

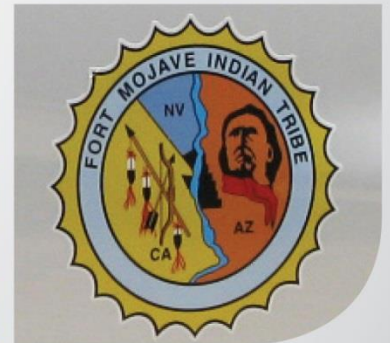
Fort Mojave

Indian Reservation

TRANSIT STUDY

Recommendations

April 2, 2014



MPD 051-13



Prepared by

 Kimley-Horn
and Associates, Inc.

DISCLAIMER

THIS REPORT HAS BEEN FUNDED IN PART THROUGH GRANTS FROM THE FEDERAL HIGHWAY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION. THE CONTENTS OF THIS REPORT REFLECT THE VIEWS OF THE AUTHORS, WHO ARE RESPONSIBLE FOR THE FACTS AND THE ACCURACY OF THE DATA, AND FOR THE USE OR ADAPTATION OF PREVIOUSLY PUBLISHED MATERIAL, PRESENTED HEREIN. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICIES OF THE ARIZONA DEPARTMENT OF TRANSPORTATION OR THE FEDERAL HIGHWAY ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION. THIS REPORT DOES NOT CONSTITUTE A STANDARD, SPECIFICATION, OR REGULATION. TRADE OR MANUFACTURERS' NAMES THAT MAY APPEAR HEREIN ARE CITED ONLY BECAUSE THEY ARE CONSIDERED ESSENTIAL TO THE OBJECTIVES OF THE REPORT. THE U.S. GOVERNMENT AND THE STATE OF ARIZONA DO NOT ENDORSE PRODUCTS OR MANUFACTURERS.

Table of Contents

1.	Introduction.....	1
1.1	Study Purpose.....	1
1.2	Study Area.....	1
1.3	Recommendations Report Overview.....	3
2.	Transit Need and Demand.....	4
2.1	Population.....	4
2.1.1	Population Density.....	4
2.1.2	Median Age.....	4
2.2	Transit Need.....	8
2.3	Transit Demand.....	9
2.4	Transit Need as Demonstrated by Responses to Transit Survey.....	10
3.	Recommendations.....	15
3.1	Transit Mode Analysis.....	15
3.1	Recommended Alternative.....	15
3.1.1	Interviews with Peer System Tribal Transit Providers.....	18
3.1.2	Proposed Potential Transit Route.....	18
3.2	Coordination with Other Transit Providers.....	24
3.3	Operations.....	25
3.3.1	Vehicle Cycle, Headways, and Options for Service.....	25
3.3.2	Service Hour Options.....	26
3.3.3	Recommended Service Hour Option.....	27
3.3.4	Fares.....	28
3.4	Capital Projects.....	28
3.4.1	Recommended Bus Size and Type.....	29
3.4.2	Passenger Amenities.....	29
3.5	Marketing.....	29
3.6	Vehicle Maintenance Options.....	30
3.7	Transit Management and Operations.....	30
4.	Funding Options.....	31
4.1	Public Transportation on Indian Reservation Program 5311(c).....	31
4.2	Other Federal Funding Programs.....	32
4.3	Other Potential Funding Sources.....	32
	Appendix A – Tribal Transit Peer System Interviews.....	36
	Appendix B – Potential Transit Stop Locations.....	41

Figures

Figure 1 – Study Area Map 2

Figure 2 – Study Area (U.S. Census Tracts)..... 6

Figure 3 – Total Population 7

Figure 4 – Proposed Potential Transit Route..... 19

Tables

Table 1 – Population and Median Age 5

Table 2 – Households without Access to a Vehicle..... 8

Table 3 – Estimate of Persons with Transportation Needs 8

Table 4 – Estimate of Reasonable Transit Demand 9

Table 5 – Alternatives Matrix 16

Table 6 – Stop Locations (in order of route)..... 20

Table 7 – Transit System Coordination with other Transportation Providers..... 24

Table 8 – Annual Vehicle Service Hours for Various Deviated Fixed Route Service Hour Options 26

Table 9 – Summary Costs for Arizona Transit Systems 27

Table 10 – Estimated System Non-Capital (Administrative and Operating) Costs 27

Table 11 – Capital Costs - Transit System Start-up 29

Table 12 – Federal Grant Programs for Transit-Related Activities 33



1. INTRODUCTION

1.1 Study Purpose

The Fort Mojave Indian Reservation Transit Study evaluates the feasibility of, and provides recommendations for public transportation service for the Fort Mojave Indian Reservation and surrounding area. Three primary objectives guided the Fort Mojave Indian Reservation Transit Study:

1. Enhance the awareness and understanding of community transit needs through data analysis, stakeholder interviews, and public engagement and participation.
2. Develop feasible, multimodal strategies to increase mobility within the Fort Mojave Indian Reservation and regional interconnectivity to neighboring communities. These strategies must address community needs and be implementable and sustainable. Alternatives that were reviewed included vanpool, demand responsive transit, and fixed-route service. Integration with existing transit services is an important consideration.
3. Provide a road map for developing and implementing feasible transit service improvement recommendations. The roadmap includes funding sources that could be used to develop public transportation services. The roadmap will require collaboration with existing transit providers to ensure integrated services and logical organization mechanisms to provide effective service.

1.2 Study Area

The Fort Mojave Indian Reservation is located along the Colorado River in the vicinity of Needles, California. The Reservation covers 32,252 acres in the tri-state area of Arizona, California, and Nevada. The land is divided into three major segments: 22,037 acres in Arizona; 6,428 acres in California; and 3,787 acres in Nevada. Tribal headquarters are located in Needles, California. The Reservation area is shown in **Figure 1**.

The Fort Mojave Indian Tribe lies in between the communities of Fort Mohave and Bullhead City (to the north), and Needles, CA (to the south).

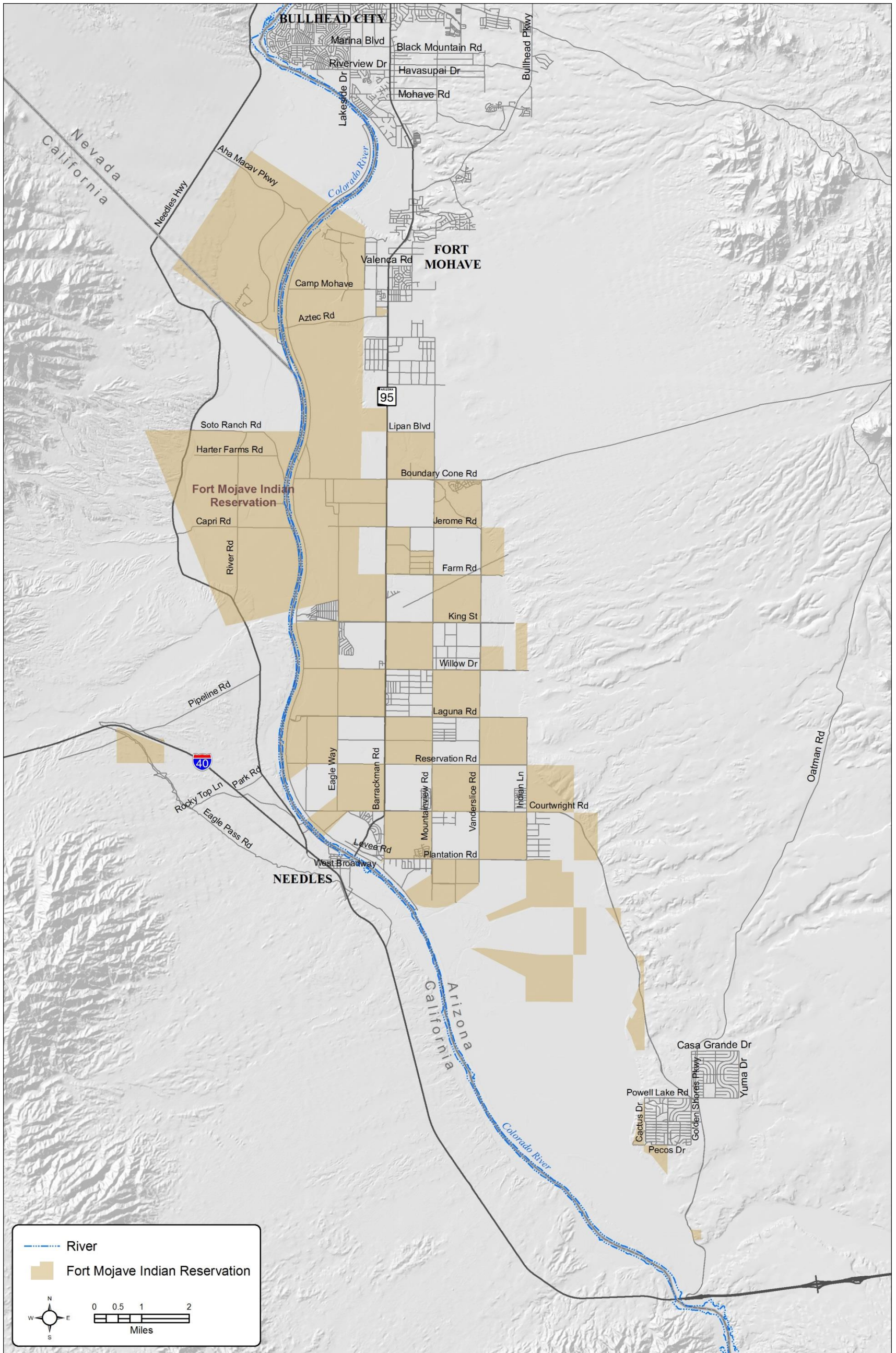


Figure 1 – Study Area Map

1.3 Recommendations Report Overview

This report provides alternatives and recommendations for a start-up transit service to serve the Fort Mojave Indian Reservation and surrounding area. This report is organized into the following chapters:

Chapter 1: Introduction – This chapter provides an overview of the study including purpose and goals.

Chapter 2: Transit Need and Demand – This chapter provides an estimate of transit needs and demand for trips consistent with methodology contained in *Transit Cooperative Research (TCR) Program, Report 161: Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook*.

Chapter 3: Recommended Transit Mode, Transit Route, and Transit Operations Options – This chapter provides a recommendation for the recommended transit mode. It presents a proposed transit route to serve key transit nodes, activity centers, and corridors. Transit operations options are also discussed. This chapter summarizes start-up capital costs.

Chapter 4: Funding Options – This chapter summarizes funding options.

2. TRANSIT NEED AND DEMAND

This chapter provides an estimate of need and demand for a potential public transportation system serving Fort Mojave Indian Reservation and the surrounding community. The analysis of need and demand informs determination of needed and feasible transit service options.

Need and demand estimates are based on the methodology contained in *TCRP Report 161: Methods for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook*. This methodology utilizes U.S. Census data and requires that an analysis area be defined consistent with U.S. Census geography.

A potential public transportation system may serve both Tribal residents and visitors, and non-Tribal residents who live in areas near and around Fort Mojave Indian Reservation. Since the Fort Mojave Indian Reservation is in a checkerboard layout, the needs analysis is based not only on the population in the Reservation area, but also considers residents who live in non-Tribal areas near and around the Fort Mojave Indian Reservation. Census tracts which are included in the analysis area are: 9405.01, 9520.04, 9550, 9520.02, 9520.03, and 251 (refer to **Figure 2**). Note that some of these Census Tracts are very large, but contain large areas of land that are uninhabited.

2.1 Population

The 2010 U.S. Census population on the Fort Mojave Indian Tribe Reservation is 1,657 persons. The population of the surrounding community (U.S. Census Tracts as identified in **Figure 2**) is nearly 25,000 people as listed in **Table 1**.

2.1.1 Population Density

Population densities within the Fort Mojave Reservation and surrounding area are shown in **Figure 3**. The densest population areas are shown in the darker brown shading and include:

- Arizona Village area (north of Plantation Road and east of SR 95)
- California Village (West Broadway Road, west of SR 95 in Needles, CA)
- Avi Resort and Casino area (west of SR 95 and Colorado River, along Aztec Road)
- SR 95 corridor, between Lipan Blvd and Bullhead City

2.1.2 Median Age

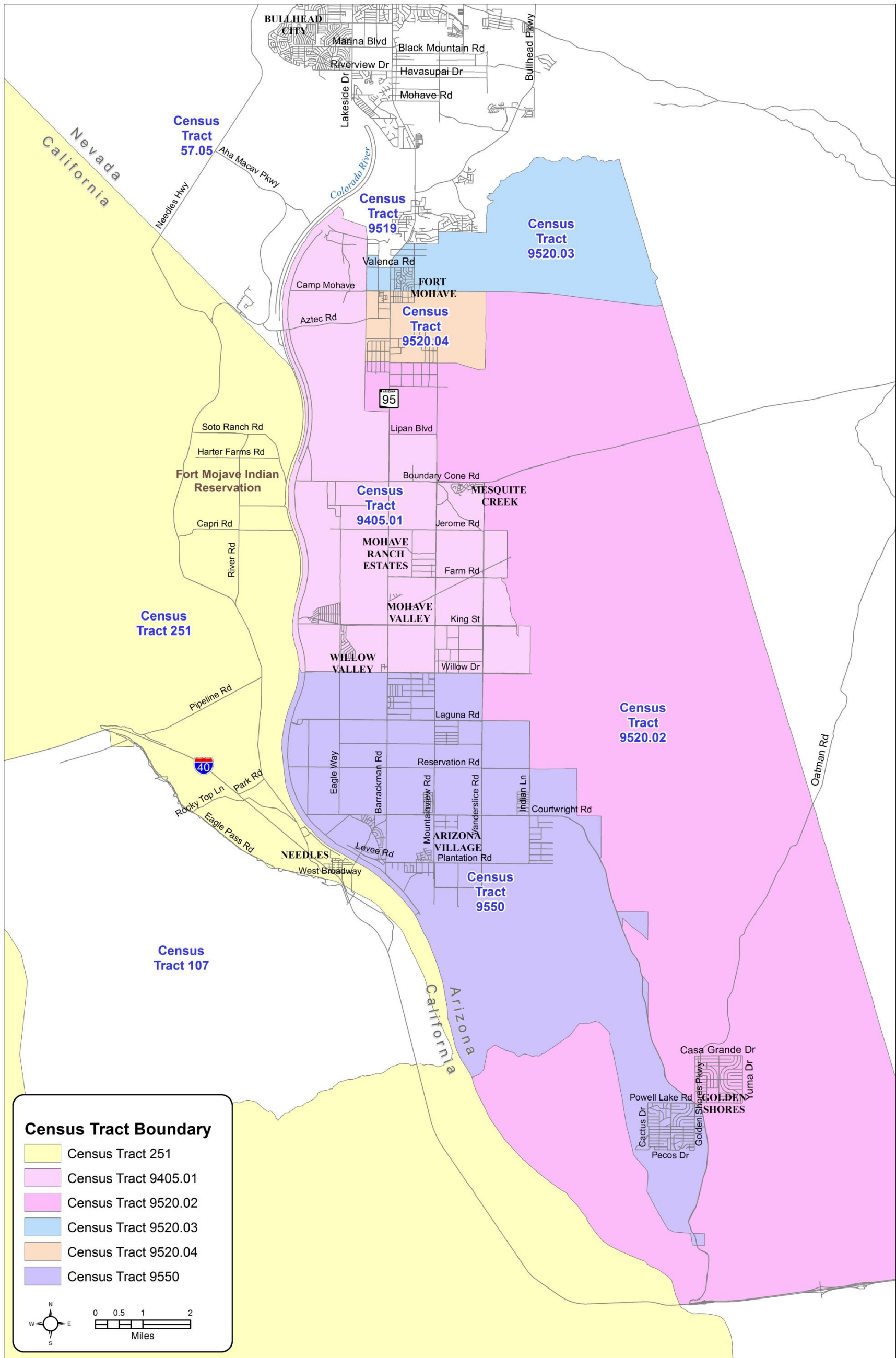
A review of population data indicates the following population trends:

- The median age of each zip code ranges from 44 years old to 55 years old, as presented in **Table 1**.
- Approximately 25% of the population is 65 and over, indicating a large group with a propensity for using transit.
- Another 25% of the population is 50-64 years old—a population group that is nearing retirement age.
- Approximately 20% of the population is under the age of 18 years old. This growing segment of younger population will be entering the workforce and will be suitable for education efforts to encourage transit use.

Table 1 – Population and Median Age

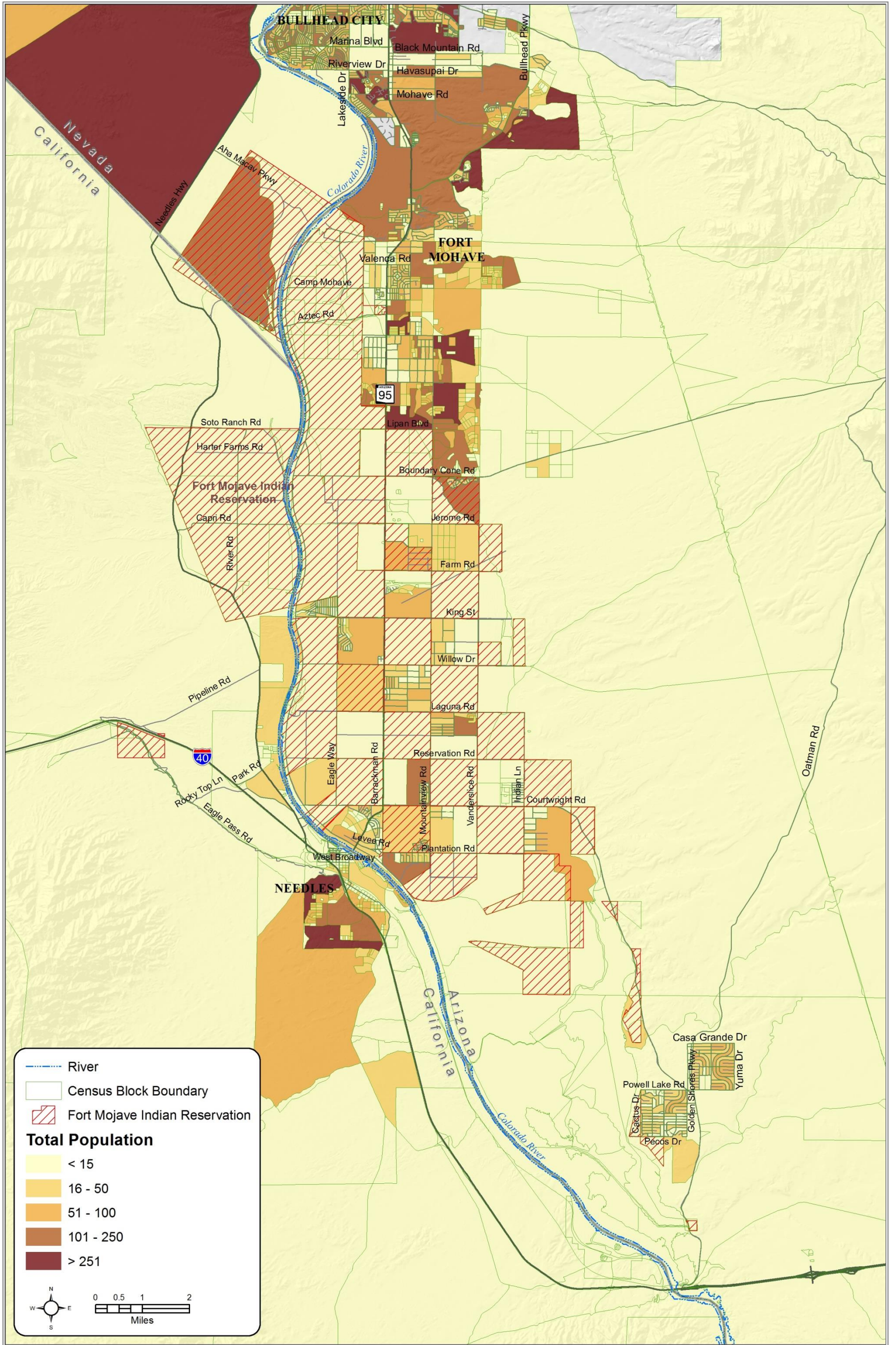
Census Tract	Population	Median Age
9405.01	3,269	47.7
9520.02	6,626	55.1
9520.03	4,763	44.7
9520.04	3,512	52.3
9550	5,405	41.7
251	1,196	48.1
TOTAL	24,771	-

Sources: U.S Census, Table B01003 and Table B01002, 2008-2012 American Community Survey 5-Year Estimates,



Note: The transit needs analysis was based on population and demographic data within the above-listed census tracts.

Figure 2 – Study Area (U.S. Census Tracts)



Source: 2010 US Census

Figure 3 – Total Population

2.2 Transit Need

Procedures as described in *TCR Program Report 161 – Method for Forecasting Demand and Quantifying Need for Rural Passenger Transportation: Final Workbook* were applied to available socioeconomic data and information.

According to TCRP Report 161, transit needs are defined in two ways:

- (1) The number of people in a given area likely to need passenger transportation, and
- (2) The number of trips required to provide individuals without personal vehicles with a level of mobility equal to those having personal vehicles.

The number of people in a given area likely to need passenger transportation: Estimates for transit need are represented by the number of persons residing in households with income below the poverty level plus the number of persons residing in households with no vehicles. These data are summarized in **Table 2** and **Table 3**. It is estimated that approximately 500 persons have transit needs on the Reservation area, and approximately 5,000 persons have need of transit services in the surrounding area.

Table 2 – Households without Access to a Vehicle

	Number of Households (Fort Mojave Indian Reservation)	Number of Households Entire Area (Census Tracts)
1-person households	23	224
2-person households	16	157
3-person households	2	50
4-or-more person households	9	11
TOTAL	50 households	442 households

Sources: U.S Census American Community Survey Table B08201, 2008-2012 American Community Survey 5-Year Estimates

Table 3 – Estimate of Persons with Transportation Needs

	Number of Persons (Fort Mojave Indian Reservation)	Number of Persons – Entire Area (Census Tracts)
Persons residing in households with income below the poverty level	446	4,265
Persons residing in households without access to a vehicle	97	732
Total Persons in Need of Passenger Transportation Services	543	4,997

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

The number of trips required to provide individuals without personal vehicles with a level of mobility equal to those having personal vehicles: The need, expressed in trips, is estimated using a factor called 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 vehicle. The mobility gap was developed from data in the 2009 National Household Travel Survey for each Census Division and is presented in *TCRP 161*. A mobility gap estimate based on household vehicle availability, with the gap measured in trips per day, is computed as:

$$\text{Need (one-way trips per day)} = \text{Number of households having no car} \times \text{mobility gap}$$

Since most of the Reservation is located in Arizona and Nevada, the Mountain Division mobility gap value was used. The Mountain Division mobility gap was estimated by the *TCRP Report 161* to be 0.8. Using this formula, the need in trips is estimated to be:

$$\text{Need} = 442 \text{ households having no car} \times 0.8 = \mathbf{350 \text{ one-way trips per day}} \text{ (106,100 trips per year)}$$

Having an estimate of the number of trips to be served within the analysis area is a way to quantify the resources that would be needed to meet the unserved demand.

2.3 Transit Demand

TCRP Report 161 emphasizes that the estimate of need made using the mobility gap method are typically greater than the number of trips actually observed on rural passenger transportation systems and are likely greater than the demand that would be generated for any practical level of service. *TCRP Report 161* states that much of the remaining trip-based mobility gap is likely filled by friends and relatives driving residents of non-car-owning households. The report suggests that, at best, only about 20% of the mobility gap trip-based needs is typically met.

Based on analysis of data reported to the Rural National Transit Database for 2009, *TCRP Report 161* developed a function to produce reasonable estimates of the demand for general public, or non-program, passenger transportation in rural areas:

$$\text{Demand} = (2.20 \times \text{Population age 60+}) + (5.21 \times \text{Mobility Limited Population age 18 to 64}) + (1.52 \times \text{Residents of Households having No Vehicle})$$

This method, the results of which are presented in **Table 4**, estimates the demand for “non-program related passenger transportation” (i.e., transportation not resulting from participation in a particular social-service program).

Table 4 – Estimate of Reasonable Transit Demand

	Number of Persons – Entire Area (Census Tracts)
Population Age 60+	8,188
Mobility Limited Population age 18 to 64	662
Residents of Households having No Vehicle	732
Non-program related passenger transportation demand¹	22,600 Trips per Year

1. **Demand** = (2.20 × 8,188 Population Age 60+) + (5.21 × 662 Mobility Limited Population age 18 to 64) + (1.52 × 732 Residents of Households having No Vehicle) = **22,600 Trips per Year**

Sources: U.S Census American Community Survey Tables B101001, S1810, and B08201, 2008-2012 American Community Survey 5-Year Estimates

2.4 Transit Need as Demonstrated by Responses to Transit Survey

As part of public outreach activities conducted during the study, a transit survey was distributed and made available online. Although not all respondents answered all questions, survey responses varied from 118 to 412 responses. Provided below is a brief overview of the survey responses (it should be noted that percentages do not always sum to 100 due to rounding).

1. How many people currently live in your household?

Answer Choices	Responses	Percent
1	63	16
2	172	44
3	56	14
4	63	16
5	39	10
Total	393	

The majority of respondents live in two person households.

2. Please indicate your age range.

Answer Choices	Responses	Percent
18-24	44	11
25-34	66	16
35-44	53	13
45-54	66	16
55-64	69	17
65-74	70	17
75-85	42	10
Over 85	8	2.0
Total	418	

The survey responses were fairly well distributed between the age ranges.

3. How many working vehicles are available in your household?

Answer Choices	Responses	Percent
1	198	52
2	138	36
3	48	13
Total	384	

All of the survey respondents that answered this question had at least one working vehicle in their household.

4. How do you currently get to the places you want to go?

Answer Choices	Responses	Percent
I drive myself	329	78
Take a taxi or shuttle	16	4
Walk	14	3
Bike	0	0
Catch a ride with friend or family member	47	11
Carpool	9	2
Other	8	2
Total	423	

Although the majority of respondents drive themselves to their destinations, a significant percentage of persons catch as ride with friends or family or carpool. These persons may be a potential market for transit.

5. How many times have you been unable to reach a destination in the past 30 days because of lack of transportation?

Answer Choices	Responses	Percent
1-3 times	167	73
4-6 times	38	17
7 or more times	24	10
Total	229	

229 respondents indicated that they were unable to reach a destination because of lack of transportation. 62 persons were unable to reach a destination 4 or more times in a month, indicating a potential need for transit.

6. What are your limitations on travel?

Answer Choices	Responses	Percent
No car	50	19
Limited availability of car	78	30
Too expensive	64	25
Road problems	7	3
Physical disability	19	7
Other	40	16
Total	258	

Most of the persons responding to this question had either no car, a limited availability of car, or felt it was too expensive to drive.

7. What are your top five locations that you need travel assistance with?

Answers	Responses	Percent
Work	91	13
Grocery Store (responded either Smith's, Safeway, Bashas or grocery or market)	105	15
Avi Resort and Casino	35	5
Doctor appt. / medical / clinic	79	11
Hospital or Valley View Medical Center	14	2
Home, family or friends	17	2
Walmart / Target	39	6
Other store or shopping	67	9
Fort Mojave / Tribal departments	4	1
Post Office	5	1
Mohave Community College	9	1
Bank	13	2
School	23	3
Bullhead City	20	3
Fort Mohave	10	1
Needles	6	1
Lake Havasu	5	1
Las Vegas	10	1
Laughlin	16	2
Library	6	1
WIC	3	<1
Other	132	19
Total	709	

The most common travel destinations were work; shopping at Smith's, Safeway or another market; Avi Resort and Casino; medical trips; and other types of shopping trips.

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

Answer Choices	Responses	Percent
Yes	273	70
No	118	30
Total	380	

The majority of respondents, almost 70% or 273 persons, indicated they would use public transportation if available.

9. What area do you live in?

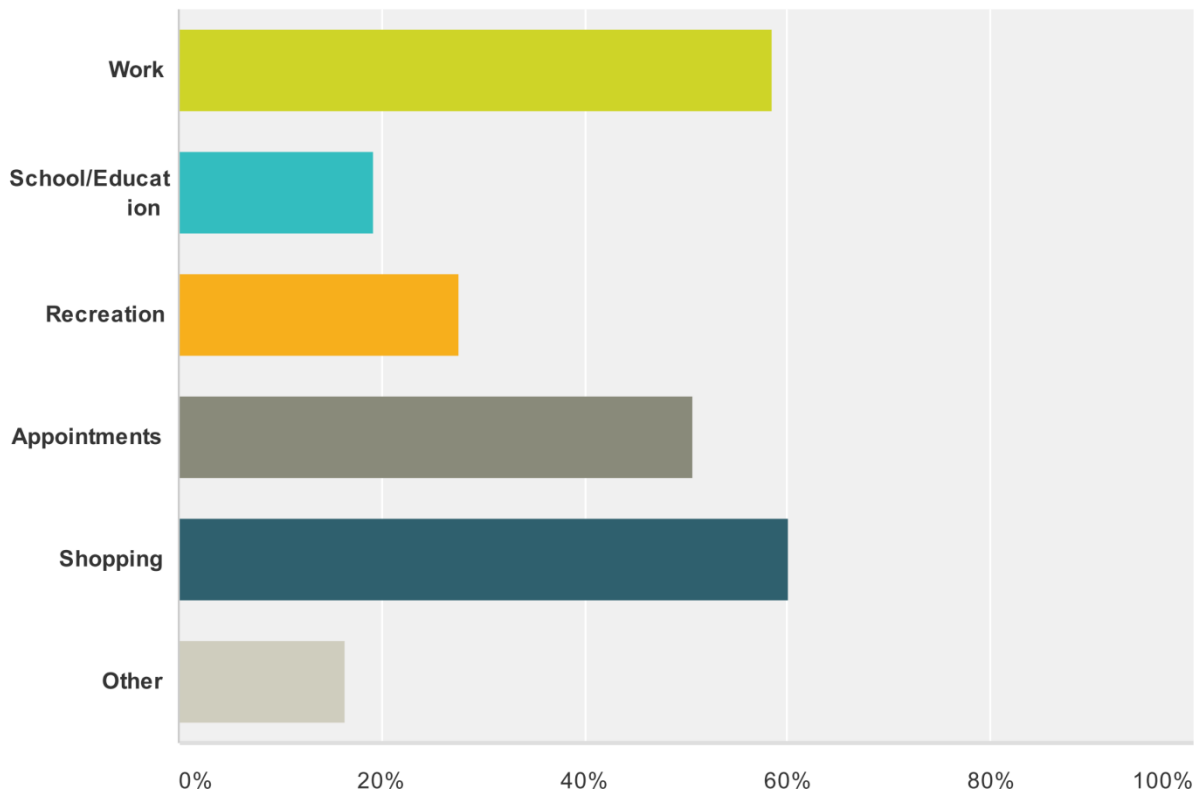
Answer Choices	Responses	Percent
Arizona Village	95	24
California Village	27	7
Bullhead City	34	9

Desert Springs	10	3
Mohave Valley	20	5
Needles	12	3
Plantation Road	6	2
Other Locations along Hwy 95	34	9
Other Locations	153	39
Total	391	

Most of the respondents that answered this question lived in Arizona Village. A significant number of respondents lived in California Village, near SR 95, and in Bullhead City.

10. What would you most likely use public transportation for?

Answer Choices	Responses	Percent
Work	192	59
School/ Education	63	19
Recreation	91	28
Appointments	166	51
Shopping	197	60
Other	54	16
Total	328	



Top destinations included work, shopping, and appointments.

11. What is your occupation?

Answer Choices	Responses	Percent
Student	8	2
Tribal / Government employee	40	10
Casino/resort	169	41
Non-working spouse	5	1
Retired	122	29
Unemployed	13	3
Homemaker	3	1
Caregiver	2	<1
Other employment	52	13
Total	414	

The largest response to this question was casino/resort employment, followed by retired, and then Tribal government employment. This indicates that a transit system should definitely serve the casinos on the Reservation, as well as the Tribal government offices.

Summary

Over 400 individuals responded to the transit survey and demonstrated that there is support for a transit system, and need based on the number of persons unable to reach a destination over the last month. It also confirmed transit system origins and destinations identified earlier in the project.

3. RECOMMENDATIONS

3.1 Transit Mode Analysis

A number of transit modes were examined to determine the best “fit” for the Fort Mojave area. These include a demand-responsive system, fixed route system, deviated fixed route system, and a vanpool service.

Brief overviews of these service types are:

- Demand-responsive transit service – A demand-response system is one where passenger trips are generated by calls from passengers or their agents to the transit operator, who then dispatches a vehicle to pick up passengers and transport them to their destinations.
- Fixed route service – the bus travels over an established route, with fixed times for stops.
- Deviated fixed route service – A deviated fixed route service operates a bus or van along a fixed route and keeps to a timetable, but the bus or van can deviate from the route to go to a specific location. Deviation, when provided, should be limited to a maximum number of deviations per day. Zones should also be provided within which deviation will be provided.
- Vanpool service – a type of car pool utilizing a van that usually transports six to 15 passengers, typically for work trips.

These transit options were evaluated by reviewing anticipated passenger demand, need for complementary Americans with Disability Act (ADA) paratransit service, service area characteristics, and passenger needs. Considerations of each of these factors are summarized in **Table 5**.

It should be mentioned that the need for ADA complementary transit service is required for passengers who are 1) unable to navigate the public bus system, 2) unable to get to a point from which they could access the public bus system, or 3) have a temporary need for these services because of injury or some type of limited duration cause of disability.

3.1 Recommended Alternative

Based on the analysis of demands, passenger needs and service area characteristics, a deviated fixed route service is recommended to serve the Fort Mojave Indian Reservation and the surrounding area. Deviated fixed route typically provide a higher level of riders than a demand-responsive type service. The route deviation element of the service would satisfy the requirements for providing transit to those who cannot travel to the bus stop within a certain distance.

A proposed route is described in the following sections. Deviation, when provided, should be limited to a maximum number of deviations per day. Zones should also be specified within which deviation will be provided.

Table 5 – Alternatives Matrix

Service Type	Criteria					Conclusions
	Demand	Need for ADA Complementary Paratransit Service	Service Area Characteristics	Passenger Needs	Costs	
Demand-Responsive	Approximately 350 one-way trips per day – larger than typical demand responsive productivity of five passengers per hour	This type of service will meet ADA requirements	The main destinations are oriented along SR 95	A high number of employee trips, shopping trips, and medical/appointment trips is anticipated. Fixed route service would better meet these needs.	Typically demand-responsive systems are more costly than fixed routes services. This type of service also requires real time dispatching.	The main destinations are oriented along SR 95, which is more suited to a fixed route system. Since there is a higher level of employee trips, a fixed route service may better meet those needs
Fixed Route	Approximately 350 one-way trips per day. The demand appears appropriate to a fixed route service	ADA paratransit service needed in addition to the fixed route service.	The main destinations are oriented along SR 95.	A high number of employee trips, shopping trips, and medical/appointment trips is anticipated.	The service typically generates more revenues since it accommodates more passengers	The main destinations are oriented along SR 95, which is more suited to a fixed route system. Since there is a higher level of employee trips, a fixed route service may better meet those needs
Deviated Fixed Route	Approximately 350 one-way trips per day. The demand appears appropriate to a fixed route	The deviated element of the service would meet ADA requirements for a complementary	The main destinations are oriented along SR 95.	A high number of employee trips, shopping trips, and medical/appointment trips is anticipated. Fixed route with	This type of service requires real time dispatching to accommodate route deviation	This is the same as Fixed Route but provides opportunity for deviation to meet ADA requirements.

Service Type	Criteria					Conclusions
	Demand	Need for ADA Complementary Paratransit Service	Service Area Characteristics	Passenger Needs	Costs	
	service. Having the option for a deviated service will better meet the needs of this rural community	service since the bus could deviate to pick up passengers with disabilities.		deviation would satisfy ADA requirements.	requests.	
Van Pool	Although commuter trips are expected to be a large component of demand, there will also be demand for other types	A vanpool typically provides more point-to-point service	Main destinations for a van pool service are anticipated to be the Avi Resort and Casino – a major employment destination	Vanpool service is typically limited to individuals signing up for the program.	Normally a transit agency owns and maintains the vehicles and individuals share the driving costs, and sometimes share the driving.	The transit service is anticipated to serve a broader range of needs than a typical vanpool service.

3.1.1 Interviews with Peer System Tribal Transit Providers

Telephone interviews were conducted with two Tribal transit system providers, the Salt River Transit System and the Navajo Transit System, to provide insights on their systems that can be of value to the Fort Mojave Indian Reservation. These interviews are summarized in **Appendix A**.

3.1.2 Proposed Potential Transit Route

A potential transit route was developed through a review of residential areas and key destinations within the community. The route was developed based on input from the Tribal Planner, stakeholders, and the public. Key features of the route are:

- Serves the main residential communities of California Village and Arizona Village.
- Serves Tribal Offices on Merriman Avenue in Needles.
- Serves Tribal government areas on SR 95 such as the Police, Tribal Courts, and Building Department.
- Connects to Bullhead Area Transit System and Needles Area Transit System.
- Serves the Valley View Medical Center (also a future stop for the Bullhead Area Transit System) and the Fort Mojave Medical Center on Plantation Road.
- Serves grocery and shopping destinations such as Smith’s and Safeway.
- Serves the Aha Macav High School and Builders Academy High School.
- Serves the Spirit Mountain Casino.
- Serves community facilities such as the Boys and Girls Club, One–Stop Center, Social Services, Library, and Fort Mojave Education Center.

The fixed route and stops are shown in **Figure 4** and summarized in **Table 6**.

Aerial views of each potential bus stop location are shown in **Appendix B**. Potential locations are shown for planning purposes only.

Since travel time on SR 95 is rather lengthy, it is recommended that flag stops occur on SR 95 between Willow Drive and Lipan Boulevard. Flag stops are often implemented instead of standard bus stops, allowing passengers to wait along the side of the road at a convenient location that may not necessarily be a designated bus stop. When the bus encounters a passenger waiting alongside the road, the bus driver can use their professional judgment to determine whether it is safe enough to stop at that location. Specific policies for drivers and passengers to use for determining when and where it is safe to pick-up or discharge passengers should be developed during implementation planning. The final locations of transit stops will be determined during detailed implementation planning.

Figure 4 shows two alternative route extension options that may be considered: A) extend north to Target and connects to Bullhead Area Transit System; B) extend west to Avi Resort and Casino. These options should be evaluated during implementation planning to determine the impact to headways and capital requirements.

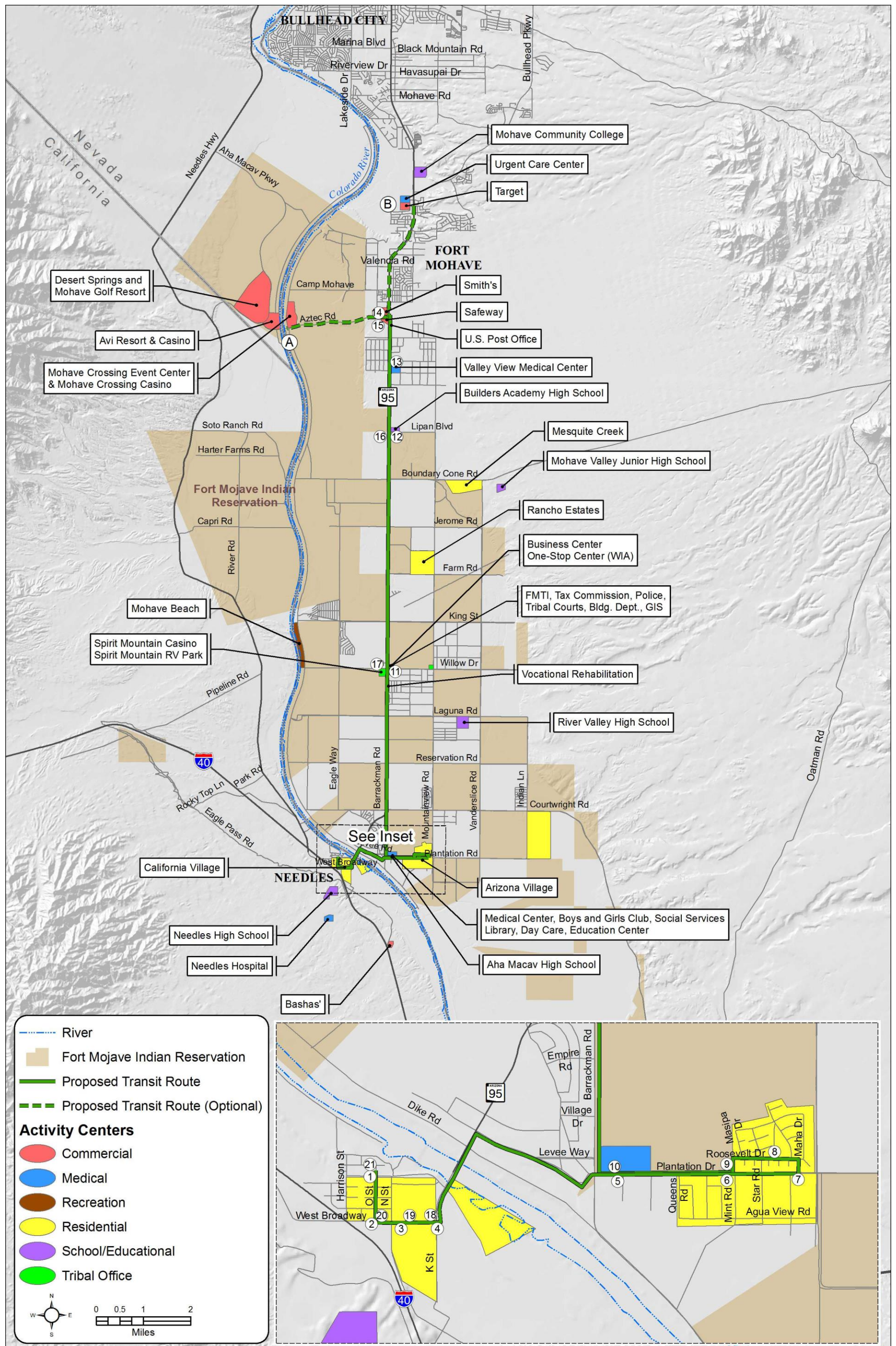


Figure 4 – Proposed Potential Transit Route

Table 6 – Stop Locations (in order of route)

Stop Identification Number	Intersection	Stop Location NS=Near side FS=Far side MB=Mid-block	Activity Center Served	Distance Between Stops (feet)		Existing Amenities
				Between Stops	Distance (feet)	
1	Merriman Avenue at Goodman Rd/O Street	NS	Tribal Offices at 500 Merriman Avenue	---		Sidewalk on south side of Merriman—not on north side
2- Transfer point with NAT	O Street at Needles Highway / River Rd - (Bus stop 20 for Needles Area Transit)	NS	KFC Restaurant, River Valley Inn, California Village	Stop ID 1 to 2	1,317	No sidewalk and there is some elevation challenges
3	River Rd (Needles Highway) at M Street	NS	California Village	Stop ID 2 to 3	674	Sidewalk
4	River Rd (Needles Highway) at SR 95	NS	Riverhead Plaza, California Village, L&S Autocare, The Sweet Spot Shaved Ice	Stop ID 3 to 4	754	Sidewalk
5	Plantation Road at Sands Road	NS	Ava Ich Asiiit Tribal Library, Social Services, Medical Center, Boys and Girls Club of the Aha Macav	Stop ID 4 to 5	6,159	Gravel shoulder
6	Plantation Road at Mint Road	NS	Arizona Village homes	Stop ID 5 to 6	2,680	Gravel shoulder
7	Plantation Road at Peck Road	NS	Arizona Village homes	Stop ID 6 to 7:	1,708	Gravel shoulder
8	Roosevelt Rd west of Scott Circle	FS	Arizona Village homes, Aha Macav Housing Entity	Stop ID 7 to 8:	877	Curb—no sidewalk
9	Plantation Rd at Alexander Lane (Mint Rd)	FS	Arizona Village homes	Stop ID 8 to 9:	1,479	Gravel shoulder

Fort Mojave Indian Reservation Transit Study

Stop Identification Number	Intersection	Stop Location NS=Near side FS=Far side MB=Mid-block	Activity Center Served	Distance Between Stops (feet)		Existing Amenities
Outbound				Between Stops	Distance (feet)	
10	Plantation Rd at Sands Rd	FS	Ava Ich Asiiit Tribal Library, Social Services, Medical Center, Boys and Girls Club of the Aha Macav	Stop ID 9 to 10:	2,686	Gravel shoulder
11	SR95 at Willow Drive	FS	Hunters Grill, Chase Bank, Spirit Mountain Casino, Business Center, One Stop Center, WIA	Stop ID 10 to 11:	21,829	Curb–no sidewalk – signalized intersection
12	SR 95 at Lipan Blvd	FS	Builders Academy High School	Stop ID 11 to 12:	26,588	No sidewalk–signalized intersection
13	Valley View Medical Center – possible future transfer point to Bullhead Area Transit System	Front door of Medical Center	Valley View Medical Center	Stop ID 12 to 13:	7,027	Stop at entry to Medical Center
14	Aztec Rd at SR 95	FS	Smith’s Grocery Store	Stop ID 13 to 14:	5,868	No sidewalk except at corners of signalized intersection.
Total Distance, Outbound					85,514	
Inbound						
15	SR95 at Courtney Place	NS	Safeway Grocery Store	Stop ID 14 to 15:	1,258	
13	Valley View Medical Center – future transfer point to Bullhead Area Transit System	Front door of Medical Center	Valley View Medical Center	Stop ID 15 to 13:	5,408	Stop at entry to Medical Center–this direction assumes exit via Wagon Wheel Lane

Fort Mojave Indian Reservation Transit Study

Stop Identification Number	Intersection	Stop Location NS=Near side FS=Far side MB=Mid-block	Activity Center Served	Distance Between Stops (feet)		Existing Amenities
				Outbound	Distance (feet)	
16	SR 95 at Lipan Blvd	FS	Builders Academy High School	Stop ID 13 to 16:	7,670	No sidewalk- signalized intersection
17	SR95 at Willow Drive	FS	Hunters Grill, Chase Bank, Spirit Mountain Casino, Business Center, One Stop Center, WIA	Stop ID 16 to 17:	26,531	Curb—no sidewalk
5	Plantation Road at Sands Road		Ava Ich Asiiit Tribal Library, Social Services, Medical Center, Boys and Girls Club of the Aha Macav	Stop ID 17 to 5:	21,546	Gravel Shoulder
6	Plantation Road at Mint Road	NS	Arizona Village homes	Stop ID 5 to 6	2,680	Gravel shoulder
7	Plantation Road at Peck Road	NS	Arizona Village homes	Stop ID 6 to 7:	1,708	Gravel shoulder
8	Roosevelt Rd west of Scott Circle	FS	Arizona Village homes, Aha Macav Housing Entity	Stop ID 7 to 8:	877	Curb—no sidewalk
9	Plantation Rd at Alexander Lane (Mint Rd)	FS	Arizona Village homes	Stop ID 8 to 9:	1,479	Gravel shoulder
10	Plantation Rd at Sands Rd	FS	Ava Ich Asiiit Tribal Library, Social Services, Medical Center, Boys and Girls Club of the Aha Macav	Stop ID 9 to 10:	2,686	Gravel shoulder
18	River Rd (Needles Highway) at SR 95	FS	Riverhead Plaza, California Village, L& S Autocare, The Sweet Spot Shaved Ice	Stop ID 10 to 18:	6,248	Sidewalk

Stop Identification Number	Intersection	Stop Location NS=Near side FS=Far side MB=Mid-block	Activity Center Served	Distance Between Stops (feet)		Existing Amenities
				Outbound	Inbound	
19	River Rd (Needles Highway) at M Street	NS	California Village	Stop ID 18 to 19:	540	Sidewalk
20- transfer point for NAT	O Street at Needles Highway (Bus stop 20 for Needles Area Transit)	FS	KFC Restaurant, River Valley Inn, California Village	Stop ID 19 to 20:	860	Sidewalk at corner, but not at bus stop
21	Merriman Avenue at Goodman Rd/O Street		Tribal Offices at 500 Merriman Avenue	Stop ID 20 to 21:	1337	Stop may need to be in parking lot east of Tribal Offices
Total distance, Inbound					74,960	
Grand Total, Inbound and Outbound routes					160,474 or 30.4 miles	

3.2 Coordination with Other Transit Providers

In addition to serving Fort Mojave origins and destinations, the proposed transit system will link both the Needles Area Transit System and the Bullhead Area Transit System (at least when the route serves the Valley View Medical Center in the future), which will potentially increase ridership on both of those systems. In addition, the proposed transit system will enhance and supplement the operation of other transportation providers in the community. A brief overview of how this route could potentially coordinate with other transportation providers is summarized in **Table 7**.

Table 7 – Transit System Coordination with other Transportation Providers

Provider	How a Fort Mojave Transit System would Coordinate with this Provider	Potential Benefits
Needles Area Transit	The proposed transit system would stop at Bus Stop 20 of the Needles Area transit system (O Street at Needles Highway)	Allow transfers to occur between the two systems.
Bullhead Area Transit System	The route will coordinate with future service to the Valley View Medical Center	In the future, will allow transfers to occur between the two systems at the Valley View Medical Center. An option for service may be to extend the route to Target.
Avi Resort and Casino	Fort Mojave transit system would serve Arizona and California Village locations and travel to the intersection of SR 95 and Aztec Road (Safeway and Smith’s), where employees could take the casino shuttle service to work.	The employee shuttle service routes could be shortened considerably, or potentially eliminated, by using the Ft. Mojave transit system.
Workforce Investment Act	Transit stops are proposed at Arizona Village and California Village and employment sites such as Tribal Courts and Police, One-Stop Business Center, Valley View Medical Center, Safeway, Smith’s and the Avi Resort and Casino.	This may reduce the need to provide transportation services to employment locations.
Boys and Girls Club of Aha Macav	The transit service will stop at the Boys and Girls Club and at Arizona Village and California Village	May reduce need for van service, particularly for teens.
Education Department	The proposed route will serve the Education Department on Plantation Road	May reduce needs for van service to Arizona and California Village.
Recreation Department	The proposed route will serve the Recreation Department at 500 Merriman Avenue	May reduce needs for van service to Arizona and California Village.

Provider	How a Fort Mojave Transit System would Coordinate with this Provider	Potential Benefits
Indian Health Service	The proposed route serves the Valley View Medical Center and Fort Mojave Indian Health	Although Community Health representatives transport clients to patient care, a transit system could supplement this, especially for trips to Valley View Medical Center and Fort Mojave Indian Health.
Senior Nutrition Program	The proposed route will serve Arizona and California Village, grocery stores, and the Fort Mojave Indian Health and Valley View Medical Center	May decrease use of vans to transport tribal members to grocery stores and medical appointments
Fort Mojave Domestic Violence	Will serve the Tribal Courts area	Provides access to this area from Arizona and California Villages

Source: Kimley-Horn and Associates

3.3 Operations

3.3.1 Vehicle Cycle, Headways, and Options for Service

The cycle time on the proposed route is equal to the sum of:

1. One-way trip time (Smiths at Aztec Road/ SR 95, to Tribal Headquarters at 500 Merriman Avenue) is estimated at approximately 25 minutes, which equates to an approximate round trip of 50 minutes.
2. Total number of stops along the alignment:
 - a. 21 stops * 15¹ seconds per stop = 5.25 minutes
 - b. 5 stops * 30 seconds per stop = 2.5 minutes
 - c. 2 stops * 60 seconds per stop = 2 minutes

Total dwell time: 9.75 minutes
3. Recovery/layover time is assumed to be approximately 7 minutes.

The above sums to a cycle time of approximately 60 to 70 minutes. Additional field work is required to more precisely estimate average speed. Additional cycle time may be required to account for route

¹ Note: This represents a planning-level estimate of dwell time. Additional investigation is required upon determination of the number of stops, bus type, etc. Assumptions are: 15 seconds average dwell time for a typical stop in outlying area, 30 seconds for a major stop in outlying area, and 60 seconds for a transfer center or major in-line transfer point. Reference: Bus Transit Capacity and Quality of Service Manual, Part 2, Bus Capacity, page 2-15.

deviation. In addition, implementation of Option A or Option B (extensions to Avi Casino and to Target, refer to **Figure 4**) would increase the cycle time. Depending upon the final route configuration, a single bus may potentially provide a service on one hour headway if average speed is increased, or the route is shortened. Two buses would be likely required to provide hourly service. Detailed operational planning is required to determine the cycle time and bus headway.

3.3.2 Service Hour Options

There are a number of options for operating the system:

- All day service – this service would run from approximately 6 am to 6 pm, 12 hours and 5 days a week. Initially, it is recommended that service begin on a trial basis with reduced hours; as the system matures and is proven to be successful, service hours could be expanded to 12 hours per day.
- Peak hour service – this service would operate 6 hours per day and 5 days per week.
- Express service – this service would operate with limited stops, on one hour headway, Monday through Friday, to cover the three shift changes at the Avi Resort and Casino (6 am, 2 pm, 10 pm).

A summary of annual vehicle service hours for each of these service options is summarized in **Table 8**.

Table 8 – Annual Vehicle Service Hours for Various Deviated Fixed Route Service Hour Options

Service Hour Option	Service Hours per Day	Days per Week	Weeks per Year	Service Hours per Vehicle	Vehicles	Total Vehicle Service Hours
Deviated Fixed Route, All-day Service						
1 vehicle	12	5	52	3120	1	3120
2 vehicles	12	5	52	3120	2	6240
Deviated Fixed Route, Peak Hour Service						
1 vehicle	6	5	52	1560	1	1560
2 vehicles	6	5	52	1560	2	3120
Deviated Fixed Route, Express Service						
1 vehicle	3	5	52	780	1	780
2 vehicles	3	5	52	780	2	1560

Source: Kimley-Horn and Associates

A review of operating costs for other peer-system transit providers in Arizona was made. These data are summarized in **Table 9**. The Salt River system is operated by the Salt River Pima-Maricopa Indian Community. An interview with operators of the Salt River Transit System is provided in **Appendix A**.

Applying the average cost per vehicle service hour to the Fort Mojave service options results in the estimated operating and administrative costs shown in **Table 10**. Capital costs are not reflected, but are addressed in Section 3.4.

3.3.3 Recommended Service Hour Option

It is recommended that the Fort Mojave Indian Tribe begin small and simple, and then gradually grow the system as demand is demonstrated. For example, the service could begin with peak-hour service that operates for 2 hours in the morning, midday, and afternoon, and scheduled to coincide with shift changes at the Avi Resort and Casino. As demand is demonstrated, and the system becomes successful, the service could be expanded to 8 hours per day, and eventually to 12 hours per day.

Table 9 – Summary Costs for Arizona Transit Systems

Transit Provider	Service Type	Annual Vehicle Revenue Hours	Cost per Passenger trip	One-way Trips	Cost per mile	Cost per Vehicle Service Hour
Benson	Deviated fixed route	3,286	10.92	8,038	3.43	42.33
Coolidge	Deviated fixed route and fixed route	11,897	18.35	40,370	3.71	60.94
Douglas	Deviated fixed route	8,600	9.27	-	4.54	52.83
Kingman	Deviated fixed route	14,055	7.24	-	3.79	49.88
Salt River	Demand Response	8,544	24.63	-	3.59	68.60
Average			14.08		3.81	54.92

Source: ADOT

Table 10 – Estimated System Non-Capital (Administrative and Operating) Costs

Service Type	Number of Vehicles	Total Vehicle Service Hours	Average Cost per Vehicle Service Hour	Total Administrative and Operating Costs
Fixed Route with Deviated All Day Service				
1 bus vehicle	1	3120	54.92	\$171,000
2 bus vehicles	2	6240	54.92	\$343,000
Peak Hour Service				
1 bus vehicle	1	1560	54.92	\$86,000
2 bus vehicles	2	3120	54.92	\$172,000
Express Service				
1 bus vehicle	1	780	54.92	\$43,000
2 bus vehicles	2	1560	54.92	\$86,000

Source: Kimley-Horn and Associates

Note: Costs are rounded to the nearest thousand dollars

3.3.4 Fares

It is recommended that transit fares be consistent with transit fares of surrounding area systems. Currently, transit fares for the Bullhead Area Transit System and the Needles Area Transit System are:

- Bullhead Area Transit System:
 - \$1.00 Fixed route one-way
 - \$2.00 Paratransit Service one-way
 - \$1.00 Paratransit Service Laughlin Connection, free for Personal Care Attendant
 - \$4.00 All-day Pass for Fixed Route Service
 - \$48.00 Monthly Pass for Fixed Route Service
 - \$30.00 Monthly Pass for Seniors age 60 and over for Fixed Route Service
 - \$20.00 Monthly Pass for Students for Fixed Route Service
 - \$24.00 Coupon Book (30 one dollar tickets) for Fixed or Paratransit Service
 - Children age 2 and younger are free

- Needles Area Transit System:
 - \$1.10 Fixed route One-Way
 - Fixed Route Service; Senior Over 60 Years Old and Persons With Disabilities; Per each boarding: \$1.00
 - 30 Punch Card Pass; Per each boarding: \$31.50
 - \$1.60 Route Deviations Service one-way – there is a phone number to call for route deviation requests and if time allows, the bus will deviate off its regular route to accommodate the request.
 - \$1.50 Route Deviations Service one-way for transit riders over 60 years old and persons with disabilities

It recommended that the following fare schedule be initially used:

- \$1.00 Fixed route one-way
- \$4.00 All-day Pass for Fixed Route Service
- \$48.00 Monthly Pass for Fixed Route Service
- \$30.00 Monthly Pass for Seniors age 60 and over for Fixed Route Service
- \$20.00 Monthly Pass for Students for Fixed Route Service

In the future, there is potential for a joint transit pass that could be used to link rides between the three transit systems. Note that Needles Area Transit fare structure for additional cost for deviations should be considered within a Fort Mojave Transit System. Representatives from Needles Area Transit also indicated that they have been more successful with their punch card system than they were with monthly passes.

3.4 Capital Projects

A summary of anticipated capital projects and costs for a startup transit system is provided in **Table 11**. These costs do not include the cost of office space, maintenance facilities, and supplies, which is dependent on the type of transit management and operations.

3.4.1 Recommended Bus Size and Type

A 24 passenger cutaway bus is recommended for transit operations. According to a 2007 study “An Evaluation of the Market for Small to Medium Sized Cutaway Buses” for the Federal Highway Administration, small-to-medium-sized cutaway vehicles represent a significant segment of the bus market in the United States. Consisting of a bus-body attached to a small-to-medium sized truck or van chassis, a cutaway vehicle is smaller than a conventional bus while providing more space, particularly for wheelchairs, compared to other small-to-medium sized vehicle options.

As shopping is anticipated to be one of the primary reasons that people would use the transit system, buses should safely accommodate carry-on items.

3.4.2 Passenger Amenities

Bus stop signs will need to be erected at all designated bus stop locations. At larger bus stop locations and locations where right-of-way is available to provide a bus shelter, these can encourage ridership particularly during the summer months. Capital cost assumes bus shelters at 21 stop locations.

Table 11 – Capital Costs - Transit System Start-up

Project Name	Description	Unit cost	Total Cost (\$)
Operations Plan for Transit System	Study – Development of detailed operating plan	\$25,000	\$25,000
2 Ford Chassis Cutaway Buses	2 transit buses for start-up of transit system, lift equipped, with fare-boxes	\$93,200	\$186,400
Bus stop signs	21 bus stop signs	\$100	\$2,100
Bus shelters	21 bus shelters	\$12,000	\$252,000
Bus schedules	1,000 bus schedules	\$2.00	\$2,000
GIS/GPS tracking and dispatch system	On each bus (2)		\$25,000
Total capital costs			\$492,000

3.5 Marketing

Initial marketing efforts for the transit system could include distribution of printed bus schedules, posters of the bus schedules and fares at tribal offices and community locations, plus posting of the bus schedules and bus services news on the Tribal website: <http://mojaveindiantribe.com/tribal-news/>

3.6 Vehicle Maintenance Options

Options for vehicle maintenance include:

- In-house maintenance – provide bus maintenance through the vehicle maintenance services of the Fort Mojave tribe.
- Contract to use the services of a nearby jurisdiction or school district
- Contract with the Needles Area Transit System or the Bullhead Area Transit System to provide vehicle maintenance.

3.7 Transit Management and Operations

Options for transit management and operations are:

1. **Operate directly within the Tribe** – a transit system could operate as a new Tribal Department or as a service of an existing Tribal Department. Some implications of these options are:
 - **New Tribal department** – This would provide an opportunity to coordinate other transportation provided through the Tribe. The department would need dedicated floor space, equipment, staff, etc.
 - **Operate as a service of an existing department** – a new transit service could potentially operate as part of the Roads department, or the Social Service Department, or the Planning Department. Advantages would be more opportunities to coordinate with the services and resources of the department.
2. **Hire an independent contractor to operate the transit system** – This option involves contracting with an outside firm to provide transit management. Considerations for using a transit contract provider:
 - **Costs** – What are the costs compared to providing the service in-house? Are there significant cost savings?
 - **Employee salaries and benefits** – What type of employee costs are estimated by using a transit contract provider as compared to a Tribal government employee?
3. **Operate in collaboration with either the Needles Area Transit System or Bullhead Area Transit System** – Bullhead Area Transit has been in operation since 2000. It is managed by the City of Bullhead City, Human Services Department, Transit Division. The Needles Area Transit System is currently operated by McDonald Transit Associates, Inc. Their contract expires in summer of 2014. Collaborative opportunities to partner with Bullhead City or Needles City to operate the service and maintain transit vehicles should be explored. This could benefit all parties involved, including Needles, Bullhead City, and the Fort Mojave Indian Tribe.

4. FUNDING OPTIONS

This chapter provides an overview of funding opportunities for public transit.

4.1 Public Transportation on Indian Reservation Program 5311(c)

Program Overview – MAP-21 authorizes the Public Transportation on Indian Reservations Program (Tribal Transit Program (TTP)) for Fiscal Years (FY) 2013-2014. The Tribal Transit Program continues to be a set-aside from the Formula Grants for Rural Areas program but now consists of \$25 million in formula funds and \$5 million in discretionary funds (for FY 2013 and FY 2014).

Eligible Recipients – Only Federally recognized tribes are eligible recipients under the Tribal Transit Program. Sub recipients can include State or local government authorities, nonprofit organizations, and operators of public transportation or intercity bus service that receive funds indirectly through a recipient.

Eligible Activities – Planning, capital, operating, job access and reverse commute projects, and the acquisition of public transportation services.

Funding Availability – Funds are available the year appropriated plus two years (total of three years).

Allocation of Funding – The Tribal Transit Program is funded under the Section 5311 program. Funds are made available through formula allocations, as well as annually through a competitive selection process. Formula grants for rural areas:

- \$5 million discretionary tribal program.
- \$25 million tribal formula program for tribes providing public transportation.
- Formula factors include vehicle revenue miles and number of low-income individuals residing on tribal lands.

Match – A 10% local match is required under the discretionary program; however, no local match is required under the formula program.

New features of the program:

- Low-income populations in rural areas now incorporated as a formula factor, similar to the repealed Job Access and Reverse Commute (JARC) program.
- Planning is now an eligible activity.
- The Tribal program provides \$25 million in formula funds and \$5 million for discretionary awards.
- Administration, planning, and technical assistance set aside for states reduced to 10% (from 15%).
- Cost of unsubsidized portion of privately provided intercity bus service that connects feeder service is now eligible as in-kind local match.

- Certain expenditures by vanpool operators may be used as local match.

4.2 Other Federal Funding Programs

Other federal funding programs that may be applicable to transit system development are summarized in **Table 12**. This table lists:

- Program Name
- Agency
- Funding Available
- Who Can Apply
- Description (potential applicability to transit is highlighted here).
- Uses
- Links
- Deadlines
- Opportunity Category

This information was developed from a larger table of grant programs available through the website Reconnecting America, <http://www.reconnectingamerica.org/>

4.3 Other Potential Funding Sources

Other funding sources typically used by transit systems include:

- Local government funding
- Advertising revenues from ads on the buses
- Subsidies from colleges or specific areas or developments to support or encourage transit service to those areas

Table 12 – Federal Grant Programs for Transit-Related Activities

PROGRAM	AGENCY	FUNDING AVAILABLE	WHO CAN APPLY?	DESCRIPTION	USES	LINKS	DEADLINES	OPPORTUNITY CATEGORY
US DEPARTMENT OF AGRICULTURE (USDA)								
Community Facilities Grants	USDA	\$2 billion requested for FY13	Grants are available to public entities such as municipalities, counties, and special-purpose districts, as well as non-profit corporations and tribal governments.	Community Programs provides grants to assist in the development of essential community facilities in rural areas and towns of up to 20,000 in population. Grant funds may be used to assist in the development of essential community facilities. Grant funds can be used to construct, enlarge, or improve community facilities for health care, public safety, and community and public services .	Development Financing, Construction	http://www.rurdev.usda.gov/HAD-CF_Grants.html	Check website for application procedure	Discretionary
Rural Business Enterprise Grant Program	USDA	Generally grants range \$10,000 up to \$500,000. (\$30 million requested for FY13)	Rural public entities (towns, communities, State agencies, and authorities), Indian tribes and rural private non-profit corporations are eligible to apply for funding.	The RBEG program provides grants for rural projects that finance and facilitate development of small and emerging rural businesses help fund distance learning networks, and help fund employment related adult education programs. Examples of eligible fund use include: Acquisition or development of land, easements, or rights of way; construction, renovation, of buildings, access streets and roads, parking areas, utilities; pollution control and abatement; capitalization of revolving loan funds including funds that will make loans for startups and working capital; training and technical assistance; distance adult learning for job training and advancement; rural transportation improvement ; and project planning.	Acquisition, Construction, Technical Assistance	http://www.rurdev.usda.gov/BCP_rbeg.html	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
US DEPARTMENT OF TRANSPORTATION (DOT)								
Bus Livability Initiative	DOT (FTA)	\$125 million	Transit agencies or other public transportation providers, States and Indian Tribes.	Provide funding to transit agencies to replace, rehabilitate, and purchase buses and related equipment , as well as construct or rehabilitate bus facilities.	Capital Infrastructure Investments	http://fta.dot.gov/funding/grants/grants_financing_3557.html	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
Discretionary Bus and Bus Facilities (Section 5309): State of Good Repair Initiative	DOT (FTA) (MAP-21: Bus and Bus Facilities)	\$650 million	Transit agencies or other public transportation providers, States or Indian Tribes.	Provide funding to rehabilitate bus and bus facilities . FTA will prioritize the replacement and rehabilitation of intermodal facilities that support the connection of bus service with multiple modes of transportation, including but not limited to: rail, ferry, intercity bus and private transportation providers. To be eligible, intermodal facilities must have adjacent connectivity with bus service.	Capital Infrastructure Investments	http://fta.dot.gov/funding/grants/grants_financing_3557.html	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary

Source: <http://reconnectingamerica.org/resource-center/federal-grant-opportunities/>

Updated by Reconnecting America, October 2013

Table 9 – Federal Grant Programs for Transit-Related Activities, Continued

PROGRAM	AGENCY	FUNDING AVAILABLE	WHO CAN APPLY?	DESCRIPTION	USES	LINKS	DEADLINES	OPPORTUNITY CATEGORY
Innovative Transit Workforce Development Program	DOT (FTA)	\$5 million	Eligible applicants are public transit agencies; state departments of transportation (DOTs) providing public transportation services; and Indian tribes, non-profit institutions and institutions of higher education.	FTA seeks proposals that promote diverse and innovative successful workforce development models and programs. Focus will be placed on programs that leverage investments in public transit that impacts local employment, support blue-collar operations and maintenance particularly in the area of new and emerging technologies, and support innovative methods of encouraging youth to pursue career in public transportation.	Faculty/instructors, including salaries and fringe benefits, support staff, classroom space, books, materials and supplies, transportation stipends for students. Capital expenses such as equipment purchases are not considered to be eligible costs unless they directly relate to the workforce development program being supported by FTA funds.	https://www.federalregister.gov/articles/2012/05/31/2012-13220/innovative-transit-workforce-development-program?utm_campaign=subscription+mailing+list&utm_medium=email&utm_source=federalregister.gov#p-3	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
Public Lands Highways	DOT (FHWA)	\$98.5 million	State DOTs, Federal Land Management Agencies, State government agencies, metropolitan planning organizations, local governments, and tribal governments – must apply through DOTs	Livability is a criteria that will be considered in the selection of projects. Transportation planning, research, and engineering and construction of, highways, roads, parkways, and transit facilities that are within, adjacent to, or provide access to Indian reservations and Federal public lands, including national parks, refuges, forests, recreation areas, and grasslands.	Capital Infrastructure Investments	http://www.fhwa.dot.gov/discretionary/plhd2011info.htm	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
Transportation, Community & System Preservation	DOT (FHWA)	\$61 million	States, metropolitan planning organizations, local governments, and tribal governments	Livability is a criterion that will be used to evaluate candidate projects. Planning grants, implementation grants, and research, could include transit projects, complete streets, streetscaping, ped/bike improvements or plans, implementation of transit-oriented development plans, traffic calming measures, and much more. Very flexible program – projects must improve relationships among transportation, community, and system preservation plans and practices.	Planning/Research/Capital Infrastructure Investments	http://www.fhwa.dot.gov/discretionary/tcsp2011info.htm	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary

Source: <http://reconnectingamerica.org/resource-center/federal-grant-opportunities/>

Updated by Reconnecting America, October 2013

Table 9 – Federal Grant Programs for Transit-Related Activities, Continued

PROGRAM	AGENCY	FUNDING AVAILABLE	WHO CAN APPLY?	DESCRIPTION	USES	LINKS	DEADLINES	OPPORTUNITY CATEGORY
Transit Investment in Greenhouse Gas and Energy Reduction (TIGGER)	DOT (FTA)	\$49.9 million	Transit agencies or state DOTs	Provides funding for (1) capital investments that assist in reducing the energy consumption of a transit system and (2) capital investments that will reduce greenhouse gas emissions of a public transportation system.	Capital Infrastructure Investments	http://fta.dot.gov/tigger	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
Transportation Planning Capacity Building Program (TPCB)	DOT (FHWA/FTA)		State, metropolitan, rural and small communities, tribal and public lands planning opportunities are available.	Provides training, technical assistance, and support to help decision makers, transportation officials, and staff resolve complex transportation needs in their communities. Resources available on topics including land use, scenario planning, TOD, non-motorized transportation, safety, community impact assessments, operations and management strategies, and analysis methods.	Planning/research	http://www.planning.dot.gov/	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary and Formula
Veterans Transportation and Community Living Initiative Grant Program	DOT (FTA) (in partnership with HHS and Department of Veterans Affairs, Labor and Defense)	\$25 million in capital funding; \$5 million in research funding	Eligible applicants are existing Direct Recipients under FTA's Section 5307 Urbanized Area Formula program, as well as local governments, States, and Indian Tribes.	The Veterans Transportation and Community Living Initiative (VTCLI) is an innovative, federally coordinated partnership that will make it easier for U.S. veterans, active service members, military families, and others to learn about and arrange for locally available transportation services that connect them with work, education, health care, and other vital services in their communities. Projects are being funded in urban, suburban, and rural communities around the nation to strengthen and promote "one-call" information centers and other tools.	Capital and research grants	http://www.fta.dot.gov/grants/13094_13528.html	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary
ENVIRONMENTAL PROTECTION AGENCY (EPA)								
Smart Growth Technical Assistance grants	EPA	Various	Local governments	Annual, competitive solicitation open to state, local, regional, and tribal governments (and non-profits that have partnered with a governmental entity) that want to incorporate smart growth techniques into their future development.	Technical Assistance	http://www.epa.gov/dced/sgia.htm	Check website for next Notice of Funding Availability (NOFA) Announcement.	Discretionary

Source: <http://reconnectingamerica.org/resource-center/federal-grant-opportunities/>

Updated by Reconnecting America, October 2013

APPENDIX A – TRIBAL TRANSIT PEER SYSTEM INTERVIEWS

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 5311 applicants.**
- **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/>

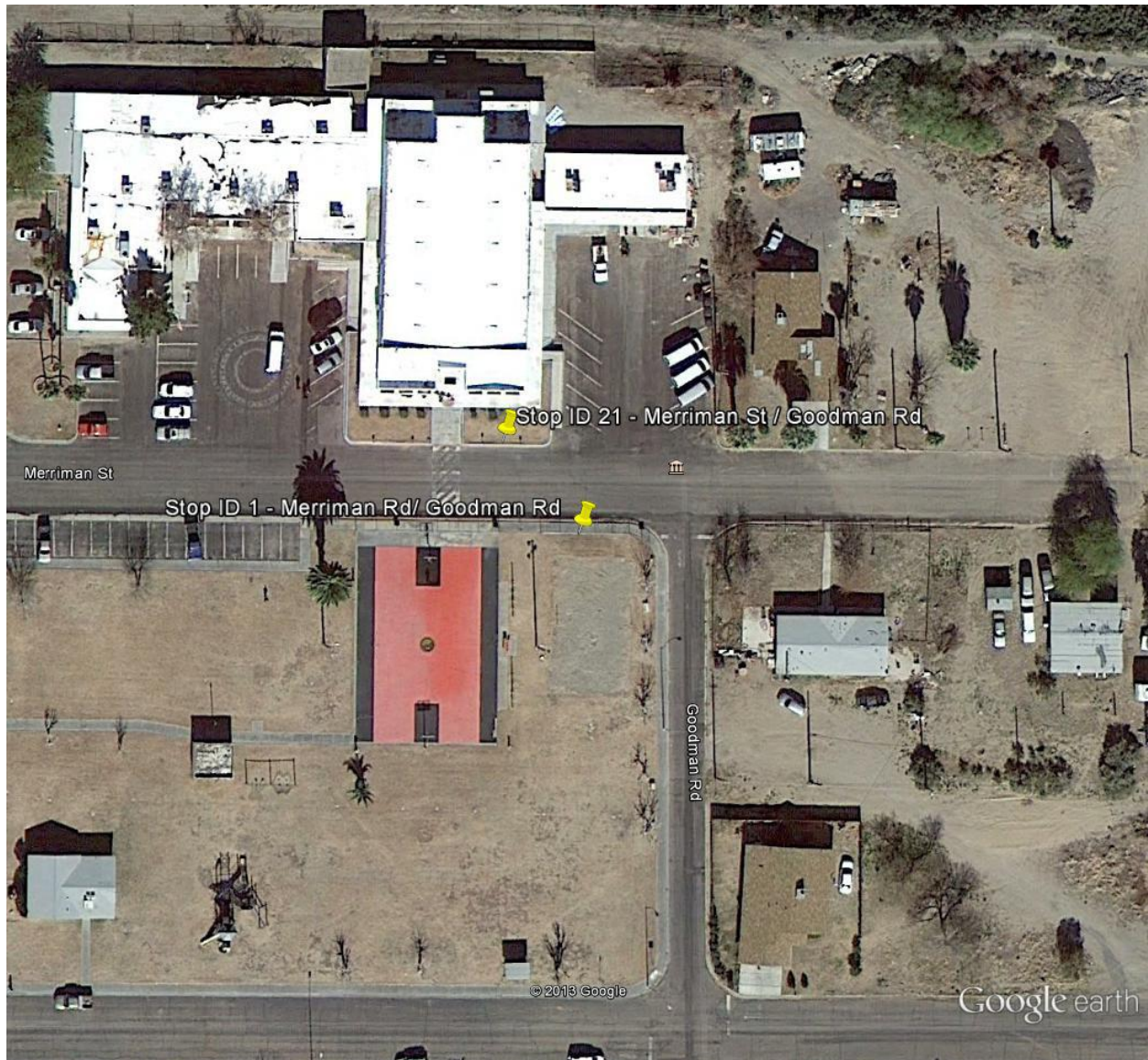
4. If you raised or lowered fares since the system started, how has ridership responded?

On November 1, 2012 the fare was increased to \$2.00 per person.

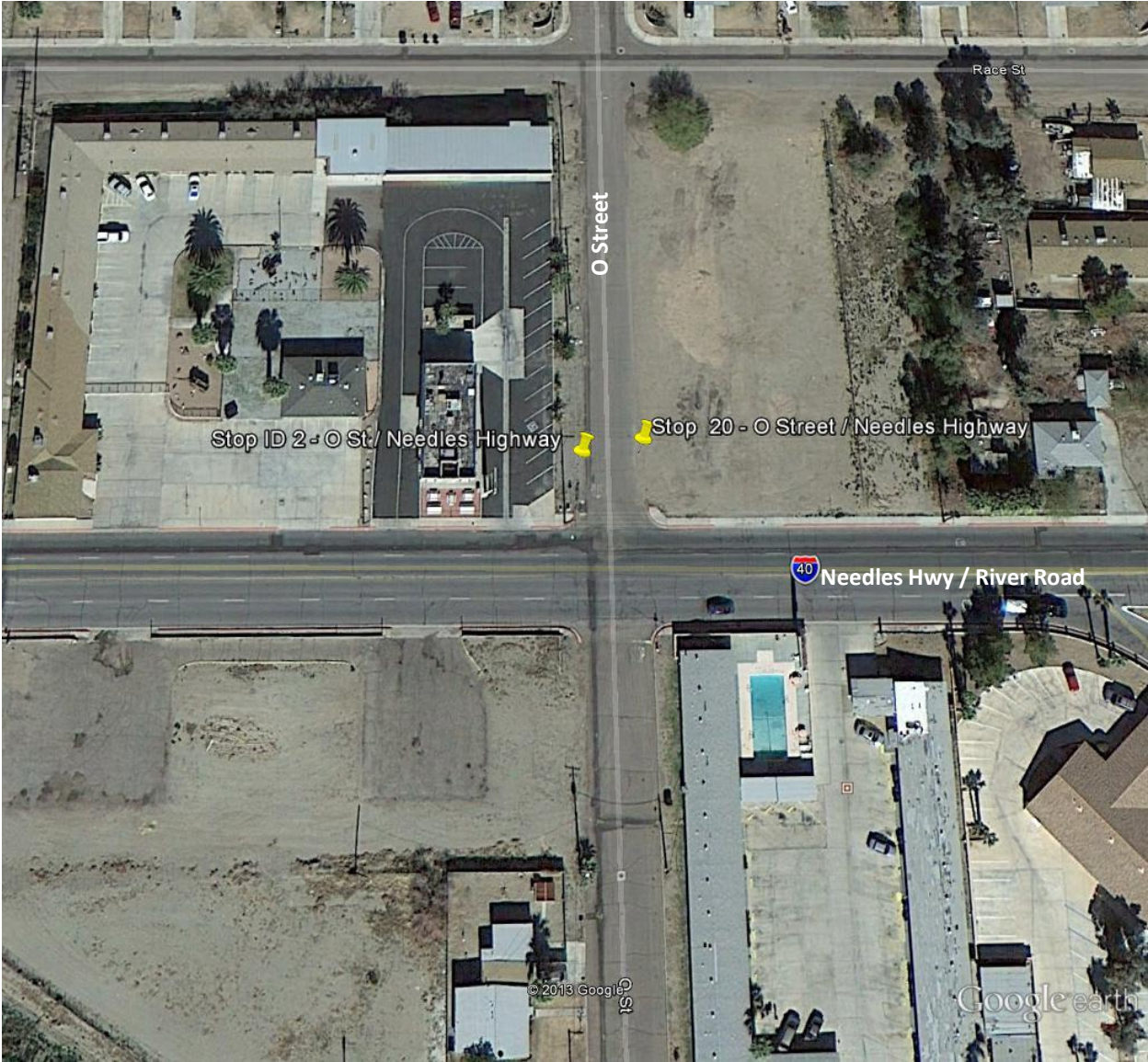
APPENDIX B – POTENTIAL TRANSIT STOP LOCATIONS

Identification of potential transit stop locations is for route planning purposes only. The final locations of stops will be determined during implementation planning.

Stop ID 1 – Merriman Rd / Goodman Rd – near side stop



Stop ID 2 – O Street at Needles Highway/River Road – near side stop



Stop ID 3 – River Rd / M Street – near side stop



Stop ID 4 –River Road / K Street – near side stop



Stop ID 5 – Plantation Road at Sands Road – near side stop



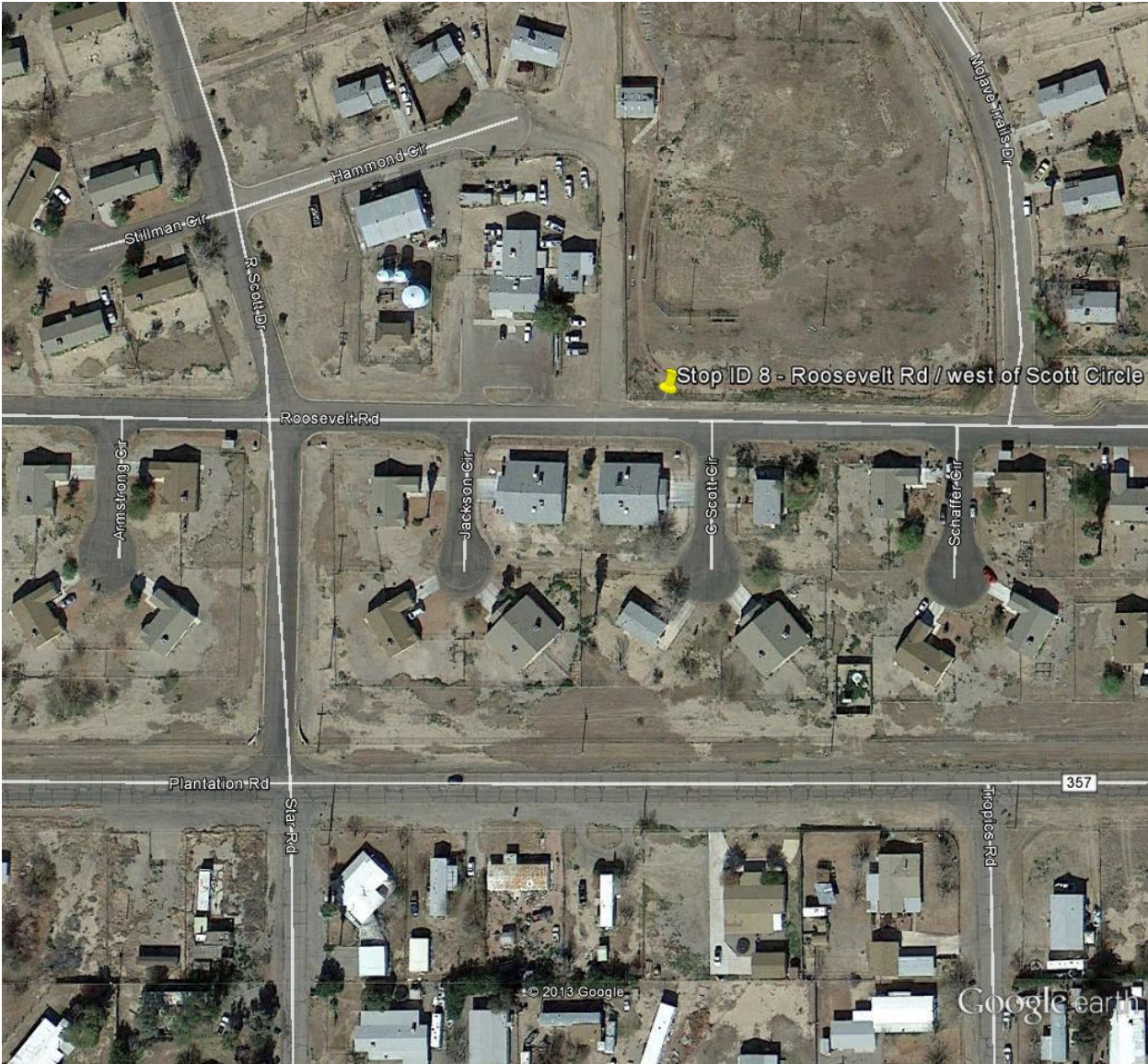
Stop ID 6 – Plantation Road/ Mint Rd – near side stop



Stop ID 7 – Plantation Rd / Peck Rd – near side stop



Stop ID 8 – Plantation Rd west of Scott Circle – far side stop



Stop ID 9 – Plantation Rd / Alexander Lane – far side stop



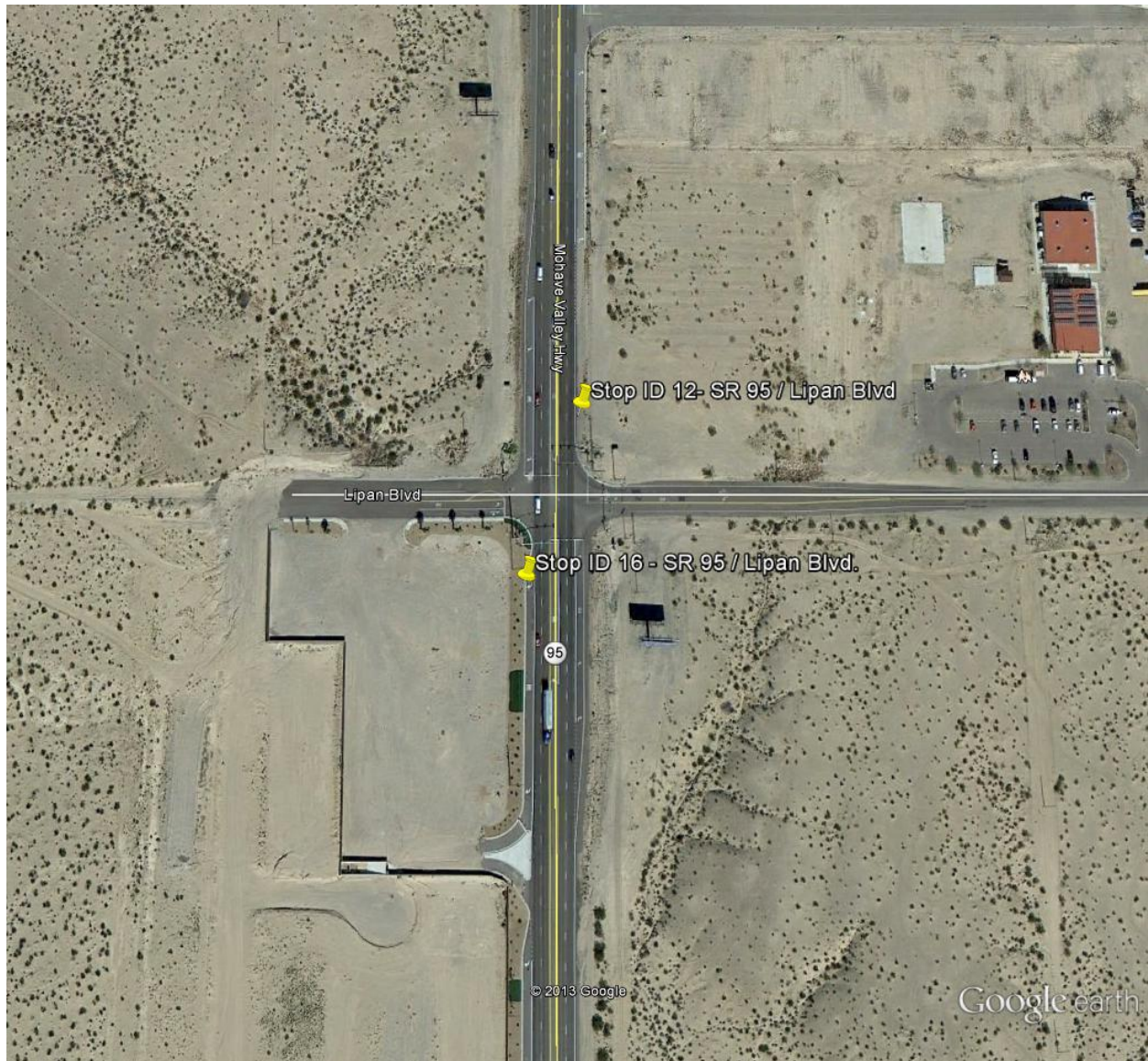
Stop ID 10 – Plantation Rd / Sands Rd



Stop ID 11 – SR 95 /Willow Dr. – far side stop



Stop ID 12 – SR 95 / Lipan Blvd. – far side stop



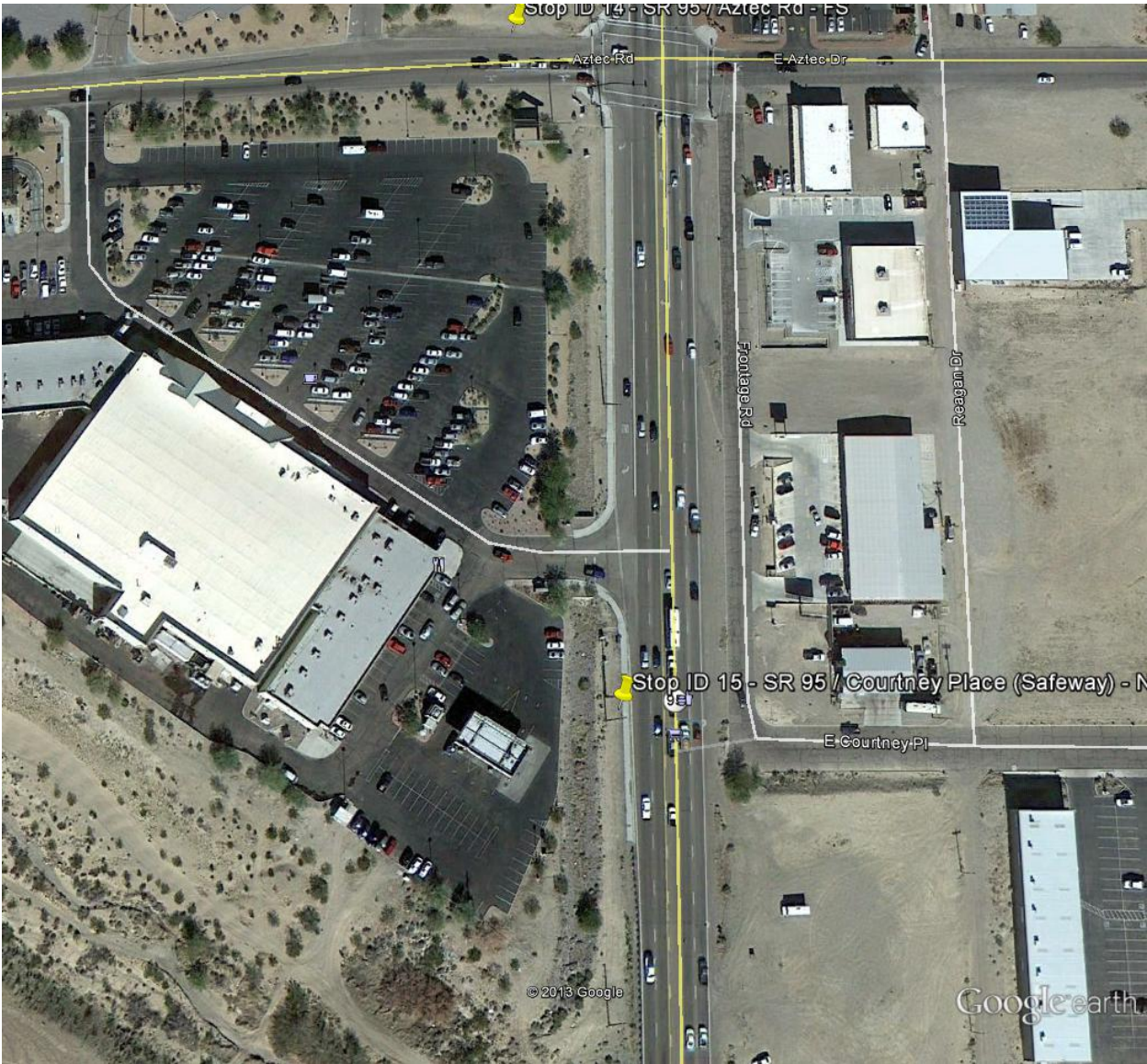
Stop ID 13 – Valley View Medical Center (both an inbound and outbound stop)



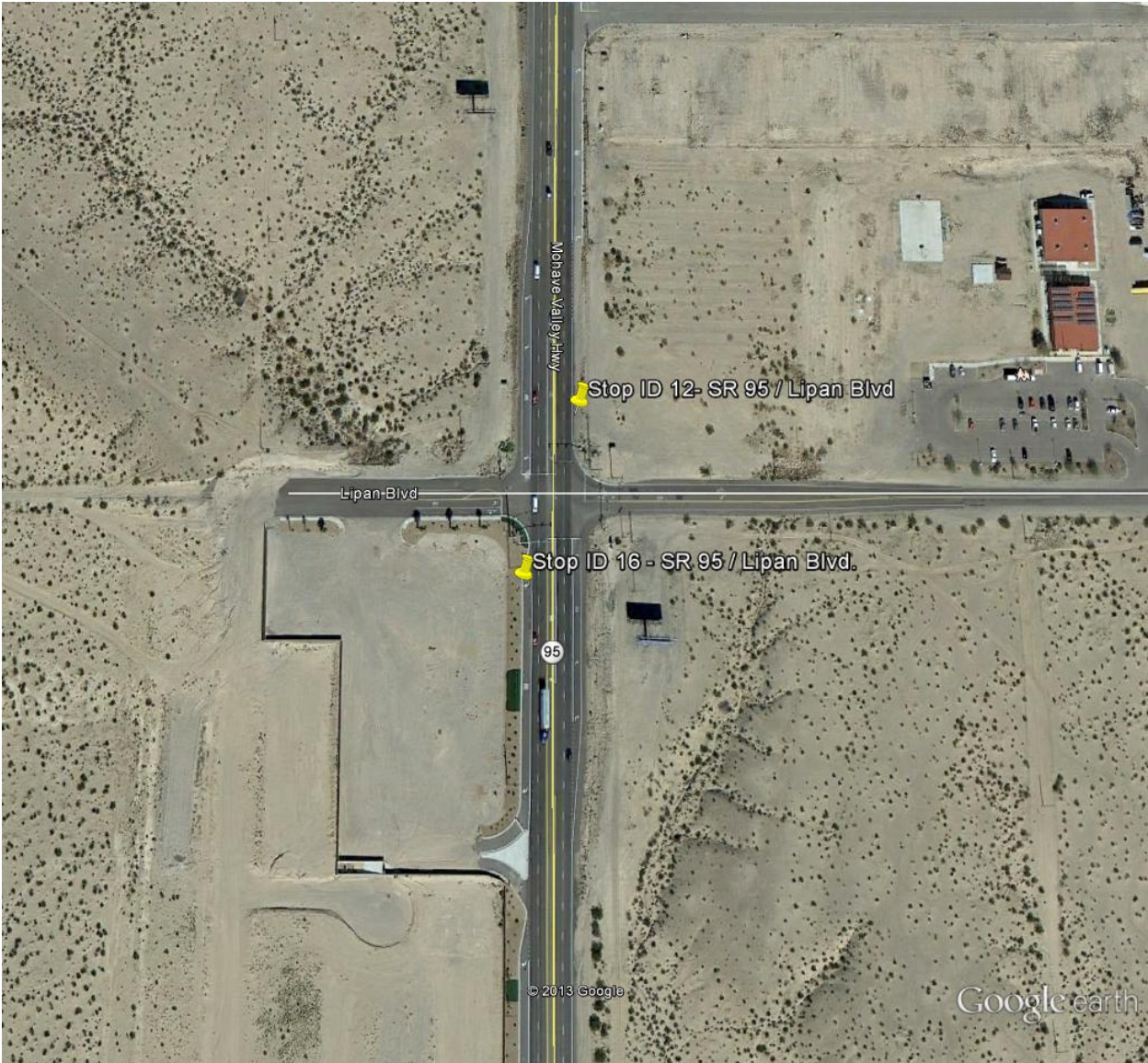
Stop ID 14- SR 95 /Aztec Rd (Smith’s Grocery) – far side stop



Stop ID 15 – SR 95 / Courtney Rd – near side stop



Stop 16 – SR 95 / Lipan Blvd – far side stop



Stop ID 17 – SR 95 / Willow Dr – far side stop



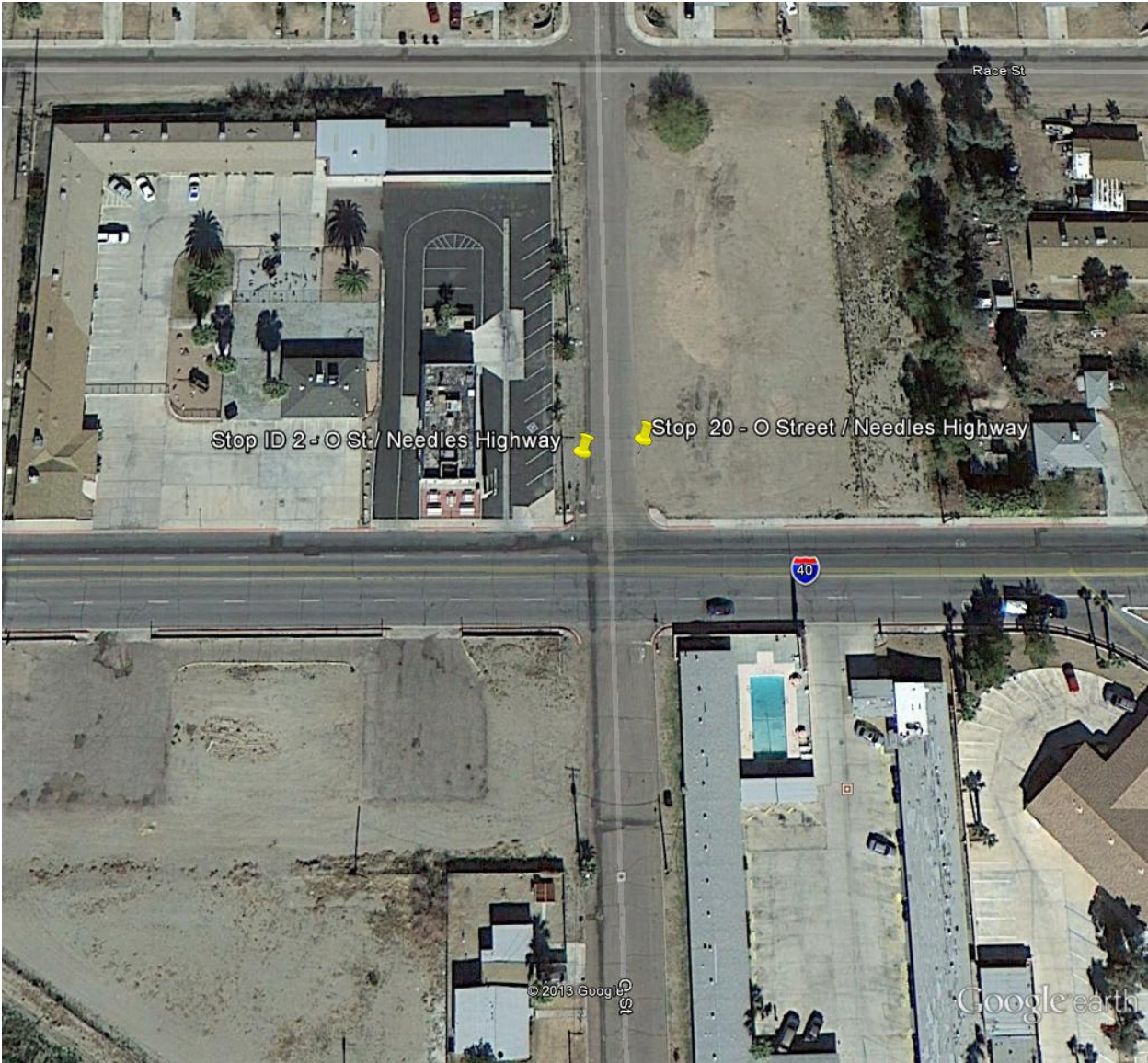
Stop ID 18 – River Rd / SR 95 – far side stop



Stop 19 – River Rd /M Street – near side stop



Stop ID 20 – O St / Needles Highway (River Rd) – far side stop



Stop ID 21- Merriman Street / Goodman Rd (O St) – far side stop

