirt road) needs to be paved & signs up. Traffic is heavy & fast through there.
Roads need to be fixed and have reflectors
Need improvement, asphalt overlay and some need delineation.
Proper paving, better embankments
Overall, fairly good. Isolated areas do need improvements – mainly in the Parker Valley.
Mohave Road needs to be repaired further in the valley from McCabe Road to Ehrenberg.
From Blythe, CA
Well, they need to be fixed
Local travel and back to town. There is such abundance of cars for medical only
9th Ave, E. Agnes Wilson near Poston is truly in need of repair. As a resident, the destruction of vehicles plus repairs should not be a problem, but it is a large problem.
9th Ave. This is a school bus route, elementary and Head Start. This road was stripped of what asphalt it had and was never re-paved – for three school terms. It causes terrible dust, clogs a/c, and dusty indoors. Bad for asthma, especially children and old people. All school children must catch the bus on 9th Ave & Agnes Wilson Road, causing parents to drive and pick up every school day. It is all unnecessary cost of gas and time. School busses will not drive on road!!
1st Ave Road, Indian School Road
Need a road going North on 14th Ave & Burns Road. All roads that the Head Start Bus (routes) uses to pick up children.
9th Ave needs to be built, there's a lot of traffic & homes there.
All roadways are damaged some more than others such as Indian School Rd, Peterson Rd, and Beeson Rd.
All of the Avenues off the main side roads
Some side roads need repair

All the roads need to be fixed over. All the back roads need to be paved over
Some roads need work
Roads in valley need to be redone. Road by Andersons Trailer Park by Head Start

Intersections

Some of the sharp turns, along the canals, you can't see the turn or other cars.
We need a stop light by the La Paz Hospital
Better access to Pizza Hut
Make them more pedestrian friendly
Mohave & 2nd Ave, Mohave & 1st Avenue
Install traffic signals
Better signage. Bolder signs.
Good.
N/A
Some need stop lights like at 1st / Mohave too many wrecks.
Safer for pedestrians
The electric panel on the NE side of Burns & Mohave is an obstruction, and sign on the NE side of 4 corners obstructs view to Southbound traffic.
Agency & Mohave: Designated white line "Stop" provides poor visibility from either direction when crossing Mohave Road
Some need to be cleared of brush
Some need to be clean of brush and weeds
Some intersections have obstructions
Enforce speed limit at Poston Intersection

Subdivisions

Yes
Big River Development – California side of river. The roads are bad. I think it's a California Roadways problem
Too many speed bumps, too many potholes.
Mo-Chem not everyone has a vehicle in the area & a shuttle or someone to give the people rides to town stores, etc.
Roads at Big River most of them need to be paved
Your security personnel is severely under-trained. Thank god they don't have tasers
Good.
Speed bumps to control speeding plus fix the potholes
Need stop signs, speed signs for children
More lighting, a way to slow drivers
Mo-Chem needs a playground for our children. Clean up and sidewalks
Why not shuttles to subdivisions?
OK
They are alright
Badenochs too many overgrown trees along BlueWater Dr. obstruct your view

Bridges

Brand-new bridge from Parker to Calif.
Need to be better marked to avoid accidents
Love the bridges, could make them wider.
Little Rd & Mohave
The ditch where we live for 8-9 years we have been there several cars into the ditch. One fatal, the rest minor but serious.
Are fine, and will be better when the new bridge over the Colorado River is completed
More upkeep & a closer bridge to Big River
Currently under construction
N/A
Wider
How come there is no charge for all the semi-trucks and oversize traffic on Agnes Wilson bridge?
Some side road bridges need to be widened and brush cleared away
Some need to widen or done over (Burns Rd and 12th Ave)
CA/AZ are too narrow, needs (should be) wider

Pedestrians (sidewalks, crossings and paths/trails)

Yes
Town of Parker is putting in more sidewalks, thank goodness.
We need more sidewalks
Complete walking access to casino
Should all be better marked to avoid potential accidents
Not enough. Could re-paint crosswalks.
Town of Parker Mohave
4th & Little Rd or bus stop sign & crossing & maybe a street light
We need walking paths
Sidewalk on 95 between Blue Water Casino and the intersection with Walmart need to be finished
Need safe paths & trails on well-traveled rural roads
We need a sidewalk from BWRC to Walmart and a bike route
Good
(circled sidewalks) Needed for IHS to Ocotillo.
Don't walk, sorry
More
Yes, all in subdivisions
Sidewalks in all areas
(circled sidewalks) Could be useful
More, more
Sidewalks to the Indian Health Center – Agency Rd, 1st Ave near the Jom/Ed&T/Hip/SDP/WIC offices.
A few trails along the river would be great!
Need more crossing re-painted
All okay

Bicycles

There are more sidewalks to ride on, with being able to ride from street to street w/ curbing.
Bike Paths – w/ tour info
Bicycle Path from Parker to LHC or bicycle/walking path – Great recreational opportunity. Start it at the Casino
Children to stay off the Highway. Also older people to be more alert when children are on the road riding their bicycles.
Safer bicycle access to this casino way and to shopping centers.
Possible bicycle routes. Also need to be better marked by signs/police patrolled.
Easy travels. Not too many issues.
None
Desert area maybe a bike track in the sand area near our residences Mo-Chem
We need bicycles roadways
Provide bicycle lanes on main road like California Avenue and also at Riverside
A bike path-bike lane would be nice
None – could use some bike lanes
Don't bike!
A path designated for bikes
Bicycle paths would be wonderful
Could use bike and or pedestrian paths along Mohave down to Poston or beyond and back.
A way to show bike safety a program for free helmet & pads, a mandatory training for kids and parents before you get it free.
No enough edge along roadways to drive safely.
Never much alright
We need some bicycle paths or trails

ATV and motorcycles

"Zero"
Off-road Parks
Riders of these off-road vehicles need to be better educated, so they know their rights of way
Good enough. Perfect area for motorcycles.
None
All our kids have bikes, but due to the traffic on our dirt road unsafe to ride along the road.
Designate an area where they can drive to prevent the deterioration of the environment in other areas
Mainly off-road
A place in the desert
Clearly marked areas
A place for ATV and motorcycles only a track
Signs need to be posted in the desert areas near town limits.
We need an MX track! Why not build one on the outskirts, and charge for entrance? Look at So Cal for examples of waivers, etc.
No designated motorcycles parking observed anywhere
No problem with them as long as they stay where they are supposed to be

Lack of shuttles or transit services

Yes
Needed badly
A trolley would suffice
Yes there is a lack of transportation
Yes there is a lack of
Possible shuttles/vans – busses – would be a great idea. A lot of tribal members do not have transportation.
I'm from Coeur d'Alene, Idaho. We have a free transit shuttle bus that takes us to and from the casino. Works amazingly. No problems.
Parker to Blythe (senior citizens)
Indeed we live in the valley and to get here do CAN right (2) trips and each ride was (9) in first trip & 5 2nd trip. So we traveled illegal and loved ones in danger. But it's the only way to get anywhere.
We need more transit rides cheap
Need a bus going down into the valley and to Mo-Chem in the morning and in the late afternoon so those that need transport to work can get there consistently
Provide shuttles (public transportation) around the city and suburban locations
We need transit into the Valley!!!
I think a shuttle should be used at the casino for patrons that park way uphill
Very few
Need a local bus transit system to all the subdivisions to local businesses
I need "desperately"
Yes, our tribe does need a public transit
There is a lack
For shopping & banking
Shuttle service could be of use to tribal members without transportation
Told by taxi services they are not allowed to transport in Valley. Conflict with Sr. Program? Where's the alternative, if that's the case?
Need some of or majority do not have own transportation for child care, at least get close to jobs or even stores
Transportation for GED, hospital, appts., help people get food for household
From 100 Homes to Wal-Mart/Safeway/Bashas
Lack of transportation & remoteness of homes in the Valley created a migration of families to town, where housing is limited. Also elders have difficulty obtaining transportation.
CRIT has no money for this service if they did it wouldn't last (money will be gone)
Yes, would be helpful to folks with no vehicle.
Shuttles that run from Parker to Poston would be nice

Other needs/issues

Bigger signs
Walking/bicycles areas needed!
I love this town
n/a
Fix potholes in existing rural roads
Zero

None
Better all other's to use needs 12 or 24 hour notice
Maybe work shuttle at designated pick up areas
Building up un-used dirt roads
Anyway to get something so people without cars can get around (bus, taxi)
When they need it, or they have to pay for gas etc. for rides to shop, go to doctor, etc. Tractors & large equipment should stay off main roads from 7-8 am.
Travel from home to Matrix and to the store.
No designated turning lanes in order to turn into the CRIT Admin Compound

What area do you live in? (Check the area)

Parker	14
Parker Valley	9
100 Homes	4
Mo-Chem	3
50 Homes	
Poston	4
McCabe Road	
Peterson Road	1
Navajo Road	
Western Boundary	
Lost Lake	1
Aha Quin	
Hidden Valley Glade	
BlueWater Lagoon	
Lakeside	1
Parker Strip	2
Up River California Side	1
Other Area ***(Please write in)***	
Big River	3

LHC	2
Desert Sun	1
Up river at the Bill Willow	1
n/a	1

Where do you travel to the most (specify the places and streets).

Old Hwy 95 along River
14th & Agnes Wilson to Poston
For work I travel most of the roads from Little, Burn, Indian School, Peterson, McCabe, Tsosie, Beason and Welch Rds.

Employment:

CRIT Complex, IHS, Town of Parker, 5th Ave & Indian School 2nd Ave, 1st Ave, 5th Ave, Booth Road, Mohave Road, Indian School, Burns
Retired: Parker – Hwy 95 we have a 1 sq. mile town, so much of it is local…& LHC 2x month
X
Self
@BAS/CRIT
Des, Child Support, CRIT Tribal Office, 2nd & Mohave Rd.
Road east of the Blue Water RV park known as "Old River Rd" is in dire need of repaving – Brush is overgrown, it is full of potholes and not even wide enough for two cars to pass and is trashy.
No jobs; I'm disabled/handicapped.
Resort Drive – California – Geronimo Ave – Agnes Wilson Rd – Mohave Rd – 1st & 2nd Ave – Little and Burns Rd
CRIT Complex
Travel to Parker shopping
Tribal offices
Parker/Indian Health Clinic/Zero sidewalks & bad streets
My husband only working person so we drop him off & pick him up. But me & my daughters are transporting people from Mo-Chem to stores, medical appointments, whatever is needed for our little community there at Mo-Chem.
IHS Hospital
95 to California Avenue and Big River through Rio Vista Drive
Casino – Resort Drive, Town – Mohave Road
IHS
Dispatched throughout entire reservation
Safeway, Texaco, Wal-Mart (Riverside Drive), HIS
I currently work at BlueWater Casino. From Mohave Road up to Hwy 95 and South Bound to Casino Drive.
IHS Mohave Road to agency
Blythe, CA
Parker High School
Bashas, Safeway
CRIT JDC – Mohave/Agency (4 Corners)
Yes, looking living in appts one end of town to other
Still looking for employment
Just to the store mostly
Home-Mohave Ave to Mohave Rd & (work-) 2nd Ave to parents home N. 14th Ave & Burns Rd.
Hwy 95 to Agency Rd, to CRIT Admin Compound, to Mohave Road, to Poston
The whole valley. That includes all the main side roads. Little Rd, Burns Rd, Indian School Rd, Agnes Wilson

Rd, Eddy Rd, Patrick Rd, Scoot Rd, Polacca Rd, McCabe Rd, Hopi Rd, Peterson Rd, Navajo Rd, Tsosie Rd
Poston AZ & Parker
Mohave and Poston Road. Wherever to next job site is at
EPO travel all the roads in the Valley
Mohave Road
From Badenochs to Poston

Medical:

IHS, Phx, Riverside Drive
Both my Doctors are in Lake Havasu City, one usually comes to 2x month, down to Parker.
IHS
Dialysis
Dr. appointments
Parker, Indian Health Services on Agency Rd
IHS
IHS
Parker Indian Health
Diabetes. I have a 16 year old son and a daughter diagnosed at 8 years old and transportation was difficult due to not ACCHSS.
IHS
n/a
2nd Avenue - IHS, La Paz Regional Hospital – Mohave Road
In town of Parker areas
IHS
IHS
IHS 2ND & Booth up to IHS
Parker Medical / La Paz Regional
(Checked)
IHS
IHS
Agency Road
The Parker Indian Hospital
“We have CHR for that”
Parker Indian Health Center N. Mohave Ave to N. Navajo Ave then West on Agency Rd.
To Town of Parker or Phoenix
Mohave Rd.
Parker
Agency Rd, Indian Hospital, Sometimes La Paz Hospital Mohave Rd
Havasu or Parker

Shopping:

Wal-Mart, Groceries, H95 – near airport
Local Stores, but better $ deals in Lake Havasu. (mainly local)
Parker community
Wal-Mart, Safeway, Bashes, Family Dollar, Dollar General
Wal-Mart, Safeway, Bashes, Family Dollar

Bashas, Kofa Ave, Safeway, Deals
Need transportation to the store. All the time…
Wal-Mart, Safeway
Wal-Mart, Safeway, Bashas, Family Dollar, Dollar General
Parker and locally
Wal-Mart
Parker Bashas
We go to the store at least 6-7 times a day not for ourselves but for our neighbors
Havasu
Wal-Mart
California Avenue – Safeway, Wal-Mart, Bashas
Everywhere that's convenient
In town of Parker
Safeway, Wal-Mart
Wal-Mart, Bashas Hwy 95 and some roads through town
Wal-Mart, Safeway
Wal-Mart, Safeway, Bashas
(checked)
Wal-Mart
Wal-Mart, Safeway, Bashas
Parker
Safeway, Bashas, Wal-Mart, Family Dollar, Dollar General
Mainly
Wal-Mart=N. Mohave Rd to 19th Street turn East on 19th St. Turn left on California then right turn on Riverside.
(online) or Parker
Parker
Safeway and Wal-Mart (Riverside Drive-121), Woodys II (Mohave Rd-Poston)
In the Town of Parker, Blythe, CA.
Parker

School:

LHS, Head Start, Indian School, 16th TOP, Navajo, Geronimo
Le Pera, Blake Elementary
Parker High School, 16th & Kofa
Sometimes transport children to Le Pera
Parker High
Parker High School
Kids school in the Poston area far from where we live. So miss the bus more than three times good luck getting them there. Truancy will only transport three times and if you have a vehicle they will not.
n/a
n/a
None
Split between town and valley
n/a
n/a

PHS
Le Pera – Head Start
Wallace & Blake
Blake Primary School, Head Start
N/A
Indian School Rd.
Parker School District

Other (Please write in):

St. Vincent De Paul – 3Xweek with 2 people I pick up. To my grandkids house, on Laguna St.
Visit family in Phoenix – medical appointments for daughter at Phoenix Children's Hospital
Everywhere
None
Casino and Big River
Other casinos e.g. Laughlin, Avi, Las Vegas, Phoenix, which is more "sorry to say" enjoyable
Zero
n/a
Mohave Scott Road a lot of heavy equipment go on our road holes too fast children live on our road and no speed limit signs. We need signs
Casino
During medical emergencies, have a driver or some sort transport family members drop off or one day travel or ????
Mo Chem Ho Na back roads are terrible on Indian School Road
Bike paths
DES appts.
Church, Bible Study
Mostly just give people rides to the store or anywhere for gas $5.00 a trip
Around valley, all over (CA side too) with work related tasks
Bank, gas station

What are your limitations on travel (e.g. no car, limits on car use, problems with roads, etc.)?

	Total	Comments *(separated by /)*
No car	13	
Limited availability of car	12	Space
Too expensive	12	Gas & Car repairs… TIRES! | Gas | At Blue Water Casino | Gas, repairs |
Road problems	9	Bad roads in the Big River area! |
Other	2	Time off limited | Lazy to Drive | Emergency vehicle | none | none |

If you have limitations on travel, what are your top five locations that you need travel assistance with:

Lake Havasu, Phoenix, Shopping
My own medical trips (my dr. is in Lake Havasu City 35 mi. one way) I live 8 mi. away from Parker. I often give people with no cars…we live in the HOTEST area of the country – along the Colorado River Valley. It's too hot in the summer to walk or ride bikes…
Safeway, Wal-Mart, family dollar
Safeway, Wal-Mart, Bashes
Going to appointments at HIS and out of town appointments
That would be for school clothes and supplies. Havasu, Bullhead City, Phoenix
Havasu, Vegas, Los Angeles, Phoenix, and Blythe
Dialysis, doctor appointments, shopping, CRIT Agency
Hospital and meetings
Sometimes daughter has appointments in Phoenix at Children's Hospital
Tribal offices/Irataba gym, Wal-Mart, Casino, Hospital, Big River. I'm telling you, try the FREE transit bus route. It works.)
Parker, Parker Valley
Home for our family. But for our area of where we live I would have to say store for shopping, hospital, appts, school
n/a
Shopping, Medical, Work (casino)
Zero
Gas money, food, hotel, maintenance, insurance
Just with work, my family has one vehicle and the vehicle usually stays home due to my grandmothers medical needs.
No car
Havasu City, medical or shopping
Bank, Wal-Mart, Safeway, Bashas
Shopping, Parker Mail checking
IHS, Shopping Parker
Store – Grocery, DES/ACCHHS appts, drug store, Wal-Mart, CVS, BIA, Suddenlink
Blake Primary School, Head Start, HIS, Stores (shopping), church
Store mostly, that's all.
Parker to Phoenix or when need a shuttle bus here
Out of town

How much do you spend on travel in a month? Example travel costs include cost of car, insurance, fuel, maintenance.

	Total
0 -$100	6
$100-$200	9
$200-$300	10
$300-$400	6
$400-$500	3
Over $500	6

Would you use the internet, telephone, or your cell phone to schedule a trip?

	Total
Yes	29

If so, which do you use and how?

Calculate difference, travel time, locator directions
I only have a home phone – no internet-cell phone
<cell phone circled>
Cell phone, walk down the road to use a cell phone if not ask IHS contact Health before ride comes after me.
Telephone and cell phone
Internet and cellular phones
$50 - $100
Everything. Just Facebook, Google, travel sites
Cellphone
Internet and cell phone to schedule and plan outings
Website
Internet for research. Cell phone for general communication.
Expedia or Orbit.com
Use the internet to book rooms and entertainment packages
Rooms/air/rentals
Internet and cell phone
Cell
Cell phone
Cell phone – text
I don't have any but if I can find one it would be a cell phone
Internet: Booking.com or Priceline.com. Cell phone GPA for directions
Internet and cellphone
Cellphone
The internet
Usually to reserve hotels or clarify locations of a particular destination
internet

	Total	Comments
No	4	Brain power to plan a trip plus prior experience |

Do you like to travel in groups, especially if it will cut costs?

	Total	Comments
Yes	19	Small Groups |
No	11	Not especially | Depends how far the travel is
		Depends, possibly, not sure |

What is an acceptable amount of money you would spend on travel for a week?

	Total	Comments
$300-$400	1	
$35 – $40	1	
$10 - $50	1	
$50	2	It depends on where |
$500	1	Approximately |
$200	1	
$20 - $50	1	
$400	2	
$100-$150	1	
$40	2	About $40 cause our truck uses a lot of gas |
$1500+	2	
$250	1	
$30	2	Not counting car payments and insurance |
Not sure	1	
$10 - $20	1	Depends |
$300	1	I have a family of five |
N/A	1	Never gone that long |
	1	Depends on the travel (how far) |
$800 – 950	1	

Do you have any other issues or topics relating to the study you would like to discuss?

Fixing road repairs always have holes or tore up from farm equipment & tractors.
The new work on our BRIDGE will benefit our community, the new pavement looks nice, I believe it a project of the State of Ariz. Now, with all the traffic & big trucks using the bridge, we'll be safer. A lot of "week-enders" & travelers to LHS use the Indian roads & Highways too.
To special events all over that they are having like at the park, library, etc.
Cell phone usage while driving
No one stops for emergency vehicles anymore
Try using a free bus system
None
Our area right now bus area isn't marked for slow crossing or watch for kids or lights in the winter. Kids go to the bus at 6:45 am when it's still dark. Our kids are in danger when they walk to the bus area.
More senior transportation and a transit system for lower Valley (Mo-Chem – 50 homes)
Yes! Why is it that when the snowbirds leave we seem to start losing a lot of money, personally, a lot of people complain about that, not just me. And also most of your employees are not helpful, mostly complain, about the hours, being overworked and not enough pay, which will spill over to us.
Need pavement on 15th before Mohave Road
Yes! Cost additional to low income fixed income economy reasonable
Tribal members to be more aware of their road signs and obey them. More signs in appropriate areas.
It appears to be a lot of wasted land such as by IHS that could use a very nice apartment complex for tribal and non-tribal.

The bike or pedestrian path should be something similar to Lake Havasu's. No motor vehicles, off of the shoulder at least 6' to 12'. Landscaped?
Yes, if the tribes would help us tribal members out a little more than what they do.
When & what are the plans for the new Head Start School? (Stop signs or stop light on Mohave Rd)??
I'm looking forward to the drive-round that is planned for Poston/Hwy 95 intersection.
Put more signs up and have more street lights up. Drunk people at VFW speeding.

Please feel free to mark and label the needs/issues you have identified on the map.

Big River not identified!
Not at this time

COMMUNITY TRANSIT SURVEY

1. **If public transportation were available, would you use it?**

	Total
Yes	278
No	37
Total	315

2. **Do you think that there is a need for public transportation on the reservation?**

	Total
Yes	277
No	30

3. **Do you currently have a reliable source of transportation (car, truck, etc.)?**

	Total
Yes	226
No	68

4. **How many vehicles (running/working) are in your household?**

	Total
None	31
One	125
Two	113
Three or More	55

5. **What would you most likely use public transportation for (check all that apply)?**

	Total
Work	159
Recreation	114
Shopping	132
School/Education	117
Appointments	152

6. **Would you be willing to pay a small fee for public transportation?**

	Total
Yes	247
No	45

7. **What is your age?**

	Total
12 to 17 yrs	**52**
18 to 30 yrs	**85**
31 to 40 yrs	**58**
41 to 50 yrs	**50**
51 to 60 yrs	**33**
61 or older	**23**

8. **What is your occupation?**

Student	**65**
Tribal Govt/Enterprise	**65**
Casino/Resort	**32**
Other Employment	**94**
Non-working Spouse	**12**
Retired	**24**
Unemployed	**16**
Homemaker	**27**
Caregiver	**8**

9. I reside at:

100 Homes	**23**
Lower Valley (south of Agnes Wilson)	**65**
Mo-Chem	**18**
Upper Valley (north of Agnes Wilson)	**65**
50 Homes	**8**
Parker Township	**137**

10. Are you Physically Challenged?

	Total
Yes	**56**
No	**241**

Appendix D – Interviews with Tribal Transit Providers

Tribal Transit Operator Interview
Transit System: Salt River Pima Maricopa Indian Tribe Transit System
Operator: Franklin Kauakahi, Transit Manager
Interview: 1/14/2014

Operations

1. What were your main implementation challenges in starting your transit system? What were the lessons learned? Were there any major challenges? Conversely, were there any opportunities that weren't identified beforehand?
   The transit system has been in operation for about 15 years, and staff has changed over time, so there is not historical information available

2. What vehicle type and size did you use when starting your transit system? How did you decide on the make, model, and size of vehicle?
   Initially, some of their fleet was larger, 20-passenger Eldorado buses. They were built on Ford Chassis and cost between $50,000 to $60,000. They felt these were too big, however. Now their transit system uses 15-passenger Ford vans (E-350). These vans will be ending production by Ford, however.

   Currently they have:
   4 – 15 passenger vans
   3 – 15 passenger, handicapped equipped vans
   1 – 15 passenger cutaway vans with 2 stations for wheelchairs

   He said that they have purchased vans through 5311 grants and through purchase using tribal funds only. In one case they "piggybacked" with Valley Metro to purchase a bus.

3. How is the transit system funded? Were there cost sharing opportunities? How much Tribal funding is used for the transit system on an annual basis?
   The system is funded through a 5311 grant and the remainder through tribal funding.

4. Was management of the system contracted out or performed in-house?
   In-house

5. Similarly for maintenance, was it contracted out or performed in-house?
   In-house - the Tribe has a fleet of 650 vehicles, so although one mechanic is assigned for transit, there are other mechanics available to work on the buses if needed. They have their own fueling pumps.

6. What were your initial operating costs and ridership? How have they evolved?
   No information available on this.

7. What fares do you charge?
   Their fares are very cheap - $0.75 per ride and $0.85 to go to Scottsdale. Seniors have reduced fares. The fares have not increased in ten years.

Administration

1. What is your staffing structure? Did you initially hire part time or full time drivers? How many staff and drivers were hired to operate the system?
   Their staff comprises:

   - **Manager – 1 person**
   - **Dispatcher – 1 person (who also assists with administrative tasks)**
   - **Drivers – 5 full time and 1 part time staff**
   - **Mechanic – 1 person**

   The staff is all tribal employees.

   It is important to hire a dispatcher with experience as a dispatcher, because they have to make route accommodations to pick up demand –response requests "on the fly." Although they have five fixed routes, they accommodate demand response requests if the bus is not full.

2. What type and hours of training do drivers and administrative staffs go through before starting to work?
   They have on the job training, as well as training for First Aid, Passenger sensitivity training, and CPR. They use training through the RTAP Program through ADOT.
   Some of the drivers do not have Commercial Driver Licenses. If they vehicle is under 16 passengers and does not have air brakes, they are not required to have that type of license.

3. What data do you track?
   They have software programs to track fuel, bus warranty and maintenance information, ADOT monthly reports, number of deadhead miles, productivity, operating costs, and repairs

Ridership and Marketing

1. How do you advertise / market the transit system? When the system first started, how was it announced and advertised?
   They do not advertise – they hand out pamphlets or have information in the tribal newspaper. They are happy with the ridership now – it is at "critical mass" and they do not want to expand the number of vehicles or routes right now.

2. If you raised or lowered fares since the system started, how has ridership responded?
   The fares have been the same for the last ten years.

Tribal Transit Operator Interview
Transit System: Navajo Transit System
Operator: Lee Bigwater, Transit Manager
Interview: 1/14/2014

Operations

1. What were your main implementation challenges in starting your transit system? What were the lessons learned? Were there any major challenges? Conversely, were there any opportunities that weren't identified beforehand?
   They have reporting requirements for three states: Arizona, New Mexico and Utah. Their ridership mainly serves employees, medical services, some education (very few students), and general public, including elders.

   Suggestions for development of a new transit system were:

   - **Use the Section 5311 application that is on the ADOT website to help develop the plan of operations. Answering every question in the application form can help assure your operations plan is complete.**
   - **There is a Transit Cost Allocation Workshop held in Phoenix and Flagstaff for new 5311applicants.**
   - **Develop a route plan first and compute ridership projections based on the route plan.**
   - **Identify activity centers such as schools, social services, shopping, health centers, and locations where a majority of persons live to locate routes.**

2. What vehicle type and size did you use when starting your transit system? How did you decide on the make, model, and size of vehicle?
   They use 49 passenger motor coaches.

3. How is the transit system funded? Were there cost sharing opportunities? How much Tribal funding is used for the transit system on an annual basis?
   Navajo Transit System receives Administration, Operating and Capital funding under the Section 5311 Rural Public Transportation Program from Arizona, New Mexico and Utah Department of Transportation, Federal Transit Administration (FTA) and the Navajo Nation.

   Capital costs are matched on an 80/20 basis.
   Operating costs are matched with federal grants on a 50/50 basis.

4. Was management of the system contracted out or performed in-house?
   In-house

5. Similarly for maintenance, was it contracted out or performed in-house?
   In-house

6. What were your initial operating costs and ridership? How have they evolved?
   No information available on this.

7. What fares do you charge?
   The fares are very reasonable- $2.00 to ride all day.

Administration

1. What is your staffing structure? Did you initially hire part time or full time drivers? How many staff and drivers were hired to operate the system?
   Their staff comprises:
   - **Drivers – 35**
   - **Administrative staff – 15 persons**

2. What type and hours of training do drivers and administrative staffs go through before starting to work?
   No response.

3. What data do you track?
   Navajo Transit System needs to satisfy reporting requirements for three states.

Ridership and Marketing

3. How do you advertise / market the transit system? When the system first started, how was it announced and advertised?
   There is a website for the transit system, http://www.navajotransit.com/

4. If you raised or lowered fares since the system started, how has ridership responded?
   On November 1, 2012 the fare was increased to $2.00 per person.

Appendix E– Field Review Forms

Table A-1 - Pavement Condition Assessment

Street Name	Route Number	Length (miles)	Surface Width	Section Number	Begin Street	End Street	Roadbed Condition	Surface Condition Index	Surface Type	Pavement Distresses, Severities, and Percent Area (1=low-severity, 3=medium severity, 5= high severity)																													Overall Rating (0=failed segment, 5=excellent segment)
										L&T Cracking			Block Cracking			Alligator Cracking			Roughness			Rutting			Corrugations			Raveling			Bleeding			Patching			Other			
										<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	
Mohave Road	1	2.80	25	10	South reservation boundary - approximately 0.20 miles north of Cisco Road	2.8 miles north of reservation boundary, south of La Paz Road	5	100	5			3			3	1			1									1									1			2
Mohave Road	1	5.20	25	20	2.8 miles north of reservation boundary, south of La Paz Road	Bridge H008 - north of Weir Road (Tyson Wash Bridge)	5	100	5			3			3	1			1									1									1			2.5
Mohave Road	1	1.80	24	40	Bridge H008 (Tyson Wash Bridge)	Canal Bridge H007	5	100	5			2			2	1			1									1									1			3
Mohave Road	1	2.00	24	60	Canal Bridge H007	Just south of Beeson Road	5	100	5			2			2	1			1									1									1			3
Mohave Road	1	7.70	24	70	Just south of Beeson Road	Peterson Road	5	100	5			2	1			1			1									1									1			3
Mohave Road	1	7.40	24	71	Peterson Road	Bridge H006 (Patrick Road is just immediately north of the bridge)	5	100	5			2				1			1									1									1			3
Mohave Road	1	1.00	24	90	Bridge H006	Bridge H005	5	100	5			2				1			1									1									1			3
Mohave Road	1	1.00	24	110	Eddy Road	Agnes Wilson Road	5	100	5			2				1			1									1									1			3.5
Mohave Road	1	3.30	24	120	Agnes Wilson Road	Bridge H004	5	100	5			2				1			1									1									1			3.5
Mohave Road	1	5.00	24	140	Bridge H004	Bridge H003	5	100	5			2				1			1									1									1			3.5
Mohave Road	1	2.20	24	160	Bridge H003	SR 95	5	100	5			2				1			1									1									1			3
1st Avenue	3	3.00	24	20	Burns Road	Mohave Road	5	30	5			4			5			4			4								5					3			3			0
1st Avenue	3	0.60	24	30	Mohave Road	W. Arizona Avenue	4	50	5			4			5	1				3								5					1						1
1st Avenue	3	0.60	20	40	W. Arizona Avenue	Agency Ave	4	30	5	1																														5
Booth Road	4	0.90	24	10	4th Avenue	Bridge H043	4	40	5		2		1					4		2									2						1			3
Booth Road	4	1.20	24	30	Bridge H043	1st Avenue	5	30	5			4			4			4	3									5						4		3			2
Booth Road	4	0.80	18	40	1st Avenue	0.8 mi. east of 1st Avenue	5	30	4	1																														5

Table A-1 - Pavement Condition Assessment, Continued

										Pavement Distresses, Severities, and Percent Area (1=low-severity, 3=medium severity, 5= high severity)																											
										L&T Cracking			Block Cracking			Alligator Cracking			Roughness			Rutting			Corrugations			Raveling			Bleeding			Patching			Other			Overall Rating (0=failed segment, 5=excellent segment
Street Name	Route Number	Length (miles)	Surface Width	Section Number	Begin Street	End Street	Roadbed Condition	Surface Condition Index	Surface Type	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	
Booth Road	4	0.20	16	45	0.8 mi. east of 1st Avenue	1.0 mile east of 1st Ave.	3	30	3	1																													5
Booth Road	4	0.50		50	1.0 mile east of 1st Ave.	SR 95				1																														5
2nd Avenue	5	2.80		20	Booth Road	Mohave Avenue				1									1										3					1			1			3
2nd Avenue	5	UNK		UNK	Agency Avenue	Mohave Avenue				1																														5
2nd Avenue	5	0.20		30	Agency Avenue	1st Avenue				1																														5
2nd Avenue	5	0.30		40	1st Avenue	0.3 miles east of 1st Ave.(reservation boundary)				1																														5
Gould Road	6	1.50	20	10	10 th Avenue	10 th Avenue	4	10	4																												1			5
Gould Road	6	1.60	24	20	7th Avenue	4th Avenue	5	80	5			3			4			4		2									3					2			2			1
Burns Road	10	1.40	24	10	15th Avenue	Bridge H011 (12th Avenue)	4	20	5		2					2				2								2					1			1			3
Burns Road	10	1.00	24	30	Bridge H011 (12th Avenue)	Mohave Road	5	40	5		2					2				2								2					1			1			3
Burns Road	10	3.80	24	35	Mohave Road	Bridge H044	5	40	5			3	2			2			2									2					1			1			3
Burns Road	10	1.30	24	50	Bridge H044	1st Avenue	4	20	5		3		2			3			2									2					1			1			3
Burns Road	10	0.40	20	60	1st Avenue	0.4 mi. East of 1st Ave.	4	20	4																														5
7th Avenue	11	1.00	22	40	Eddy Road	Agnes Wilson Road	4	20	5			3		2			2			2								1					1			2			2
7th Avenue	11	2.00	20	45	Agnes Wilson Road	Indian School Road	4	10	5			4			4			4			4							4					1					4	1
7th Avenue	11	0.80	24	50	Burns Road	Gould Road	5	20	5			3			3		3											2					1			1			2
Indian School	14	0.50	18	20	11th Avenue	Mohave Road	4	18	4			5						5			5							5							5			5		0
Indian School	14	3.00	24	30	Mohave Road	4th Avenue	4	20	4			5			5			5			5							5					5					5	0
11th Avenue	15	1.00	22	10	Mark Road	Peterson Avenue	4	20	4			5						5			4							5					5					4	0.5
11th Avenue	15	2.00	22	20	Peterson Avenue	McCabe Road	4	20	4			5						5			5							5					5					5	0

Table A-1 - Pavement Condition Assessment, Continued

										Pavement Distresses, Severities, and Percent Area (1=low-severity, 3=medium severity, 5= high severity)																												
										L&T Cracking			Block Cracking			Alligator Cracking			Roughness			Rutting			Corrugations			Raveling			Bleeding			Patching			Other			Overall Rating (0=failed segment, 5=excellent segment
Street Name	Route Number	Length (miles)	Surface Width	Section Number	Begin Street	End Street	Roadbed Condition	Surface Condition Index	Surface Type	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	
11th Avenue	15	2.00	20	65	Agnes Wilson Road	Indian School Road	4	10	4			5						5			5									5					5			5			0
13th Avenue	17	1.50	26	20	Peterson Road	Hopi Road	5	40	5		2								1									1									1			3.5
13th Avenue	17	5.00	24	50	Patrick Road	Burns Road	4	40	5			3			3													2						1			1			3
13th Avenue	17	0.50	14	60	Little Road	Gould Road	4	10	4																												1			5
Agnes Wilson Road	18	2.60	24	10	US 95	Bridge H042	5	90	5			2									1										2								3
Agnes Wilson Road	18	2.60	24	30	Bridge H042	Mohave Road	5	90	5	1						1																							4
Agnes Wilson Road	18	1.50	24	40	Mohave Road	7th Avenue	4	30	5			2				3				2								2									2			2.5
Agnes Wilson Road	18	1.00	22	50	7th Avenue	5th Avenue	5	20	5		2		2						1									2									2			3
15th Avenue	19	3.00	24	30	McCabe Road	Scott Road	4	20	5			3					3			2									2					1			1			2
15th Avenue	19	0.10	24	45	Agnes Wilson Road	0.1 mi north of Agnes Wilson Road	5	40	5		4								1											3							1			2
15th Avenue	19	2.90	24	50	Agnes Wilson Road	Burns Road	5	90	5	1						1																					1			4
Eddy Road	20	1.50	24	10	Mohave Road	7th Avenue	5	20	5		2					2			2									2					3			1			3
Eddy Road	20	0.80	18	20	7th Avenue	canal crossing	4	10	4			4			4			5			4								5					3			3		0.5
Eddy Road	20	1.50	16	30	canal crossing	5th Avenue	3	20	3			4	2				3			3								4					3			3			2
Patrick Road	22	1.00	24	10	16th Avenue	14th Avenue	5	40	5		2		2															3								1			3
Patrick Road	22	2.00	24	20	14th Avenue	Mohave	5	40	5			2			3	2												2								1			3
Scott Road	24	0.10	24	20	16th Avenue	Bridge H045	3	60	5			4			4		3		1														1			2			1

Table A-1 - Pavement Condition Assessment, Continued

										Pavement Distresses, Severities, and Percent Area (1=low-severity, 3=medium severity, 5= high severity)																											
										L&T Cracking			Block Cracking			Alligator Cracking			Roughness			Rutting			Corrugations			Raveling			Bleeding			Patching			Other			Overall Rating (0=failed segment, 5=excellent segment
Street Name	Route Number	Length (miles)	Surface Width	Section Number	Begin Street	End Street	Roadbed Condition	Surface Condition Index	Surface Type	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	<33%	34-65 %	> 66%	
Scott Road	24	2.70	24	40	Bridge H045	Mohave Road	4	20	5			4			4		3		1															1			2			1
McCabe Road	30	1.90	26	10	23rd Avenue	Bridge H020	5	40	5			5			5			5			5								5							5			0
McCabe Road	30	2.80	24	30	Bridge H020	Bridge H021	4	20	4			4			4			4			3								4							3			2
McCabe Road	30	2.70	24	50	Bridge H021	9th Avenue	5	20	5		2					1			2										2						1			3
Peterson Road	34	1.80	26	40	23rd Avenue	canal crossing west of 17th Avenue	5	20	5			4			4			4		4										3							3			2
Peterson Road	34	1.90	26	50	canal crossing east of 17th Avenue	Bridge H024	5	20	5			3			3		3		1										3						1			1			3
Peterson Road	34	0.90	24	70	Bridge H024	Mohave Road	5	20	5			4						5		3										3						1			3			2
Peterson Road	34	2.90	26	80	Mohave Road	9th Avenue	4	20	4			5			5			5		4										5						4					5	0.5
Marks Road	36	1.70	20	40	14th Avenue	0.3 miles west of 10th Avenue	4	20	4			5						5		4										5						4					3		1
Marks Road	36	0.30	12	50	0.3 miles west of 10th Avenue	10th Avenue	3	20	3			5						5		4										5						4					3		0.5
Navajo Road	38	2.20	24	40	21st Avenue	Mohave Road	4	20	4			5						5			5									5							5					5	0
Navajo Road	38	1.00	24	45	Mohave Road	Bridge H039	4	20	4			4						5			4									5							5					5	0.5
Navajo Road	38	1.20	24	60	Bridge H039	0.3 miles west of road end	4	20	4			4						5			4									5							5					5	0.5
Navajo Road	38	0.30	15	70	0.3 miles west of road end	east end of Navajo Road	3	10	3			4			4		4				4									5												5	0.5
4th Avenue	77	2.20	22	10	Indian School Road	Booth Road	4	10	4			4			4					3										3										2			3
6th Avenue	99	1.00	20	10	Indian School Road	Burns Road	4	10	4			5			5			5			4									5							3					3	0
6th Avenue	99	0.80	24	20	Gould Road	Mohave Drive	5	20	5			3			3		2		1											3										2			3
14th Avenue	117	0.80	20	25	Nez Road	Bridge H040	4	10	4			4						4			4									5						3						5	0.5
14th Avenue	117	1.30	20	40	Bridge H040	Mark Road	4	18	4			4		3				4			4									5						3						5	0.5
Hopi Road	330	0.80	24	10	Mohave Road	12th Avenue	5	20	4		2								1									2							1							3.5
		132.60																																							

Table A-2- Road Condition Assessment

Street Name	Route Number	Length (miles)	Section Number	Begin Street	End Street	Shoulders		Lane markings		Signing		Sight Distance Issues		Lighting		Culverts / Barriers- Need for / visibility of end treatments		Traffic Control		Speed Limit Signs?		Pedestrians		Bicyclists		Observations
						Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Mohave Road	1	2.80	10	South reservation boundary - approximately 0.20 miles north of Cisco Road	2.8 miles north of reservation boundary, south of La Paz Road	x		x		x			x		x				x		x		x		x	Lane markings are faded in this area. Shoulders are in poor shape, eroded. Signs include Deer x-ing, Farm Equipment.
Mohave Road	1	5.20	20	2.8 miles north of reservation boundary, south of La Paz Road	Bridge H008 - north of Weir Road (Tyson Wash Bridge)	x		x		x			x		x				x		x		x		x	Lane marking are faded in this area. Need edge stripe. Shoulders are in poor condition, eroded. A new 700 foot bridge is planned in this area.
Mohave Road	1	1.80	40	Bridge H008 (Tyson Wash Bridge)	Canal Bridge H007	x		x		x			x		x				x	x			x		x	Signed for 55 mph. Flooding problem
Mohave Road	1	2.00	60	Canal Bridge H007	Just south of Beeson Road	x		x		x			x		x				x	x			x		x	There is both center and edge line striping. There is a crossroad sign near MP 12. Most crossroads have advance signing.
Mohave Road	1	7.70	70	Just south of Beeson Road	Peterson Road	x		x		x			x		x				x				x		x	There is both center and edge line striping.
Mohave Road	1	7.40	71	Peterson Road	Bridge H006	x		x		x			x		x				x	x			x		x	There is both center and edge line striping. 55 mph posted speed
Mohave Road	1	1.00	90	Bridge H006	Bridge H005	x		x		x			x		x				x		x		x		x	crossroad sign
Mohave Road	1		100	Bridge H005	Eddy Road	x		x		x			x		x						x		x		x	
Mohave Road	1	1.00	110	Eddy Road	Agnes Wilson Road	x		x		x			x		x						x		x		x	Advance sign for Agnes Wilson Road in poor condition.
Mohave Road	1	3.30	120	Agnes Wilson Road	Bridge H004	x		x		x		x			x					x			x		x	Bridge and Patrick Road are close, obscuring view of intersection. Signs in this section include 55mph, 45mph, and 55 mph signs, Farm machinery sign, school bus ahead sign(@MP 31), crossroad signs
Mohave Road	1	5.00	140	Bridge H004	Bridge H003	x		x		x			x		x					x			x		x	Curve area signed for 35 mph, crossroad signs, no passing zone
Mohave Road	1	2.20	160	Bridge H003	SR 95	x		x		x			x		x			X		x			x		x	Flasher at 2nd Avenue, speed signs for 45, 35mph. There are stop signs on Mohave Road at USR 95. A roundabout is planned there.
1st Avenue	3	3.00	20	Burns Road	Mohave Road		x		x		x		x		x		x	x		x		x		x		Stop sign control at Mohave/1st. The school district wants 1st Avenue paved first. Speed 45 mph. Dirt shoulders on south, canal on north. The 1st and Burns intersection was just redone
1st Avenue	3	0.60	30	Mohave Road	W. Arizona Avenue	x		x																		Centerline striping only. Dirt shoulders. Vegetation up to traveled way edge. The CRIT has talked about putting in sidewalks on one or both sides in this section. 1 culvert signed 35 mph.

Table A-2- Road Condition Assessment

Street Name	Route Number	Length (miles)	Section Number	Begin Street	End Street	Shoulders		Lane markings		Signing		Sight Distance Issues		Lighting		Culverts / Barriers- Need for / visibility of end treatments		Traffic Control		Speed Limit Signs?		Pedestrians		Bicyclists		Observations
						Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
1st Avenue	3	0.60	40	W. Arizona Avenue	Agency Ave	x		x			x		x		x		x	x								There is a path on one side here. There is a stop sign on 1st at Agency Road.
Booth Road	4	0.90	10	4th Avenue	Bridge H043		x	x		x			x		x				x	x							Centerline striping only. Curve and rumble strips in this section. Signed at 35 mph
Booth Road	4	1.20	30	Bridge H043	1st Avenue		x	x		x			x		x				x	x							Centerline only - faded. Signed at 45 mph. Vegetation to road edge.
Booth Road	4	0.80	40	1st Avenue	0.8 mi. east of 1st Avenue		x	x		x			x		x		x		x	x							Centerline only - faded. Signed at 40 mph. Vegetation to road edge. Three canal crossings. Slow Children sign. 1 bent sign.
Booth Road	4	0.20	45	0.8 mi. east of 1st Avenue	1.0 mile east of 1st Ave.			x		x			x		x		x		x	x							Centerline striping. Rumble strips by pavement ends signs
2nd Avenue	5	1.00	10	Mohave	Booth Road		x	x		x					x		x		x		x		x				Centerline striping. Reduced Speed Ahead sign bent. Comment that sidewalks needed on south side of street.
2nd Avenue	5	2.80	20	Mohave Road	Agency Avenue																						
2nd Avenue	5	0.20	30	Agency Avenue	1st Avenue		x	x		x							x	x		x							Paved shoulders. Stop sign needs to be replaced. Speed signing for 45/35/and 25 mph
2nd Avenue	5	0.30	40	1st Avenue	0.3 miles east of 1st Ave.	x		x		x			x				x		x		x						25 mph. posted. School Bus stop Ahead sign, rumble strips. Striped pedestrian crosswalk at BIA Colorado Agency office.
Gould Road	6	1.50	10	10th Avenue	9th Avenue		x	x		x										x							Centerline striping .40 mph posted speed. Comment that they had to change the aggregate base because of sand conditions. There is a curve signed for 20 mph, decreasing to 15mph
Gould Road	6	1.60	20	7th Avenue	4th Avenue		x	x		x			x		x				x	x							Centerline striping. 35 mph posted speed. Limited earth shoulder, but much vegetation to road edge. Signage includes crossroad sign, Slow -children crossing sign, curve sign.
Burns Road	10	1.40	10	15th Avenue	Bridge H011 (12th Avenue)		x	x		x			x		x	x		x		x							Centerline stripe. New striping past curve. 35 mph posted. Headwall noted in RSA. Curve sign.
Burns Road	10	1.00	30	Bridge H011 (12th Avenue)	Mohave Road		x	x			x		x		x			x			x						Comment that Burns Road was restriped; the striping was not centered and needed to be redone. The new striping has faded. Centerline reflectors are visible. There is room for a shoulder. Stop sign at Mohave. Canal on one side.
Burns Road	10	3.80	35	Mohave Road	Bridge H044		x						x		x				x		x						
Burns Road	10	1.30	50	Bridge H044	1st Avenue		x	x			x		x		x				x	x			x		x		Centerline striping faded. Posted speed limit 45 mph
Burns Road	10	0.40	60	1st Avenue	0.4 mi. east of 1st Ave.	x		x		x			x		x				x	x			x		x		Striping in good condition, with both centerline and edge striping. Signage includes pavement ends sign, and speed limits signs for 45, 35 and 25 mph, as one nears the pavement end section. There is also a pedxing sign and pavement narrows sign.
7th Avenue	11	1.00	40	Eddy Road	Agnes Wilson Road	x		x			x		x		x			x			x		x		x		Centerline striping. Earth shoulder on one side. Stop sign at Eddy Road.

Table A-2- Road Condition Assessment, Continued

Street Name	Route Number	Length (miles)	Section Number	Begin Street	End Street	Shoulders		Lane markings		Signing		Sight Distance Issues		Lighting		Culverts / Barriers- Need for / visibility of end treatments		Traffic Control		Speed Limit Signs?		Pedestrians		Bicyclists		Observations
						Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
7th Avenue	11	2.00	45	Agnes Wilson Road	Indian School Road	x		x			x		x		x			x			x		x		x	Centerline striping. Earth shoulder on one side. Stop sign at Agnes Wilson Road. Culvert marker bent. Culvert crossing needs better signing. Needs bus turnout reconstructed.
7th Avenue	11	0.80	50	Burns Road	Gould Road		x	x			x		x		x				x		x		x		x	Centerline striping faded. Stop sign at Burns Road. Narrow bridge/curve
Indian School	14	0.50	20	11th Avenue	Mohave Road		x		x		x		x		x			x			x		x		x	Stop sign on Mohave Road. Paving is in poor condition- part of 11th Avenue project.
Indian School	14	3.00	30	Mohave Road	4th Avenue		x		x		x		x		x			x			x		x		x	Stop sign at 4th Avenue. This road is in poor condition. Comment that it is well used. There are utility poles on the south side of the street.
11th Avenue	15	1.00	10	Mark Road	Peterson Avenue		x		x		x		x		x	x		x			x		x		x	Stop sign at Peterson Road. Canal, no headwall, drop off on road on west side, stop sign needs to be replaced in poor condition.
11th Avenue	15	2.00	20	Peterson Avenue	McCabe Road		x		x		x		x		x			x			x		x		x	Stop sign at McCabe Road. Narrow farm road.
11th Avenue	15	2.00	65	Agnes Wilson Road	Indian School Road		x		x		x		x		x				x		x		x		x	This road has been designed, and is ready to go to bid- it is in poor condition.
13th Avenue	17	1.50	20	Peterson Road	Hopi Road		x		x		x		x		x	x		x			x		x		x	Stop sign at Peterson Road, which has holes in it. There is a need for object markers at the canal and the road edge drops off on the east side.
13th Avenue	17	5.00	50	Patrick Road	Burns Road		x	x			x		x		x	x		x			x		x		x	Centerline striping in poor condition, faded and centerline striping mostly not visible because of patching. There is a stop sign at Burns Road. There are earth shoulders on part of the section. Culvert with no object markers.
13th Avenue	17	0.50	60	Little Road	Gould Road		x	x		x			x		x		x	x		x			x		x	Centerline striping. Posed 30 mph speed limit SB, 40 mph NB. There is a dead end sign, and curve signing. Speeds are reduced to 30 mph, then 20 mph near the curve.
Agnes Wilson Road	18	2.60	10	US 95	Bridge H042	x		x		x			x		x		x	x		x			x		x	Centerline and shoulder striping. Speed limit 55. At curve, there is a curve sign and speeds are reduced to 35 mph. There is a stop sign at US 95 intersection.
Agnes Wilson Road	18	2.60	30	Bridge H042	Mohave Road	x		x			x		x		x		x		x		x		x		x	Centerline and shoulder striping. Canal on one side of road.
Agnes Wilson Road	18	1.50	40	Mohave Road	7th Avenue		x	x			x		x		x	x		x			x		x		x	Centerline striping. There is a culvert in this segment with no object markers. There is a stop sign at Mohave Road intersection.
Agnes Wilson Road	18	1.00	50	7th Avenue	5th Avenue		x	x			x		x		x		x		x		x		x		x	Centerline striping. Narrow- needs vegetation trimmed.
15th Avenue	19	1.00	10	south end of road	Nez Road	x			x		x		x		x		x		x		x		x		x	This road had pavement previously- the paving is in poor condition. People drive on the shoulders. Comment is that it is a low priority, however, because it is not well used.
15th Avenue	19	3.00	30	McCabe Road	Scott Road		x	x			x		x		x		x	x								Centerline striping is faded. There is a stop sign at McCabe Road intersection. There are limited earth shoulders.
15th Avenue	19	0.10	45	Agnes Wilson Road	0.1 mi north of Agnes Wilson		x		x		x		x		x		x		x		x		x		x	

Table A-2- Road Condition Assessment, Continued

Street Name	Route Number	Length (miles)	Section Number	Begin Street	End Street	Shoulders		Lane markings		Signing		Sight Distance Issues		Lighting		Culverts / Barriers- Need for / visibility of end treatments		Traffic Control		Speed Limit Signs?		Pedestrians		Bicyclists		Observations
						Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
15th Avenue	19	2.90	50	Agnes Wilson Road	Burns Road	x		x		x			x		x		x	x		x			x		x	New centerline striping. Posted speed 45 mph. At the curve, there are chevrons, and advisory speed signs for 25mph and 15 mph. There are also chevrons that have graffiti markings. There is a stop sign at Agnes Wilson Road.
Eddy Road	20	1.50	10	Mohave Road	7th Avenue		x		x		x		x		x		x		x		x		x		x	Narrow road.
Eddy Road	20	0.80	20	7th Avenue	canal crossing		x		x		x		x		x		x		x		x		x		x	Narrow road. The road is in poor condition and turns to gravel.
Eddy Road	20	1.50	30	canal crossing	5th Avenue		x		x		x		x		x		x		x		x		x		x	Narrow road. The road is in poor condition and turns to gravel.
Patrick Road	22	1.00	10	16th Avenue	14th Avenue		x	x		x			x		x		x	x			x		x		x	Reflectors in centerline, no striping. Crossroad sign at 16th needs street name signs
Patrick Road	22	2.00	20	14th Avenue	Mohave		x	x		x			x		x		x	x			x		x		x	Reflectors in centerline, no striping. Canal crossing signs. Advisory speeds of 35 and 15 mph at curve. Canal at south side of road. Partial earth shoulders.
Scott Road	24	0.10	20	16th Avenue	Bridge H045		x		x		x		x		x				x		x		x		x	
Scott Road	24	2.70	40	Bridge H045	Mohave Road		x		x		x		x		x	x			x		x		x		x	Some bladed shoulder area on south side of road. There is a canal crossing with no object markers in this section.
McCabe Road	30	1.90	10	23rd Avenue	Bridge H020		x		x		x		x		x	x			x		x		x		x	There is a big drop off on the side of the road with no markings. There is a culvert with no object markers west of CRIT Farms.
McCabe Road	30	2.80	30	Bridge H020	Bridge H021		x	x			x		x		x			x			x		x		x	Where there is pavement marking, they are faded. West of Mohave Road, there are no lane markings and the pavement is in poor condition. CRIT Farms would like this re-paved. There is a stop sign at Mohave Road intersection.
McCabe Road	30	2.70	50	Bridge H021	9th Avenue		x	x			x		x		x			x		x			x		x	Centerline is faded. There are reflectors in the centerline. Posted speed is 35 mph. Comment that McCabe Rd could provide future access.
Peterson Road	34	0.50	30	Bridge H023	23rd Avenue		x		x		x		x		x		x		x		x		x		x	Drop-offs on side of road.
Peterson Road	34	1.80	40	23rd Avenue	canal crossing east of 17th Avenue		x	x			x		x		x		x		x		x		x		x	Centerline lane striping. Drop offs on road edge.
Peterson Road	34	1.90	50	canal crossing east of 17th Avenue	Bridge H024		x	x			x		x		x		x		x	x			x		x	Centerline lane striping is faded. Posted speed 45 mph.
Peterson Road	34	0.90	70	Bridge H024	Mohave Road		x	x			x		x		x		x		x	x			x		x	Centerline lane striping is faded. Posted speed 45 mph. Bridge needs better markings. Shoulder drops-offs
Peterson Road	34	2.90	80	Mohave Road	9th Avenue		x		x		x		x		x	x		x			x		x		x	Needs striping. Stop sign at Mohave Road. Speed limit 45 mph, 35 mph near 12th. Culvert needs markings. Slight drop off on road edge.
Marks Road	36	1.70	40	14th Avenue	0.3 miles west of 10th Avenue		x		x		x		x		x		x		x		x		x		x	No markings where road curves to 14th Street. Need a yield sign at 11th to replace existing sign.

Table A-2- Road Condition Assessment, Continued

Street Name	Route Number	Length (miles)	Section Number	Begin Street	End Street	Shoulders		Lane markings		Signing		Sight Distance Issues		Lighting		Culverts / Barriers- Need for / visibility of end treatments		Traffic Control		Speed Limit Signs?		Pedestrians		Bicyclists		Observations
						Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	
Marks Road	36	0.30	50	0.3 miles west of 10th Avenue	10th Avenue		x		x		x		x		x		x		x		x		x		x	
Navajo Road	38	0.80	30	Bridge H027	21st Avenue		x		x		x		x		x		x		x		x		x		x	Vegetation needs trimming.
Navajo Road	38	2.20	40	21st Avenue	Mohave Road		x		x		x		x		x		x		x		x		x		x	Shoulder drop offs, poor road condition. Farmers use this road. Need sign for 21st Avenue.
Navajo Road	38	1.00	45	Mohave Road	Bridge H039		x		x		x		x		x		x		x		x		x		x	Shoulder drop offs.
Navajo Road	38	1.20	60	Bridge H039	0.3 miles west of road end		x		x		x		x		x		x		x		x		x		x	Narrow bridge, vegetation needs to be trimmed.
Nez Road	40	1.60	20	Mohave Road	14th Avenue		x		x		x		x		x		x	x			x		x		x	Similar to Navajo Road. There is a stop sign at Mohave Road.
Johns Road	42	0.50	10	15th Avenue	14th Avenue		x		x		x		x		x		x		x		x		x		x	Gravel, but include- At one time it was paved. This road serves 1-2 homes.
4th Avenue	77	2.20	10	Indian School Road	Booth Road		x	x			x		x		x			x			x		x		x	Centerline stripe. Stop sign at Burns Road. This was part of a chip sealing project. No speed limit signs.
6th Avenue	99	1.00	10	Indian School Road	Burns Road		x		x		x		x		x			x			x		x		x	Stop sign at Indian School Road.
6th Avenue	99	0.80	20	Gould Road	Mohave Drive		x		x		x		x		x	x	x			x			x		x	45 mph speed limit sign. Canal on south side of road, homes on north side. Canal crossing needs object markers. There is a stop sign at Gould Road.
14th Avenue	117	0.80	25	Nez Road	Bridge H040		x		x		x		x		x		x		x		x		x		x	
14th Avenue	117	1.30	40	Bridge H040	Mark Road		x		x		x		x		x	x			x				x		x	Stop sign by bridge. There is a culvert with no object markers near Mark Road.
Hopi Road	330	0.80	10	Mohave Road	12th Avenue	x		x			x		x		x		x	x		x			x		x	Centerline markings are faded. There is a 35 mph speed limit (with children at play) sign posted next to the canal. Also a pavement ends sign
Total miles		**137.20**																								