

Yuma Regional Transit Study



Final Report

Prepared for:



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Introduction

The Yuma Regional Transit Study identifies transit needs within southwestern Yuma County and presents recommended transit system improvements based on three funding scenarios. This study examined current and projected population, demographics, and employment for the region, conducted extensive public outreach and data collection, identified transit deficiencies and developed recommended transit improvements based on the identified deficiencies. Recommendations have been developed assuming current funding levels, a 1/10 cent county-wide sales tax and a 1/5 cent county-wide sales tax. A corresponding 5-year financial plan accompanies the recommendations.

Analysis of Current Conditions, Future Conditions, and Deficiencies

The current and future socio-economic characteristics, land use, and transportation system in Southwestern Yuma County were assessed as well as surveys results and historical financial data related to transit. This analysis revealed deficiencies in the transit system, especially in the network design, the service operations, and management system. The main deficiencies identified were:

- The lack of coverage and accessibility in areas such as downtown Yuma, downtown San Luis, and Fortuna Foothills,
- The lack of transit service in the evening and on weekends, and
- The long headways on the fixed-route service,

Service Alternatives and Recommendations

Three service alternatives are proposed to improve the transit system in southwestern Yuma County. These service alternatives are based on three funding scenarios.

- The first scenario is based on current funding levels.
- The second funding scenario assumes current levels of funding (less local funding) plus revenues from a 1/10 cent dedicated transit sales tax in Yuma County
- The third funding scenario assumes current levels of funding (less local funding) plus revenues from a 1/5 cent dedicated transit sales tax in Yuma County.

Scenarios 2 and 3 assume increased, flexible funding for both transit operations and capital expenses. Therefore, the service alternatives based on these scenarios show how different funding levels allow providing increased levels of service and network coverage for transit riders. Improvements possible with additional funding especially include:

- Providing a better transit service area coverage,
- Increasing service frequency,
- Operating transit service later at night and on Saturdays and Sundays, and
- Enhancing the transit facilities and amenities.

Yuma Regional Transit Study

Executive Summary



Service Alternative 1

Service Alternative 1 is based on current funding levels. It comprises seven routes and includes a flexible demand-response evening service. Figure 1 illustrates the routes of Service Alternative 1. The network is made up of the following routes:

- Two long-distance routes connecting downtown Yuma to the City of San Luis, the City of Somerton, and the Town of Wellton (the Yellow and Orange routes),
- Two medium-distance routes connecting the North Cocopah Indian Reservation and the AWC campus to downtown Yuma (the Purple and Blue routes),
- One local route serving the City of Somerton and the Cocopah Indian Reservation (the Grey route), and
- Two one-way circulators serving downtown Yuma (the Red and Green routes).

Three of the seven routes – the Orange, Purple, and Grey routes – are “hybrids,” meaning that they follow a fixed-route for the majority of their service area, however they can also deviate to serve specific areas in response to a customer request.

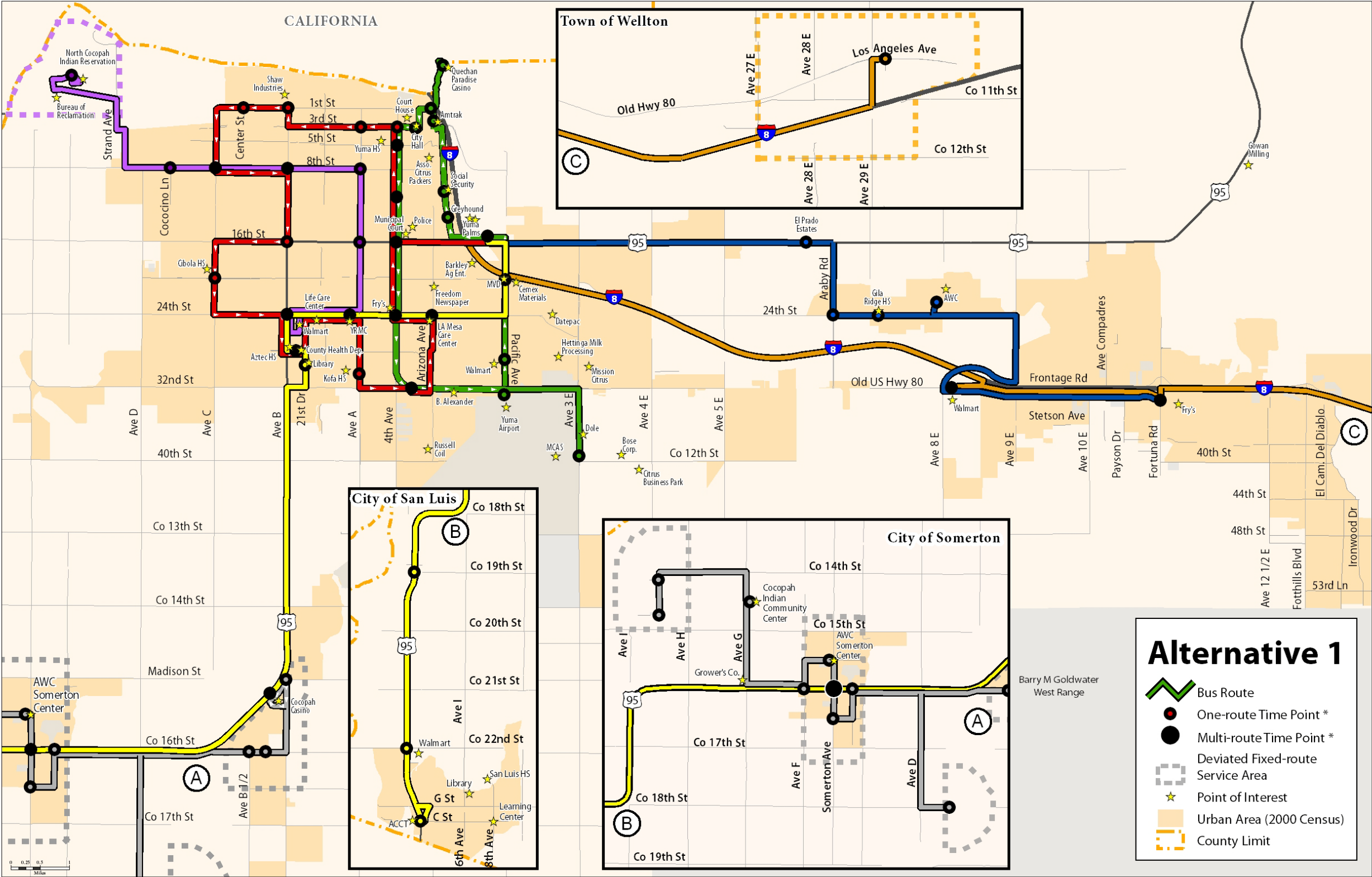
Transit service is provided from 6:30am to 8:34pm on weekdays, and from 9:30am to 5:34pm on Saturdays. Most of the routes operate with a one-hour frequency Monday through Saturday, except on holidays. Service Alternative 1 requires 7 buses.

As presented in Table 1, the cost to operate Service Alternative 1 is estimated at \$1.7 million (excluding administrative costs), which corresponds to 25,305 annual revenue service hours.

Table 1: YCAT Annual Revenue Service Hours and Cost - Service Alternative 1

Route	Annual Service Hours	Annual Cost
Blue Route	3,437	\$232,372
Green Route	3,437	\$231,956
Grey Route	2,890	\$195,055
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Purple Route	3,358	\$226,570
Red Route	3,450	\$232,863
Yellow Route	7,258	\$489,863
Total	25,305	\$1,707,844
Assumptions		
<ul style="list-style-type: none">• The annual revenue service hours calculations assume service operates on 252 weekdays and 52 Saturdays per year for all routes except for Night CAT (which operates 190 weekdays), and the Orange route (which operates 104 weekdays).• The cost per hour of operation (excluding agency administrative costs) is \$67.49/hr.		

Figure 1: Service Alternative 1



Yuma Regional Transit Study

Executive Summary



Service Alternative 2

Figure 2 illustrates the routes of Service Alternative 2. Service Alternative 2 consists of eight routes and a deviated fixed-route evening service:

- Two long-distance routes connecting downtown Yuma to the City of San Luis, the City of Somerton, and the Town of Wellton (Yellow and Orange Routes),
- Two medium-distance routes connecting the North Cocopah Indian Reservation and the AWC campus to downtown Yuma (Purple and Blue Routes),
- A local route serving the City of Somerton and the Cocopah Indian Reservation (Grey Route),
- Two two-way circulators serving downtown Yuma (Green and Red Routes), and
- A one-way circulator serving Fortuna Foothills (Pink Route).

Four of these routes (the Purple, Orange, Grey, and Pink Routes) are hybrids and can deviate in certain areas in response to customer requests.

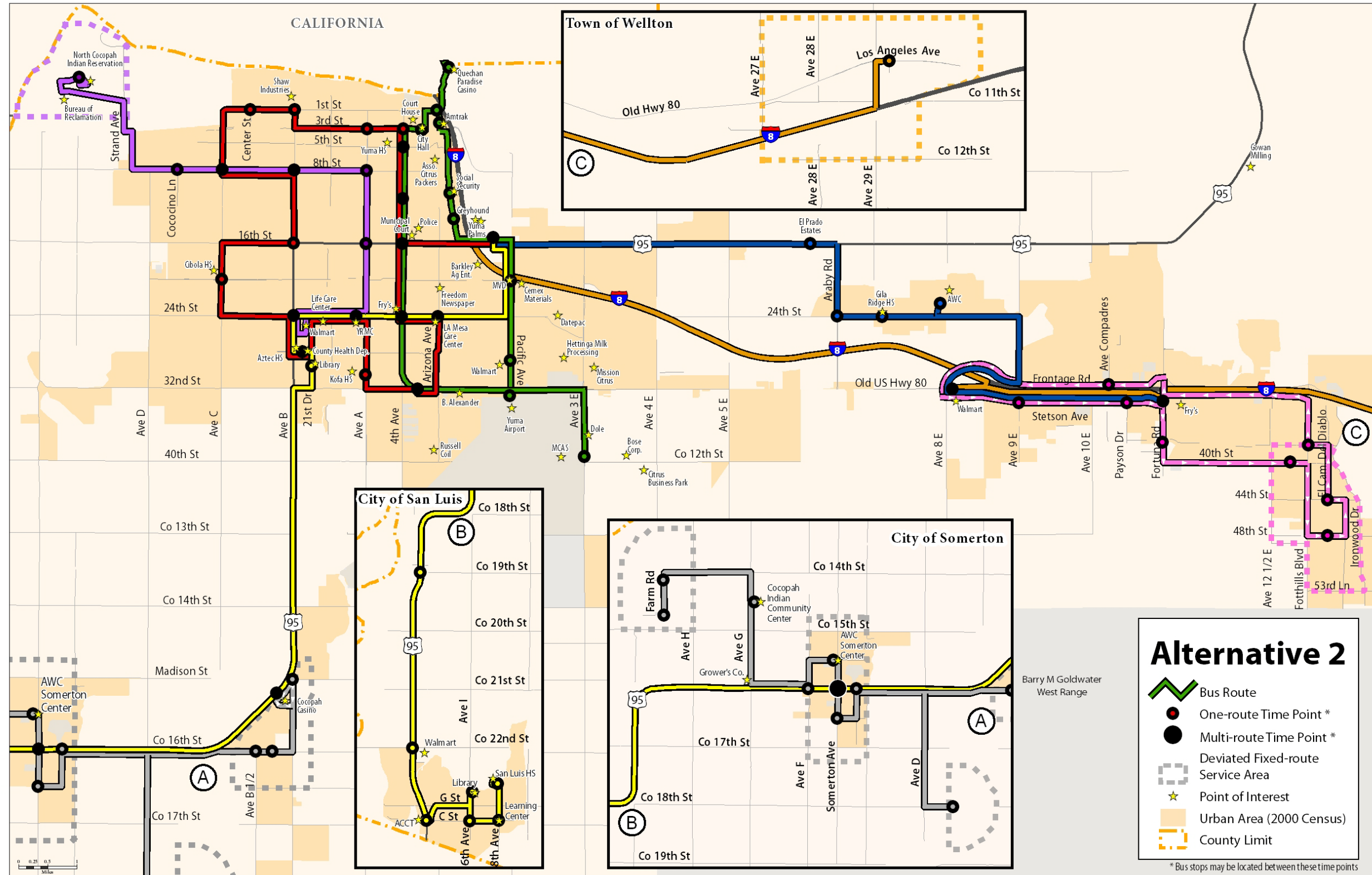
The network proposed in this alternative are similar to the one developed in Service Alternative 1. The main differences are an additional route exclusively serving Fortuna Foothills, additional coverage in San Luis, and two-way circulators in downtown Yuma. Service Alternative 2 provides coverage to a larger service area compared with Service Alternative 1. In addition, later service is provided and frequencies are greater compared to Service Alternative 1. Under Service Alternative 2, transit service is provided from 6:00am to 10:17pm on weekdays, and from 8:00am to 10:17pm on Saturdays and Sundays, except on holidays. Headways vary from 30 minutes to 1 hour on weekdays, and from 1 hour to 2 hours on weekends. Service Alternative 2 requires 15 buses on weekdays and 14 buses on weekends.

As presented in Table 2, the cost to operate Service Alternative 2 is estimated at \$4.2 million (excluding agency administrative costs), which corresponds to 61,886 annual revenue service hours.

Table 2: YCAT Annual Revenue Service Hours and Cost- Service Alternative 2

Route	Annual Service Hours	Annual Cost
Blue Route	4,215	\$284,449
Green Route	9,850	\$664,786
Grey Route	5,831	\$393,505
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Pink Route	2,137	\$143,095
Purple Route	4,028	\$271,837
Red Route	9,882	\$666,908
Yellow Route	24,475	\$1,651,801
Total	61,886	\$4,175,546
Assumptions		
<ul style="list-style-type: none">• The annual revenue service hours calculations assume service operates on 252 weekdays and 52 Saturdays per year for all routes except for Night CAT (which operates 190 weekdays), and the Orange Route (which operates 104 weekdays).• The cost per hour of operation (excluding agency administrative costs) is \$67.49/hr.		

Figure 2: Service Alternative 2



Service Alternative 3

The transit network and hours of operations proposed in this alternative are identical to those developed in Service Alternative 2. As in Service Alternative 2, Service Alternative 3 has 8 routes and a flexible demand responsive evening service. In Service Alternative 3, most of the routes operate from Monday through Sunday, except on holidays, when there is no service. Figure 3 illustrates the routes of Service Alternative 3

In contrast to Service Alternative 2, the frequencies of service are increased on routes that will potentially be used by the most population: the Yellow Route, Blue Route, Red Route and Green Route. On the busiest routes, service frequencies are reduced to 15 minutes on weekdays and 30 minutes on weekends. Service Alternative 3 requires 25 buses on weekdays and 14 buses on weekends.

As presented in Table 3, the cost to operate Service Alternative 3 is estimated to \$6.5 million (excluding administrative costs), which corresponds to 95,731 annual revenue service hours.

Table 3: YCAT Annual Revenue Service Hours and Cost - Service Alternative 3

Route	Annual Service Hours	Annual Cost
Blue Route	6,946	\$468,793
Green Route	16,707	\$1,127,542
Grey Route	5,831	\$393,505
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Pink Route	2,137	\$143,095
Purple Route	4,028	\$271,837
Red Route	16,761	\$1,131,167
Yellow Route	41,854	\$2,824,694
Total	95,731	\$6,459,780
Assumptions		
<ul style="list-style-type: none"> The annual revenue service hours are calculated considering 252 weekdays, 52 Saturdays and 52 Sundays per year. Except for the Night CAT operated 190 weekdays and the Orange route operated 104 weekdays. The cost per hour of operation (excluding administrative costs) is \$67.49/hr. 		

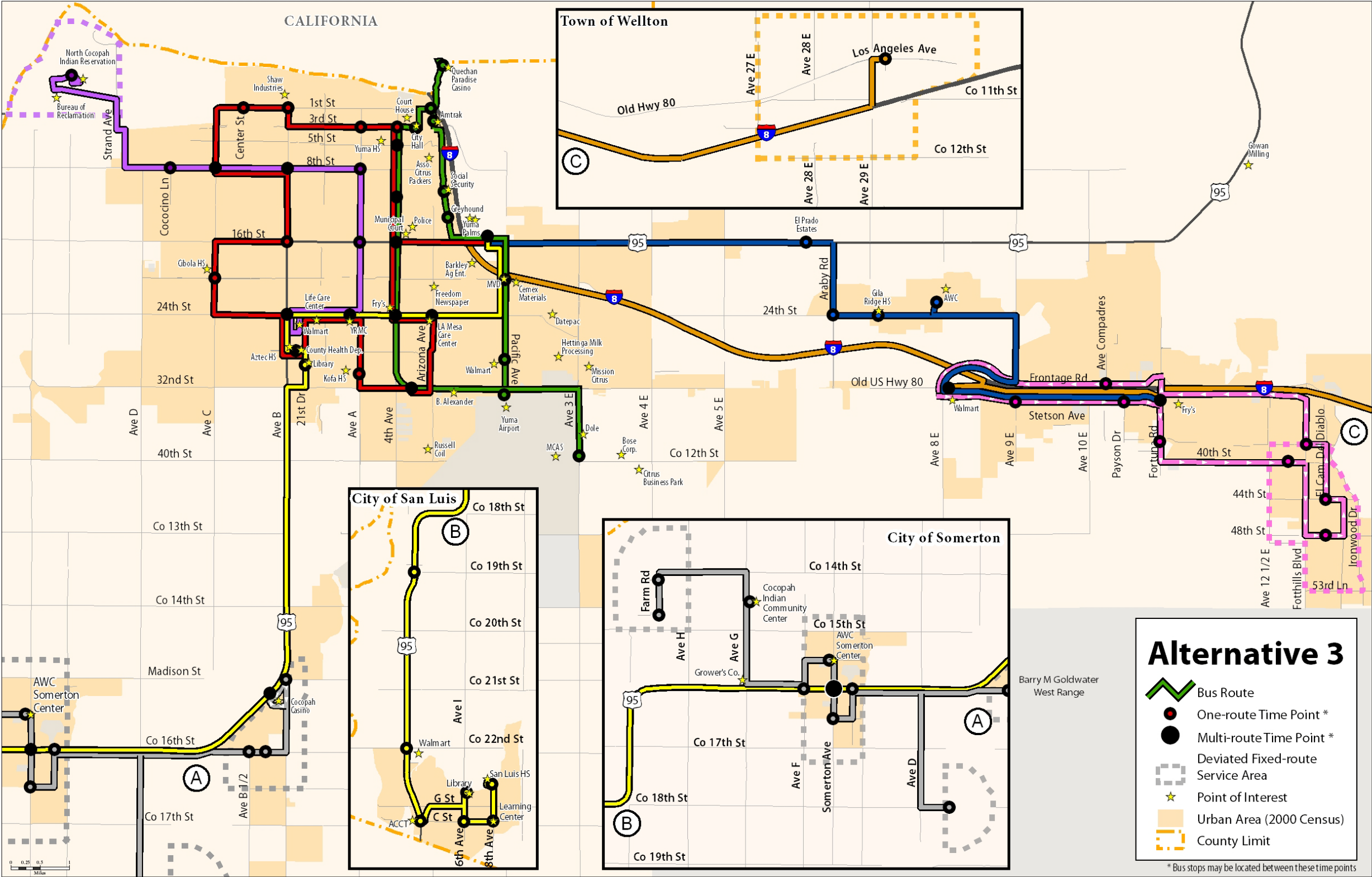
Complementary Paratransit Service

The ADA requires that complementary paratransit service be provided within a ¾ mile radius of all fixed-routes to serve riders who are physically or mentally unable to use the fixed-route system. Under all service alternatives, this service will be operated during the same service hours as the corresponding fixed-route service. The Dial-A-Ride (DAR) service area will be limited to a ¾ mile radius of fixed-routes. In other areas, as well as in the deviated fixed-route service areas, no DAR service will be provided.

Under Service Alternative 1, DAR will be limited to those certified as having ADA-eligible disabilities. Service Alternatives 2 and 3 will be available to customers certified as having ADA-eligible disabilities, persons aged 65 or over, medically required travel assistants, and travel companions of an eligible rider.

In Service Alternative 1, the budget to operate the DAR service is estimated to \$632,700, for 9,500 service hours per year. In Service Alternatives 2 and 3, the budget to operate the DAR service is estimated to \$799,200, for 12,000 service hours per year.

Figure 3: Service Alternative 3



Financial Plan

The financial plan for the transit system in southwestern Yuma County includes operating, capital, and administrative components supported by various funding sources. Two of the three financial scenarios proposed are based on a potential transit-dedicated sales tax, similar to the current Health District tax. Sales taxes of 1/10 of a percent sales tax (0.10%) and 1/5 of a percent sales tax (0.20%) were considered and are anticipated to provide revenues estimated to \$2.240 million and \$4.480 million, respectively. Such a tax collection would be submitted to voters for approval. Tables 4 through 6 summarize the 5-year financial plan for the service alternative developed.

Table 4: 5-year Financial Plan - Service Alternative 1

Service Alternative 1 Without Transit-dedicated Sales Tax						
Fiscal Year		FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES	Capital	\$460,000	\$545,000	\$155,000	\$278,000	\$4,528,000
	Operations	\$2,407,771	\$2,483,549	\$2,547,275	\$2,622,517	\$2,727,418
	Administration	\$391,000	\$394,910	\$398,859	\$402,848	\$406,876
Total Expenses		\$3,258,771	\$3,423,459	\$3,101,134	\$3,303,365	\$7,662,294
Total Revenues		\$3,488,484	\$3,471,615	\$3,325,471	\$3,537,497	\$7,783,577
Net Surplus/(Deficit)		\$229,713	\$48,157	\$224,337	\$234,132	\$121,283

Table 5: 5-year Financial Plan - Service Alternative 2

Service Alternative 2 1/10 Cent Transit-dedicated Sales Tax						
Fiscal Year		FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES	Capital	\$325,000	\$446,000	\$1,742,000	\$1,378,000	\$4,631,000
	Operations	\$2,280,309	\$2,327,123	\$5,063,764	\$5,191,249	\$5,366,931
	Administration	\$391,000	\$394,910	\$678,554	\$685,339	\$692,193
Total Expenses		\$2,996,309	\$3,168,033	\$7,484,318	\$7,254,589	\$10,690,124
Total Revenues		\$3,523,997	\$3,805,264	\$7,998,155	\$7,505,875	\$10,690,365
Net Surplus/(Deficit)		\$527,689	\$637,231	\$513,837	\$251,286	\$241

Table 6: 5-year Financial Plan - Service Alternative 3

Service Alternative 3 1/5 Cent Transit-dedicated Sales Tax						
Fiscal Year		FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES	Capital	\$385,000	\$631,000	\$4,532,000	\$3,213,000	\$4,893,000
	Operations	\$2,292,708	\$2,340,028	\$7,446,761	\$7,644,924	\$7,918,753
	Administration	\$391,000	\$394,910	\$1,088,721	\$1,099,608	\$1,110,605
Total Expenses		\$3,068,708	\$3,365,938	\$13,067,482	\$11,957,532	\$13,922,357
Total Revenues		\$3,500,242	\$3,685,074	\$13,277,004	\$11,962,315	\$13,924,050
Net Surplus/(Deficit)		\$431,534	\$319,135	\$209,522	\$4,783	\$1,693

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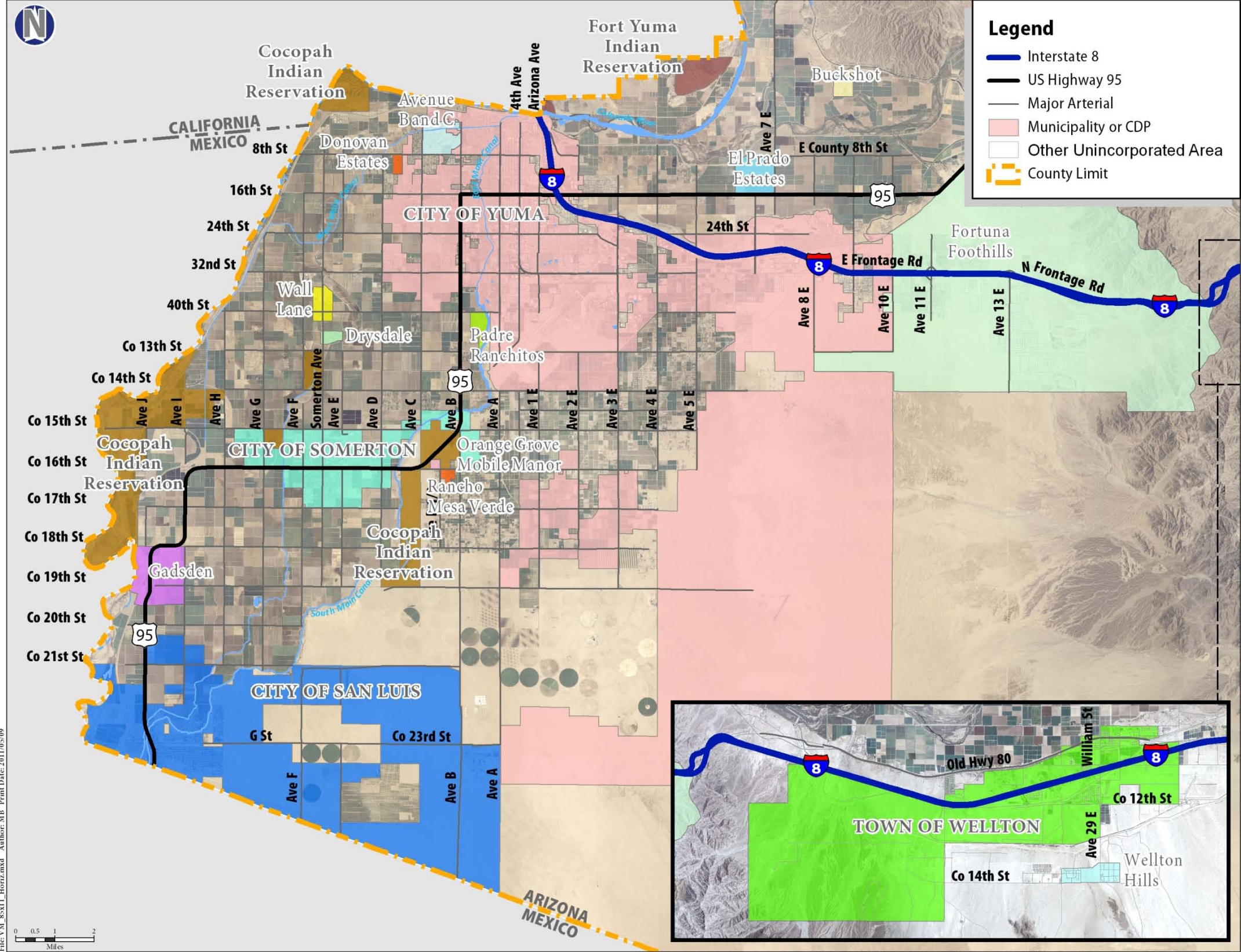
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Chapter 1 - Introduction

The Yuma Regional Transit Study identifies transit needs within southwestern Yuma County and presents recommended transit system improvements based on three funding scenarios. This study examined current and projected population, demographics, and employment for the region, conducted extensive public outreach and data collection, identified transit deficiencies and developed recommended transit improvements based on the identified deficiencies. Recommendations have been developed assuming current funding levels, a 1/10 cent county-wide sales tax and a 1/5 cent county-wide sales tax. A corresponding 5-year financial plan accompanies the recommendations.

The study area comprises the southwestern region of Yuma County. Located in the southwestern region of the State of Arizona along the Mexico border, Yuma County covers 5,522 square miles and includes the Town of Wellton, the Cities of Yuma, Somerton, and San Luis, parts of the Cocopah and Fort Yuma Indian Reservations located in the State of Arizona, and several unincorporated communities, referred to as Census Designated Places (CDP). According to the 2010 U.S. Census and to Yuma County's General Plan, several CDPs have experienced both commercial and residential developments over the past years. This study specifically focuses on areas with more than 500 residents. The jurisdictions of the focus area are shown in Figure 1.

Figure 1: Study Area



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Source: PB, 2010; ASLID, 2008; NHD, 2010; Aerial Image, 2007

Chapter 2 - Current Conditions

This chapter summarizes the current socio-economic, land use, and transportation characteristics as well as relevant historical financial data for southwestern Yuma County.

2.1. Background

Yuma County Area Transit (YCAT) is the fixed-route public transit service operating in southwestern Yuma County. Greater Yuma Area Dial-A-Ride (DAR) is the complementary American with Disabilities Act (ADA) paratransit service. Yuma County's public transportation system has been in operation since 1999 with financial and administrative oversight provided by the Yuma Metropolitan Planning Organization (YMPO). While the primary mission of YMPO is to coordinate regional transportation planning, the organization has been charged with managing the county's transit elements. Currently, YMPO contracts with First Transit to operate YCAT and DAR services.

YMPO has enlisted the assistance of the Yuma County Intergovernmental Public Transportation Authority (YCIPTA) to provide the day-to-day management of the transit system pending the formal transition of the administration and operations oversight to YCIPTA.

In support of YCAT and DAR, YMPO is the grantee for federal operating and capital grant funds administered by the Federal Transit Administration (FTA). The organization completes the transit system operational reporting requirements through submissions to the National Transit Database (NTD). Appendix A presents the YMPO and YCIPTA organizational charts as well as additional information about the agencies.

2.2. Previous Studies and Reports

Several recent studies within the study area have addressed transit service. Relevant findings are summarized in the following sections and illustrated in Appendix B.

City of San Luis 2020 General Plan Update, June 2011

As stated in the 2020 General Plan, the City of San Luis is expected to experience further residential, commercial and industrial growth as illustrated on Figure 3 in Appendix B. The growth will generally be directed along two primary transportation corridors: Arizona Highway 95 toward Gadsden and east along Juan Sanchez Boulevard, as well as in the vicinity of the San Luis II Land Port of Entry.

Although the City of San Luis is served by limited public transportation, ridership has steadily increased, demonstrating the need for public transportation in South Yuma County. Several taxi companies located within and near the City of San Luis provide complementary transportation services.

City of Yuma 2012 General Plan, Draft June 2011

The City of Yuma 2012 General Plan identifies several areas for extensive growth: the Crossroads of Avenue B and 32nd Street, Araby Road, from 24th Street to 32nd Street, in the East Mesa, Pacific Avenue at 8th Street, North of Yuma Palms Regional Center, the Old Town District, and the vicinity of 16th Street, from 4th Avenue to Redondo Center Drive. Growth and redevelopment areas in the City of Yuma are illustrated on Figure 4 and Figure 5 in Appendix B

As stated in the plan, public transit provides increased mobility options for the young, the poor, the elderly, and individuals with disabilities. Public transportation is also an alternative for many professionals and college students in Yuma. There are many requests from entities with large numbers of employees, such as Johnson Controls, U.S. Army Yuma Proving Ground (YPG), and others who are interested in van pools or commuter express routes. A current concern is the ability to operate a more cost efficient and effective transit system providing service at peak hours.

Commuter and shuttle services are becoming more popular to many transit riders. Several entities such as AWC, the Yuma Private Industry Council (YPIC), Aztec High School, the Services Maximizing Independent Living and Empowerment Center (SMILE), and the Juvenile Court already propose advanced fare payment systems to students and employees. The City of Yuma 2012 General Plan includes the creation of a bus route serving the future Estancia community and Fortuna Foothills.

City of Somerton 2010 General Plan Update, December 2010

Somerton's growth area extends roughly from County 15th Street to County 17th Street and from Avenue E to the Central Canal. Over the next 10 years, development expansion is anticipated primarily to the north and west of currently developed areas. Somerton's growth is illustrated on Figure 6 of Appendix B.

The Somerton Planning Area is served by limited public transportation services. Through the Federal Transit Administration (FTA) 5310 Grant Program, two 19-passenger buses were purchased. One of these buses is primarily used to service Somerton's senior population. Somerton currently lacks many basic services, such as shopping and medical services. However, the large employment base in other parts of Yuma County creates significant transportation needs in Somerton. Furthermore, as the population continues to age, the need for additional public transportation services will grow.

Wellton Transportation Long-Range Plan PARA Study, October 2010

As stated in this report, YCAT's long-distance Orange Route is the fixed-route that runs between Yuma and Wellton. There are currently three bus stops along this route within the study area. Funding issues have forced the elimination of two of these bus stops in the Town of Wellton area. Current transit needs include augmenting the existing YCAT Orange Route transit service and providing additional transit services. A new, dedicated source of funding for transit services is also needed.

Figure 7 of Appendix B shows the assumed future land uses in Wellton. Residential land uses are expected to increase throughout the study area in the future build-out condition, most notably in the areas west of Avenue 28E and south of Interstate 8.

Yuma Regional Transportation Coordination Plan, April 2011

This report was prepared to identify local and regional transportation and mobility coordination gaps and barriers that exist in the YMPO planning area. To ensure that the plan reflects the needs of the region's many diverse communities, YMPO created the Regional Mobility Committee (RMC) including YMPO, the City of Somerton, and paratransit providers.

The Yuma Regional Transportation Coordination Plan identifies three main goals:

- Improve mobility for residents,
- Increase accessibility of transportation services, and
- Create a balanced Coordinated Mobility program.

This led to several approaches and strategies designed to improve regional mobility:

- Identifying ongoing (and new) sources of transportation funding;
- Maximizing the use of existing transportation resources;
- Meeting the region's demand for "after hours" transportation services;
- Effectively referring users to appropriate transportation services;
- Serving remote rural areas; and
- Identifying/creating low-cost transportation options.

2010 - 2033 Regional Transportation Plan (RTP), April 2010

The RTP model projected that transit demand will double by 2033. Public transportation mode share in Yuma County is 1.1%. It is almost one percentage point lower than in the State of Arizona (1.9%) and more than three percentage points lower than the national mode share (4.7%). In contrast, a higher percentage of people walk to work in Yuma County (4.3%) compared to Arizona (2.6%) and across the country (2.9%).

The RTP included the following findings related to the existing transit service in Yuma County:

- One hour headways limit mobility and convenience;
- Service gaps exist in the current network, e.g. between 8th Street and 16th Street;
- Lack of transit options on Sundays and holidays are inconvenient;
- Service may not be adequate during the planting and harvest seasons and the school year;
- Demand-response service is not well-known outside of the urbanized area and is more expensive to provide to remote areas; and
- Funding relies on state and federal sources, which are not guaranteed and will change when the population of urbanized areas of Yuma County reaches 200,000 people.

The RTP's short-term recommendations for YCAT include improving the fixed-route system to allow more focused use of additional equipment to serve riders. Priority is on providing riders with a higher level of comfort and protection. While bus shelter amenities have been improved, additional transit infrastructure is needed. Recommendations include:

Near-Term

- Increasing service frequencies to every 30 minutes;
- Implementing one-way routes in reverse direction;
- Adding stops on existing routes;
- Adding three circulator routes in Yuma;
- Adding one circulator route in San Luis;
- Adding two circulator routes in Foothills;
- Adding two circulator routes in Mesa del Sol;
- Adding one circulator route in Wellton;
- Purchasing ten additional buses and two vans for DAR; and
- Establishing a Transit Authority.

Long-Term

- Expanding the fixed-route service to include express; local; cross-town; and neighborhood circulator bus routes;
- Reconfiguring the current circulator routes into a grid network;

- Substantially increasing paratransit service;
- Promoting a taxi voucher service program in outlying areas;
- Implementing a variety of ITS technologies in buses, at stops and on the roadway;
- Implementing transit-supportive land uses and street design; and
- Shifting to alternative fuel vehicles.

Winterhaven/Quechan Reservation Rural Connector Study, July 2008

According to the 2000 U.S. Census, 68.7% of households in the Fort Yuma Indian Reservation had one or no vehicle available, which is higher than State (46.0%) and County rates (40.4%). Commuting to work in a single occupant vehicle (SOV) is the predominant mode of transportation in the Fort Yuma Indian Reservation (68.7%). The study identified several needs for transit, such as access to Fort Yuma Indian Reservation social services, jobs, health care (YRMC and various specialists), grocery and retail stores, and Arizona Western College (AWC).

Because YCAT service does not serve the Winterhaven / Fort Yuma Indian Reservation area, the Quechan Indian Tribe has developed a Tribal Transportation Program that includes a demand-responsive shuttle. The Tribe relies on the Tribal Program vans to transport program participants to medical, educational, nutritional, and day programs. The study offers several transportation concepts for the Tribe to consider as it seeks feasible transit solutions. These alternative transportation programs are further described in Section 2.3.3.

The Quechan Indian Tribe also relies on the Imperial Valley Transit Service operated in Imperial County, California. Imperial Valley Transit operates a single round trip lifeline service between Winterhaven and El Centro on Wednesdays. The bus departs from Winterhaven at 6:26 am and returns at 7:25 pm with advance reservation.

The study identifies the following strategies and alternatives to provide service to Fort Yuma Indian Reservation residents:

- Increase the number of weekly bus trips between the Fort Yuma Indian Reservation and Winterhaven and El Centro, CA.
- Operate a local lifeline shuttle service connecting the reservation and Winterhaven with the City of Yuma.
- Operate shuttles serving Quechan Casino's employees and customers.
- Coordinate existing Tribal Services passenger vehicles to increase productivity and mobility.
- Implement a volunteer driver reimbursement program and a user subsidized taxi voucher program to provide an option when trip needs cannot be satisfied through the lifeline transit services or coordinated use of the Tribal Services passenger vehicles.
- Implement a car lease program for eligible Tribal members to provide a car to Tribal members who do not have a car available, but need one to accept and/or keep a job.

2.3. Current Transit Service Conditions

This chapter describes the current public transit services in Yuma County.

2.3.1 Fixed-Route Transit Service

Service

The fixed-route system, illustrated in Figure 2 consists of eight routes:

- Three one-way loop routes (Blue, Red, Green) serving the City of Yuma Area,
- Three long-distance routes (Orange, Purple, Yellow) connecting Yuma to Wellton, Somerton, and San Luis, respectively,
- One short-distance route (Grey) serving the Cocopah Indian Tribe, and
- A direct shuttle route connecting the Yuma Palms Regional Center and the AWC.

As of October 2010, the Red and Blue Routes have been temporarily suspended due to funding limitations. Figure 3 illustrates the existing transit network in southwestern Yuma County.

As shown in Figure 3, most of urbanized areas are currently served by YCAT. All routes originate from the Yuma Palms Regional Center; except for the Purple Route which operates between the East and North Cocopah Indian Reservation, and the Grey Route operating between East Cocopah Indian Reservation and the Cocopah Casino.

YCAT service operates roughly from 6am to 6pm, Monday through Saturday, except for the Grey Route that does not operate on Saturdays and the AWC Shuttle that operates Monday through Thursday. There is no service on Sunday or on the following holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving, and Christmas Day. YCAT buses have approximately one- to two-hour headways.

Table 1 provides detailed information on the current schedules and major destinations of the fixed-route transit system. Detailed maps of each route are provided in Appendix C.

YCAT service was revised as of January 9, 2012.

A transit system management plan was developed by the transit agency and is currently being implemented to better organize transit service and operations in southwestern Yuma County.

Figure 2: Existing YCAT Network With Suspended Blue Route and Red Route

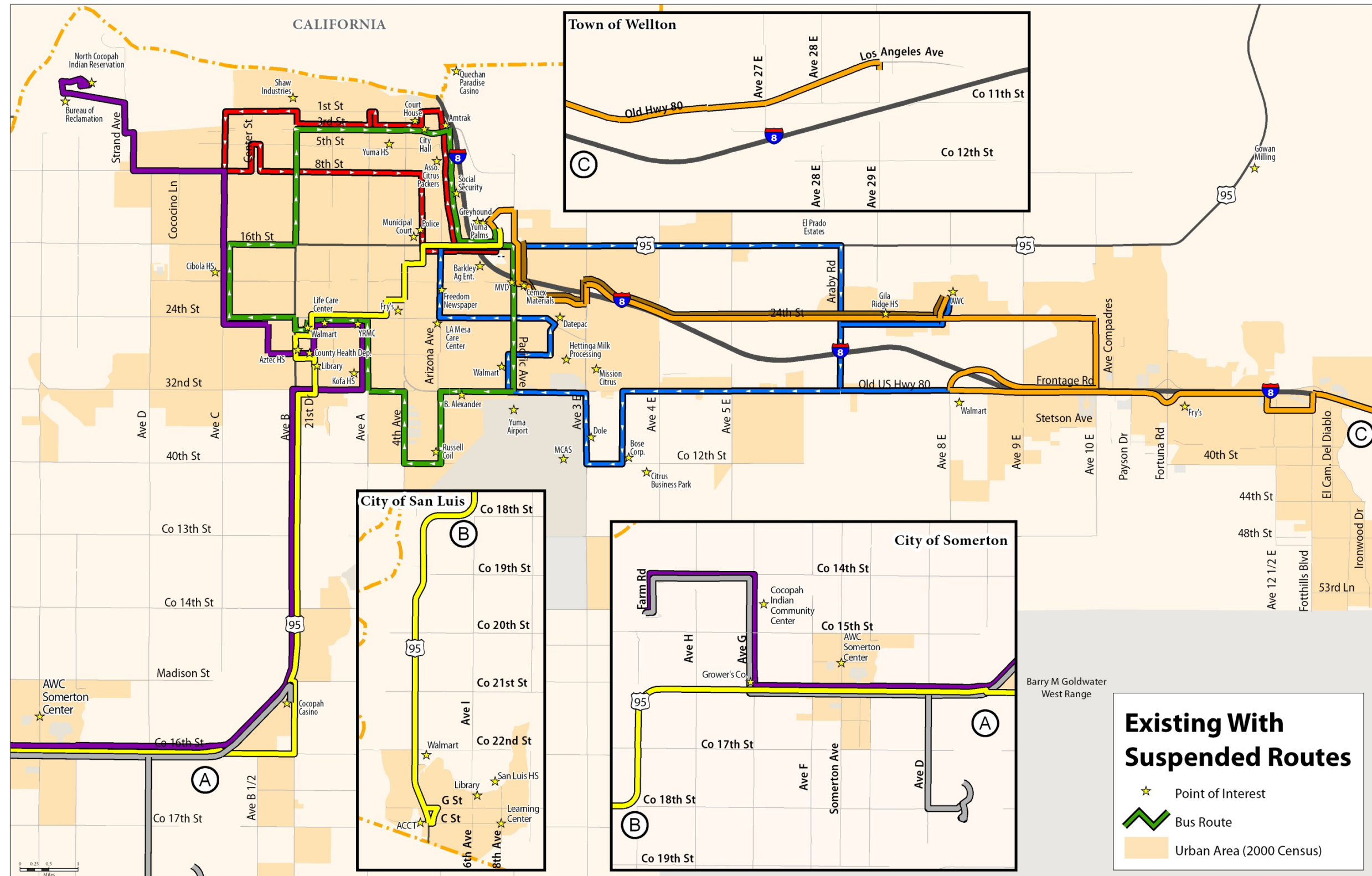
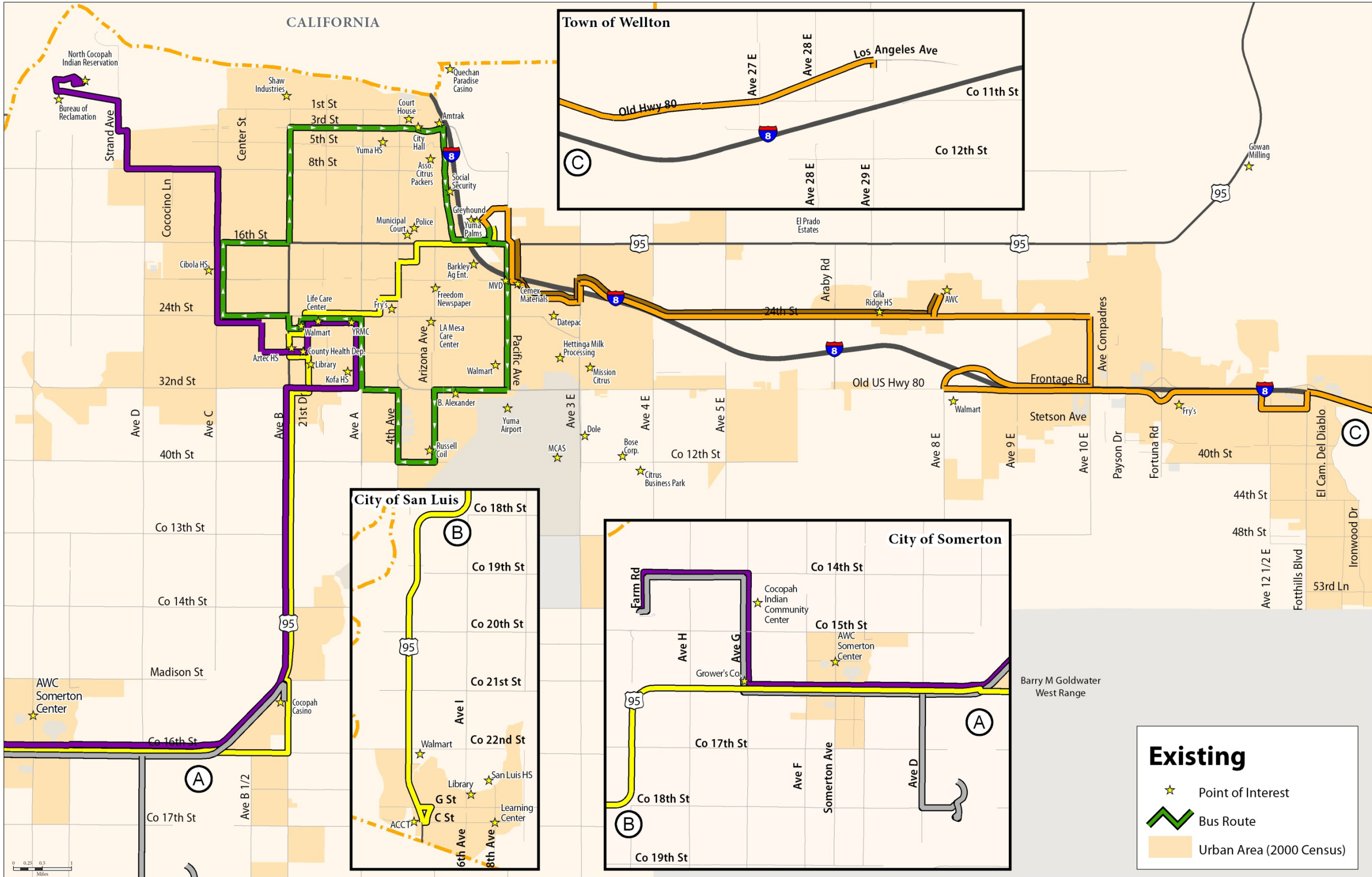


Figure 3: Existing YCAT Network



Yuma Regional Transit Study

Current Conditions



Table 1: Bus Route Descriptions

Route Origin to Destination	Main Destinations Served	Trips/Day (OB/IB) ¹	Operating Hours	Frequency
Blue Route				
Local Yuma: Loop from Yuma Palms Regional Center, via Foothills	Yuma Palms Regional Center Arizona Western College (AWC) Northern Arizona University (NAU) Walmart - Foothills Marine Corps Air Station (MCAS) Motor Vehicle Department (MVD)	Temporarily Suspended		
Green Route				
Local Yuma: Loop from Yuma Palms Regional Center	Yuma Palms Regional Center Walmart - East High Schools: Cibola, Aztec, Yuma, Kofa Yuma Regional Medical Center (YRMC) Walmart - West Cibola High School MCAS Housing Social Security	11/11	5:55am through 5:40pm	1hr 5min
Grey Route				
Somerton: between West Cocopah Indian Reservation and East Cocopah Indian Reservation	Cocopah Community Center Cocopah Casino / Cocopah Wild River Family Entertainment Center	6/5	7:00am through 5:55pm (Mon-Fri)	2hrs
Orange Route				
From Yuma to Wellton, via Foothills	Yuma Palms Regional Center MVD AWC / NAU Walmart - Foothills YRMC - Foothills	5/5	5:55am through 5:52pm	2hrs 10min
Purple Route				
From North Cocopah Indian Reservation to West Cocopah Indian Reservation, via Yuma and Somerton	Cocopah RV Resort Cibola High School Walmart - West YRMC Hospital East Cocopah Casino Cocopah West Community Center	6/6	6:55am through 5:53pm	2hrs (last bus: 1hr)
Red Route				
Local Yuma: Loop from Yuma Palms Regional Center	Yuma Palms Regional Center Yuma Greyhound Agency Yuma Police Station Yuma City Hall Yuma Municipal Court Social Security Office	Temporarily Suspended		

Yuma Regional Transit Study

Current Conditions



Route Origin to Destination	Main Destinations Served	Trips/Day (OB/IB) ¹	Operating Hours	Frequency
Yellow Route				
From Yuma to San Luis, via Somerton	Yuma Palms Regional Center YRMC Hospital West Walmart - West Yuma Library Cocopah Casino Gadsden Walmart - San Luis San Luis Community Center / Library	11/11	5:55am Through 5:45pm	1hr 5min
AWC Shuttle				
From Yuma Palms Regional Center to the Colleges		4 Monday to Thursday	7:00am through 12:25pm	2 hrs 10 min
¹ OB/IB: Outbound / Inbound Source: Yuma County Area Transit Online Map and Schedule Information (Accessed April 2011)				

Policies and Fares

One-way fares on the fixed-route system are presented in Table 2 and vary according to itinerary. Transfer tickets are required to transfer to a different route within 75 minutes; the cost varies according to the destination.

Discounted fares are available to seniors aged 60 or older and to people enrolled into Medicare or disabled programs through the Half Fare Program, as well as to students and teachers through the Educational Bus Pass Program. Booklets of 20 or 40 passes are also available.

Table 2: YCAT Fares per One-Way Trip

Route / Itinerary	Basic fares				Discounted fares		
	One Way Fare	Day Pass	40-Ride Pass	Transfer Fare	One Way Fare	Day Pass	40-Ride Pass
Educational Tickets	N/A	N/A	\$55.60	N/A	N/A	N/A	N/A
Day Pass	N/A	\$3.50	N/A	N/A	N/A	\$1.75	N/A
Between Yuma & San Luis	\$3.50	N/A	\$140.00	+\$2.00	\$1.75	N/A	\$70.00
Between Yuma & Wellton	\$3.50	N/A	\$140.00	+2.00	\$1.75	N/A	\$70.00
Between Yuma & Somerton	\$2.50	N/A	\$50.00	+1.00	\$1.25	N/A	\$25.00
Between Yuma & Foothills	\$2.50	N/A	\$50.00	+1.00	\$1.25	N/A	\$25.00
Within City of Yuma	\$1.50	N/A	\$60.00	Free	75 cents	N/A	\$30.00
Source: Yuma County Area Transit Fare Information (Accessed December 2011)							

YMPO has implemented a smart card program for YCAT services to facilitate payment. The system uses a prepaid fare card available to students from middle school to college and teachers. Riders can pre-load the smart card with a minimum of 10 trips and a maximum of 200 trips at participating educational facilities or at YCAT and DAR facilities. Riders can request a transfer to any other route at no extra cost, within 75 minutes after their first boarding.

2.3.2 Paratransit Service

Service and Policies

The ADA requires public transit agencies that provide fixed-route service to provide complementary paratransit services for people who cannot use the fixed-route service due to a disability. In general, ADA complementary paratransit service must be provided within three-quarters ($\frac{3}{4}$) of a mile of a bus route or rail station, during the same hours and days as fixed-route service, for no more than twice the regular fixed-route fare. The resulting DAR fare structure is shown in Table 3. Fares for ADA qualified clients within $\frac{3}{4}$ mile of a fixed-route vary from \$3.00 to \$7.00 and for clients beyond $\frac{3}{4}$ of a mile fares range from \$4.00 to \$15.00.¹

DAR provides complementary paratransit service for people with disabilities or seniors over the age of 60. This service operates in response to passengers' calls to the transit operator, who then dispatches vehicles to pick up passengers and transport them to their destinations throughout the Greater Yuma Area. The ADA paratransit service operates from 6:00am to 6:00pm, Monday through Saturday, in specified zones as illustrated in Figure 4. The DAR service fleet consists of 13 vehicles, currently operated by First Transit.

DAR service in Yuma is only available within $\frac{3}{4}$ mile radius of Orange, Yellow, Green, Purple routes operating within the City of Yuma.

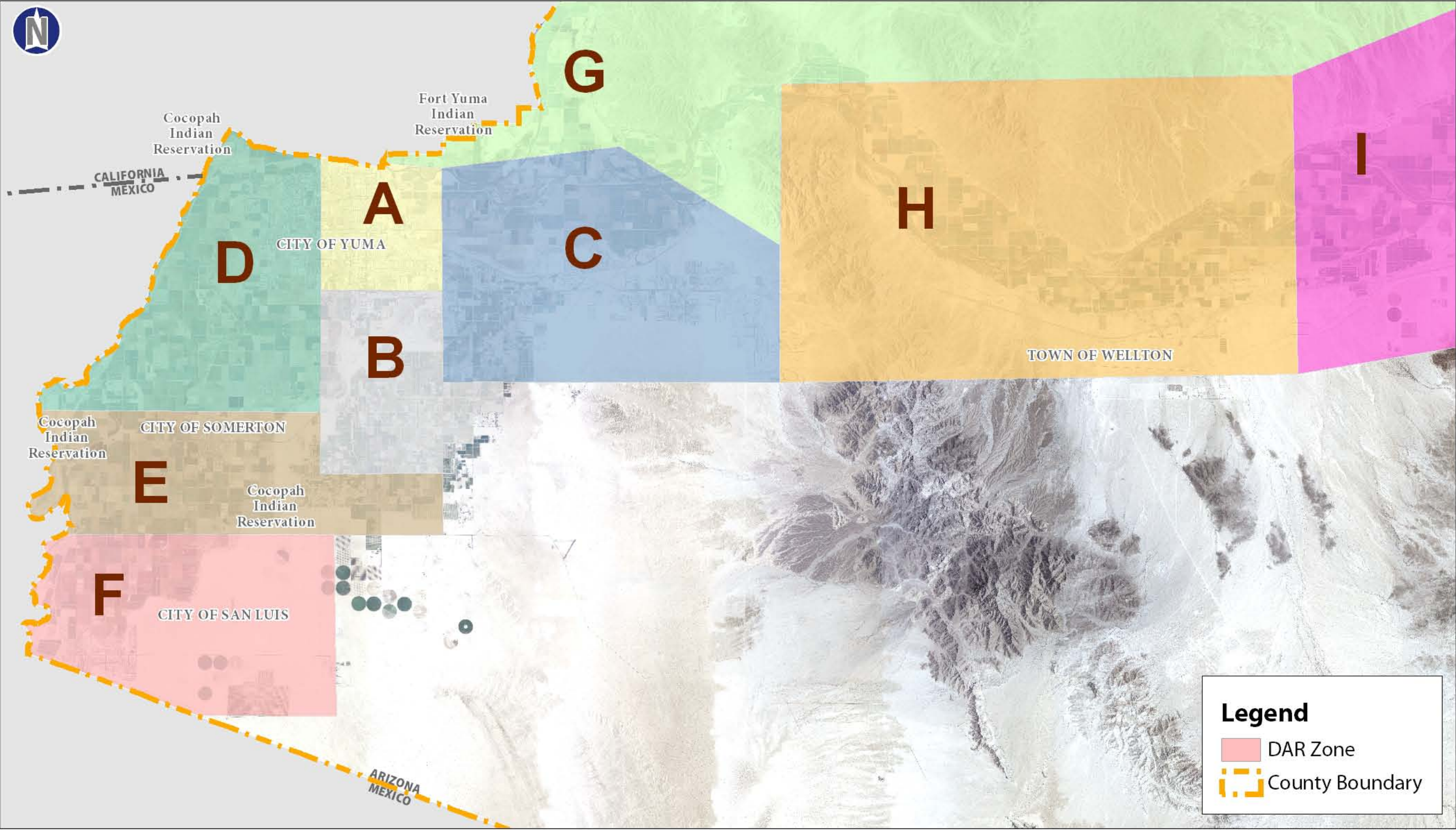
Table 3: DAR fares per one-way trip

Passenger departs from	Within $\frac{3}{4}$ mile of a fixed-route service	Beyond $\frac{3}{4}$ mile of a fixed-route service
Central Yuma	\$3.00	Zone A \$4.00
South Yuma	\$3.00	Zone B \$5.00
West Yuma	\$3.00	Zone D \$5.00
Somerton	\$5.00	Zone E \$6.00
Foothills	\$5.00	Zone C \$6.00
San Luis	\$7.00	Zone F \$7.00
Wellton	\$7.00	Zone H \$8.00
Dome Valley	no fixed-route service	Zone G \$15.00
Wellton – Mohawk – Dateland	no fixed-route service	Zone I \$15.00

Source: Greater Yuma area DAR Information (Accessed April 2011)

¹ In general, any paratransit services that a transit operator provides above and beyond its regulatory obligations, including service to individuals, who do not fall under one of the three categories of eligibility established under the ADA, are not subject to the service criteria for ADA complementary paratransit (i.e., service area, response time, fares, trip purpose, hours and days, and capacity constraints). Transit operators may therefore elect to establish "premium charges" for such services.

Figure 4: DAR Service Zones



Source: PB, 2010; ASLD, 2008; NHID, 2010; Aerial Image, 2007

Ridership

Ridership and ridership growth for the two most recent fiscal years are presented in Figure 22 through Figure 24 of Appendix D.

In order to simplify the data presented, only trips made by ADA eligible clients have been shown. Those numbers do not include attendants that accompanied some clients, and also do not include “no-shows” (trips that were requested but were not made after the paratransit van arrived to pick the client up). In Fiscal Year (FY) 2009, there were 36,291 trips provided at a cost of \$689,892. Those numbers decreased in FY10 to 30,375 trips at a cost of \$575,965.

In FY09, the central Yuma zone (Zone A) accounted for the largest number of trips. In FY09, 49% of the total trips provided (17,627 trips) were made in Zone A, but that number dropped in FY10 to 41% (12,563 trips), due to DAR service being suspended in Zone A, except as mandated by the ADA.

The next most productive zone was Zone C, the Foothills zone, which contains large retirement communities and major shopping destinations including Yuma Palms Regional Center. Ridership in Zone C remained virtually constant in both fiscal years at around 7,500 trips (21% in FY09 and 24% in FY10).

The other zones, located relatively close to Yuma (Zones B and D) accounted for 17% of the trips in both fiscal years, an average of about 5,800 trips per year. DAR service is currently suspended in Zone B.

The zones encompassing the smaller communities to the south, Somerton (Zone E), and San Luis (Zone F) generated an average of about 4,600 trips during each of the fiscal years examined. This amounted to 12% of the trips in FY09 but rose to 16% of the trips in FY10. This growth in ridership is due to an increase in the trips in the Somerton zone from 1,135 to 1,600, and perhaps reflects new housing and population growth in that area.

While ridership in the Wellton area (Zone H) nearly doubled between FY09 (244 rides) and FY10 (420 rides), the percent of the total rides provided was only 0.7% and 1.4% respectively, likely due to Wellton’s small population.

Finally, the zones along Interstate 8 east of Wellton, and north along US 95, had very low ridership (55 rides in FY09 and 43 rides in FY10, which is less than two tenths of one percent of the total trips). This is not surprising since the Dome Valley area (Zone G) and the small communities of Tacna, Mohawk and Dateland (Zone I) have very limited residential areas. Most of the population in those areas is located on scattered rural agricultural land. In addition, because these areas lack fixed-route transit service, prospective paratransit users living in these locations would have to pay \$15.00 per one-way trip.

2.3.3 Other Paratransit Providers

The Indian Tribes and several non-profit agencies provide specialized, client-oriented, transportation services in the Yuma area. These alternatives to YCAT and DAR services are listed below.

Quechan Indian Tribe's Paratransit Approach

The Quechan Indian Tribe's current paratransit services use the Tribe's fleet of 33 vehicles assigned to various Tribal Programs to transport program participants. Vehicles range from passenger sedans to 12-passenger vans. Of the 33 vehicles, 31 are in active service and one is wheelchair accessible. Generally, Tribal Program staff operates the vehicles on an as-needed basis to transport program participants to medical, educational, nutritional, and day programs. Transportation is limited to locations on the Fort Yuma Indian Reservation and destinations in Yuma and the El Centro, California region.

As suggested in the *2008 Winterhaven/Quechan Reservation Rural Connector Study*, the Tribe is considering implementing a transportation program that would operate a local circulator to improve mobility within the Reservation and Winterhaven communities and between these communities and the City of Yuma, via a connector to the YCAT system. It is also considering operating a casino shuttle for the employees and patrons of the Paradise Casino. The Tribe is working with Imperial Valley Transit to add additional Winterhaven-to-El Centro routes.

Saguaro Transportation Service²

Saguaro Transportation Service is the transportation division of the Saguaro Foundation, which is a nonprofit human services organization serving seniors, low-income people, and the developmentally disabled in Yuma County. Saguaro Transportation Service currently has a fleet of 38 vehicles – including wheelchair-equipped maxivans – and provides free transportation for medical appointments or seniors with nutrition needs.

Horizon Human Services²

Horizon Human Services is a non-profit behavioral health agency providing an array of outpatient and residential services in Yuma County. Horizon Human Services provides transportation for its clients to and from medical appointments. Transportation is provided Monday through Friday, from 8:00 am to 5:00 pm, within a 20-mile radius of their facilities.

ACHIEVE Human Services, Inc.²

ACHIEVE Human Services, Inc. is a nonprofit agency implementing a community rehabilitation program that serves individuals with significant disabilities. The agency provides transportation based on medical necessity for the elderly and disabled adult customers who are diagnosed as Seriously Mentally Ill and/or have a physical disability. The program provides transportation services Monday through Friday from 5:00 am to 7:00 pm, and Saturdays from 5:00 am to 9:00 pm.

Crossroads Mission²

Crossroads Mission is a faith-based organization dedicated to helping homeless people, the elderly, and the disabled. They offer a variety of support services to those housed in their facilities. Services include transportation to medical appointments, social service facilities, rehabilitation services, employment

² Source: 2011 Yuma Regional Transportation Coordination Plan and/or service provider website

searches, shopping, recreation, and social activities in both Yuma and La Paz Counties, 8 hours per day, 7 days per week.

City of Somerton²

The City of Somerton Parks & Recreation Department provides transportation for seniors to the Somerton Senior Center, opened Monday thru Friday from 7:00am to 2:00pm. The transportation service is provided 3 hours per day, 5 days a week.

AAA Med Ex²

AAA Med Ex is a division of AAA Yellow Cab Company. AAA Med Ex provides non-emergency and special needs transportations, 24 hours a day, 7 days a week, throughout the State of Arizona.

Taxi Services

Taxi companies are licensed to operate in Yuma County. Taxi fares vary between companies and are not regulated under a taxi ordinance. The *2008 Winterhaven/Quechan Reservation Rural Connector Study* observed that most taxi companies concentrate service within the built-up Yuma area and are reluctant to travel beyond the city limits if there are local trips available.

2.3.4 Supporting Infrastructure

YMPO owns all YCAT and DAR vehicles, and leases the maintenance facility located at 14th Street and Atlantic Avenue. The fixed-route and the demand-responsive services are operated by the private contractor First Transit, which also manages maintenance operations. The DAR fleet currently consists of 13 buses (which includes spares), with 6 or 10 seats. The fixed-route fleet currently consists of 17 vehicles (which includes spares), with 32 or 34 seats.

As shown in Figure 5, all buses used for the fixed-route service are wheelchair accessible, allow service animals, and have two bicycle racks on the front. Most buses are equipped with camera systems, electronic destination signs, and a tap-style Accufare Smart Card system. Several bus stops are equipped with covered shelters, with some that have end panels available for advertising, a waiting area accessible by wheelchair, a garbage can, and a stop flag containing a YCAT sign and maps.

There are currently no park-and-ride facilities, High Occupancy Vehicle (HOV) Lanes, or separated bus lanes in southwestern Yuma County.

Figure 5: Bus and Bus Stop



Bus stop at Yuma Palm Shopping Center



Bus interior – wheelchair accessible



Bus stop flag

2.4. Cost and Revenues

This section provides information on the system's performance indicators, cost, revenues and funding for the fixed-route and demand-response transit services.

Performance indicators

Performance measurements are used to analyze a transit system's attractiveness, cost efficiency, and cost effectiveness. Examples of performance indicators include:

- Unlinked Passenger Trips: The number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from their origin to their destination. (Source: NTD Glossary)
- Vehicle Revenue Miles (VRM): The miles that vehicles travel while in revenue service; i.e. while a vehicle is available and there is an expectation of carrying passengers. Vehicle revenue miles also include layover and recovery time, but exclude deadhead, operator training, vehicle maintenance testing, as well as school bus and charter services. (Source: NTD Glossary)
- Vehicle Revenue Hours (VRH): The hours that vehicles are scheduled to or actually travel while in revenue service. Vehicle revenue hours also include layover and recovery time, but exclude deadhead, operator training, vehicle maintenance testing, as well as school bus and charter services. (Source: NTD Glossary)
- Passenger Miles Traveled: The cumulative sum of the distances ridden by each passenger. (Source: NTD Glossary)
- Cost per Passenger Trip: The cost effectiveness indicator measures the operating cost of providing bus service for each unlinked passenger boarding.
- Farebox Recovery Ratio: The ratio of fare revenue over operating cost. The farebox recovery ratio reflects if the system is financially self-supporting and indicates the need for government subsidies and other revenues.
- Cost per Vehicle Revenue Miles: The ratio of operating costs over the number of vehicle revenue miles.
- Cost per Vehicle Revenue Hours: The ratio of operating costs over the number of vehicle revenue hours.

Fixed-Route Services

In 2010, the total cost for operating the fixed-route service was approximately \$ 2.45 million. 334,501 unlinked passenger trips were provided on the fixed-route network and resulted in the collection of \$458,318 of fare revenues.

Table 4 presents the cost efficiency measures for the fixed-route services in 2010.

Dial-A-Ride Services

In 2010, the total cost for providing DAR services was approximately \$1.24 million. 333,435 unlinked passenger trips were provided and resulted in the collection of \$ 167,707 of fare revenues.

Table 5 presents the cost efficiency measures for the DAR services in 2010.

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Table 4: Cost Efficiency Measures - Fixed-Route

Efficiency measures for Fixed-Route Services	2010
Total Operating Expense ¹	\$2,447,194
Fare Revenues ¹	\$ 458,318
Unlinked Passenger Trips ²	334,536
Vehicle Revenue Miles ²	835,061
Vehicle Revenue Hours ²	36,159
Passenger Miles Traveled ²	2,127,465
Cost per passenger trip	\$ 7.32
Farebox recovery ratio	18.7%
Cost per Vehicle Revenue Mile (VRM)	\$ 2.93
Cost per Vehicle Revenue Hour (VRH)	\$ 67.68
Sources: ¹ YMPO, August 2010; ² NTD 2010 Report	

Table 5: Cost Efficiency Measures - DAR

Efficiency measures for DAR Services	2010
Total Operating Expense ¹	\$1,241,433
Fare Revenues ¹	\$ 167,707
Unlinked Passenger Trips ²	30,375
Vehicle Revenue Miles ²	333,435
Vehicle Revenue Hours ²	23,697
Passenger Miles Traveled ²	433,466
Cost per passenger trip	\$ 40.87
Farebox recovery ratio	13.5%
Cost per Vehicle Revenue Mile (VRM)	\$ 3.72
Cost per Vehicle Revenue Hour (VRH)	\$ 52.39
Sources: ¹ YMPO, August 2010; ² NTD 2010 Report	

Funding Sources

Yuma County's public transportation system is funded through various sources. More than 70% of the 2010 funding was FTA funds, which equaled \$4,822,760. Other major funding sources include State funds and fare revenues, as presented in Table 6 through Table 8.

The funding available through the Federal American Recovery Act (ARRA), as well as "Other" funding, is non-recurring and therefore not available on an annual basis. Additionally, the Local Transportation Assistance Fund II (LTAF II) was suspended in 2010, with final distribution of funds in 2011; therefore no "State" funding is anticipated in future years.

Table 6: Detailed Funding Sources – 2010

Funding Source	2010	
Federal - Urbanized Area Formula Program (Section 5307)	\$2,436,802	36.4%
Federal - American Recovery and Reinvestment Act (ARRA)	\$2,385,958	35.6%
State – LTAF II	\$662,979	9.9%
Local	\$270,165	4.0%
Fares	\$626,025	9.3%
Other	\$318,681	4.8%
Total	\$6,700,610	100.0%
Source: YMPO, August 2011		

Table 7: Local Funding - 2010

Local Jurisdiction	Amount
Cocopah Indian Tribe	\$ 41,196
City of San Luis	\$ 11,200
City of Somerton	\$ 6,785
Town of Wellton	\$ 14,499
City of Yuma	\$151,985
Yuma County	\$ 44,500
Total	\$270,165
Source: YMPO, August 2011	

Yuma Regional Transit Study

Current Conditions



Table 8: Operating and Capital Funding Sources

Funding	2010	
RECURRING FUNDING		
Capital		
Federal – Section 5307 Capital Fund	\$561,374	13.22%
Federal – Section 5307 Capital Cost For Third Party Contracting	\$927,151	21.83%
Local Capital Fund (non-tax)	\$108,066	2.54%
Total Reoccurring Capital Funding	\$4,247,741	100.00%
Operating		
Federal – Section 5307 Operating Fund	\$948,277	38.70%
Local Operating Fund (Non-tax)	\$162,099	6.60%
Fares	\$626,025	25.50%
Total Reoccurring Operating Funding	\$2,452,869	100.00%
Total Reoccurring Funding	\$6,700,610	
NON-RECURRING FUNDING		
Capital		
Federal – ARRA (new buses/vans)	\$2,385,958	56.17%
State Capital Fund (non-tax) – LTAF II	\$265,192	6.24%
Total Non-Reoccurring Capital Funding	\$2,651,150	100.00%
Operating		
State Operating Fund (Non-tax) – LTAF II	\$397,787	16.20%
Other Operating Fund	\$318,681	13.00%
Total Non-Reoccurring Operating Funding	\$2,452,869	100.00%
Total Non-Reoccurring Funding	\$5,104,019	
Source: YMPO, August 2011		

Source: YMPO, August 2011

2.5. Survey Results

Surveys, interviews, and public involvement activities were conducted as part of the Yuma Regional Transit Study. They include:

- A fixed-route on-board survey,
- A general telephone survey,
- A DAR on-board survey,
- An online survey and public outreach,
- A public involvement effort, and
- Interviews of stakeholders.

Results are presented in detail in Appendix E through Appendix J and summarized in the following sections.

2.5.1 Fixed-Route On-Board Survey

The riders on the fixed-route service were surveyed in April 2011. Information collected on 451 trips was analyzed. The survey contained 11 main questions. Most of them included choices or sub-elements. The questionnaire asked respondents for information about their current trip only. The survey questions and detailed information on responses are provided in Appendix E.

Origin

Almost half of the respondents (47%) cited *home* as their trip origin. Other primary origins were *school* (11%) and *shopping* (13%). This distribution is fairly consistent across fixed-routes except for the Orange and AWC Shuttle Routes. On the Orange Route, 44% of the passengers were coming from school, primarily from the AWC/Northern Arizona University (NAU) campus. On the AWC Shuttle, 14% were coming from school and 86% were coming from home.

As presented in Figure 6, travelers primarily originate in urbanized areas such as downtown Yuma, San Luis and Somerton. Other major origin locations are near Cocopah Casino, AWC, the Greyhound Agency, and Walmart in San Luis and in Yuma. Some origins were specifically cited by the respondents. These include AWC, Mexico, and the unemployment office. Other listed destinations include the Aztec High School, the bank, Cocopah Casino, the library, and other schools.

Boarding and Alighting

Boarding and alighting points are illustrated in Figures 7 and 8. They are mostly located near AWC, Yuma Palms Regional Center, YRMC, the Greyhound Agency, Walmart, and in downtown Yuma, Somerton and San Luis, near major activity centers.

Figure 6: O-D Survey - Origin Locations

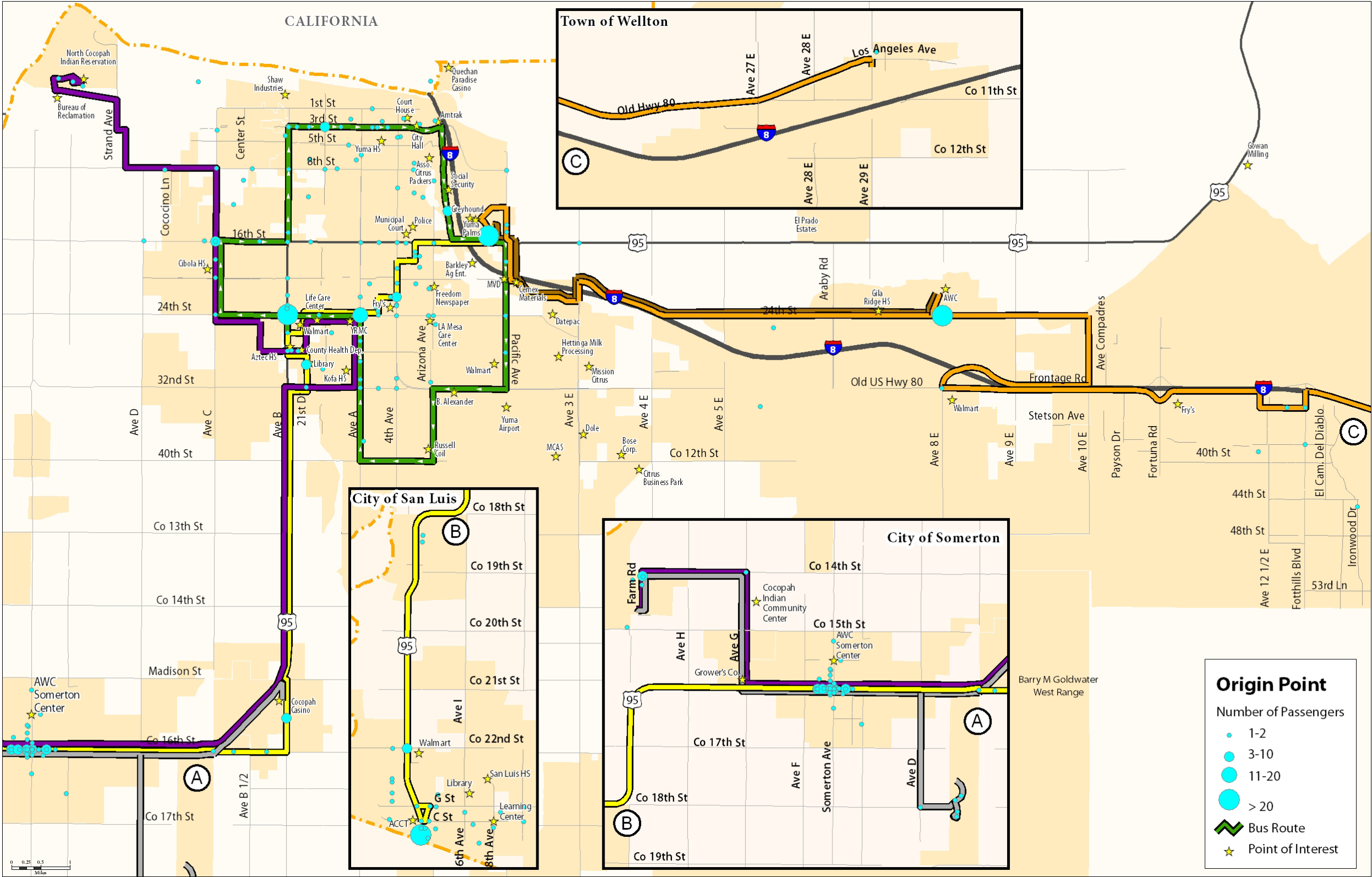
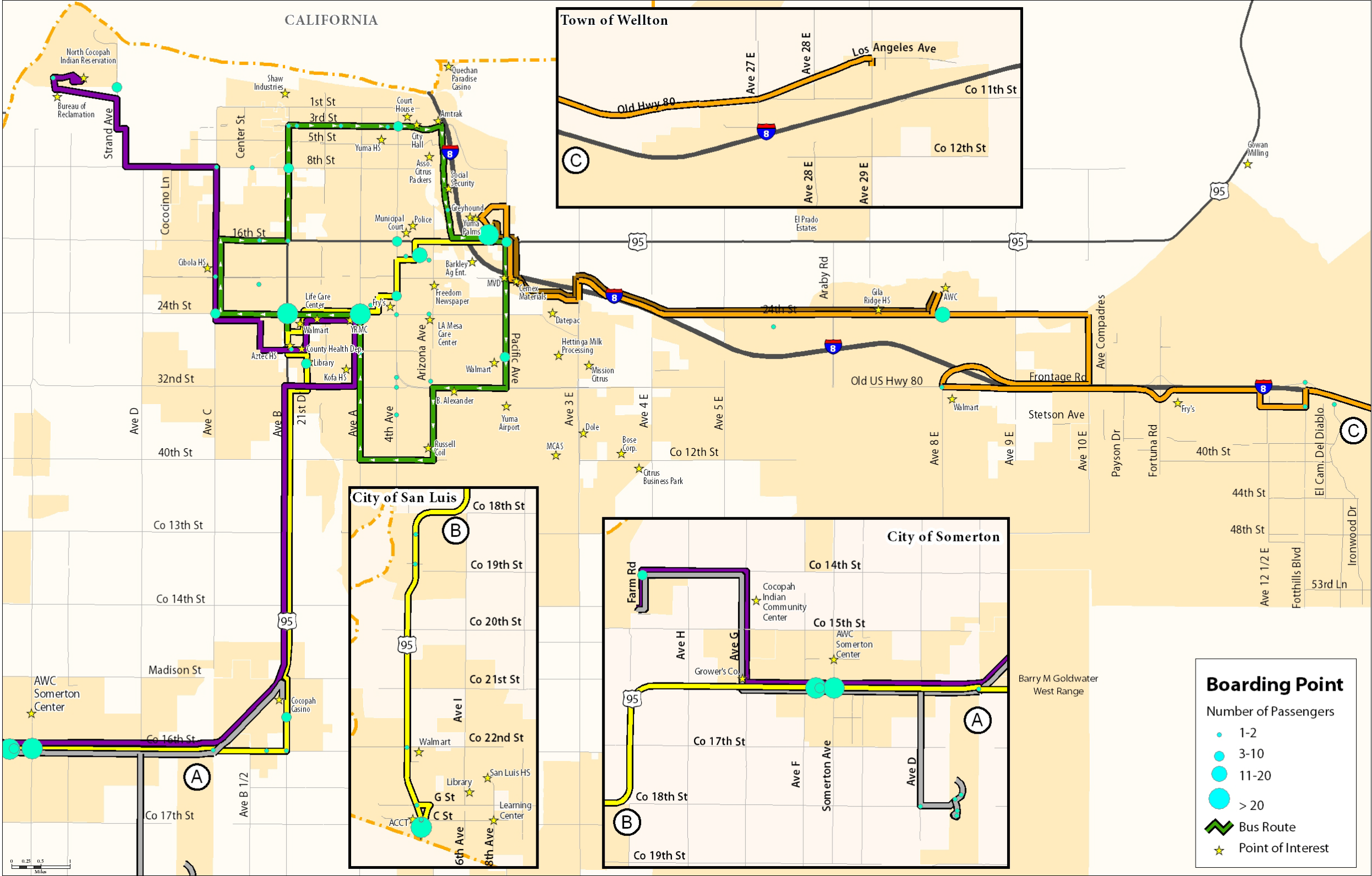


Figure 7: O-D Survey - Boarding Locations



Destinations

The destination types and locations are similar to the origins. The majority of respondents (36%) said they were going *home*. The second and third main destinations were *school* (14%), *social/recreation* (13%), and *shopping* (13%). These results are fairly consistent across bus routes, with the exception of the Orange and AWC Shuttle Routes. On the Orange Route 28% of the riders were going to school. On the AWC Shuttle 86% were going to school, while 9% were going home.

Destinations are mostly located in urbanized areas such as downtown Yuma, San Luis and Somerton. As illustrated in Figure 9, other major destinations are near Cocopah Casino, AWC, the Greyhound Bus Station, and Walmart in San Luis and in Yuma. Some other destinations were explicitly cited by the respondents. These include the Port of Entry in San Luis, Yuma Palms Regional Center, and YRMC. Some other listed destinations are the social security office, the North and West Cocopah Indian Reservation, Cocopah Casino, Yuma Library, and other schools.

Transportation to and from the bus stop

As shown in Table 9, 67% of YCAT bus riders responded *walking* as the transportation mode to reach their boarding bus stop. 89.1% of these respondents walk less than 20 minutes and the average reported walking time to the bus was 8.6 minutes.

15% of riders reported *transferring from another bus route*. The most frequent route transferred from was the Yellow Route, which is connected to all the other bus routes. The third most frequent means of travel to a bus stop was *being dropped off*, cited by 12% of respondents. Similarly, as presented in Table 10, the majority of riders (77%) planned to walk to their final destinations. 90.5% of these respondents planned to walk less than 20 minutes. The average expected walk time was 8.7 minutes.

12% of riders responded that they would continue their trip by *transferring to another bus route*; mostly to the Orange Route. The third most cited mode after taking the bus was “being picked up” (6%).

Table 9: Mode of Travel to Bus Stop

Mode Used to Travel to the Bus Stop	Number of Respondents	Percentage
Walking	302	67%
Transferred	68	15%
Drove alone	5	1%
Dropped Off/Picked Up	54	12%
Bicycled	13	3%
Carpooled	2	0%
Other	3	1%

Table 10: Mode of Travel from Bus Stop

Mode Used to travel to the Final Destination	Number of Respondents	Percentage
Walking	348	77%
Transferred	52	12%
Drove alone	5	1%
Dropped Off/Picked Up	27	6%
Bicycled	13	3%
Carpooled	0	0%
Other	4	1%

Ridership frequency

As presented in Table 11, 42% of overall respondents commute using the YCAT bus system 2 to 4 days a week. Orange, Purple and AWC Shuttle Routes experience significantly more frequent usage compared to the other routes. On the Orange and Purple Routes, respectively, 65% and 59% of commuters travel 2 to 4 days a week. On the AWC Shuttle Route, 45% of commuters use the service 2 to 4 days a week and 50 % of respondents use it 5 days a week.

Table 11: Frequency of Travel by Bus, All Routes

Bus riding frequency	Number of responses	Percentage
A Few Times a Year	28	36%
About Once per Month	16	17%
2-4 Days per Month	12	15%
2-4 Days per Week	18	12%
5 or More Days per Week	7	9%

Overall rating of YCAT service

Commuters surveyed seemed generally pleased with the service provided. Across all routes, 81% of respondents rated the service as either *Good* or *Excellent*. These results were fairly consistent for all routes.

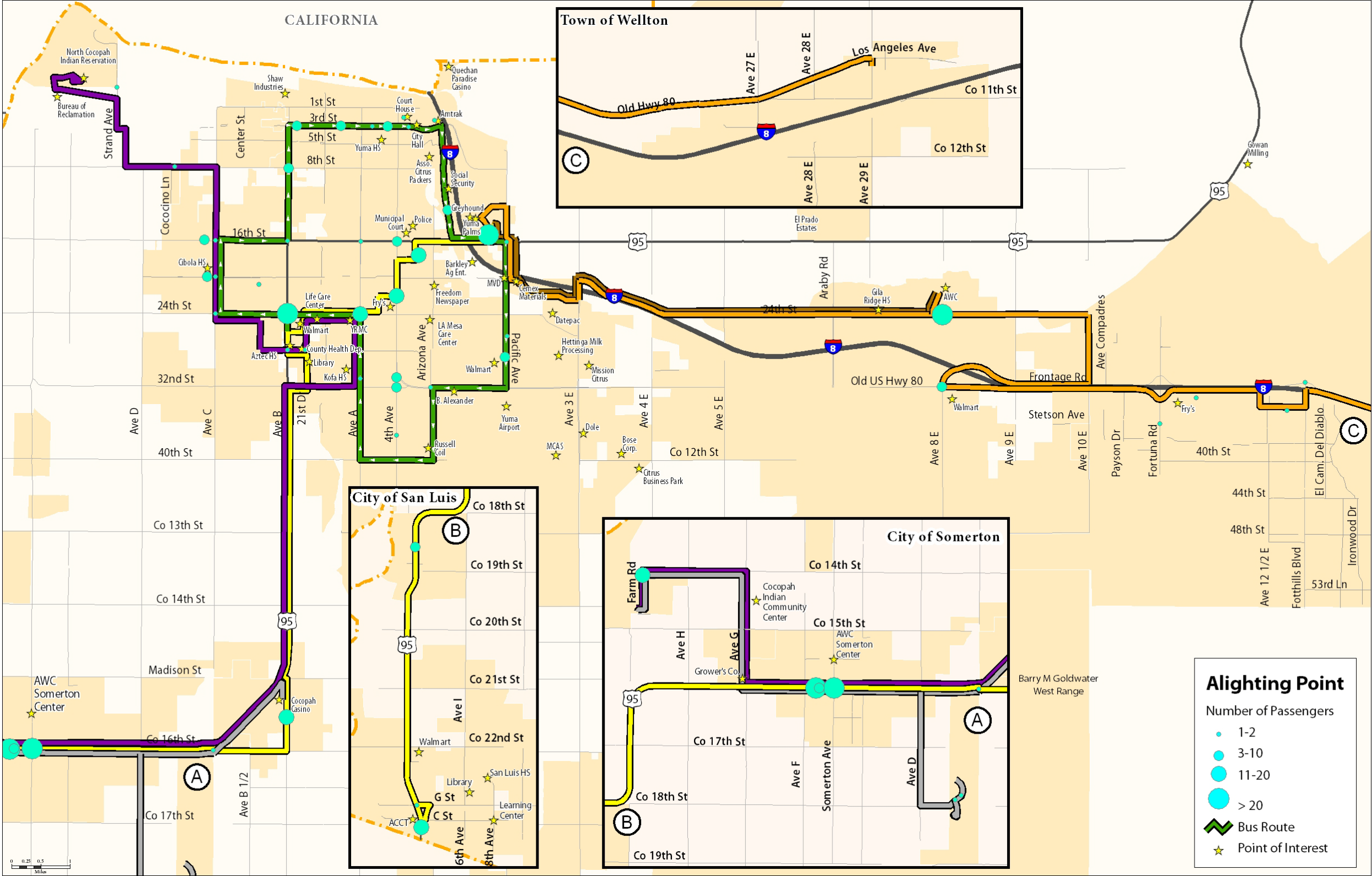
Improvements solicited

The on-board survey addressed the improvements that are most important to commuters for the YCAT system. Two improvements were most cited by commuters:

- Providing more frequent service: Across all bus routes, 59% of respondents indicated decreasing the headway among the three most important improvements. On the Orange, Purple and AWC Shuttle Routes, almost 50% of respondents ranked this improvement as the most important.
- Providing later evening service: Across all routes, 64% of surveyed commuters chose *increasing duration of service in the evening* as one of the three most important improvements. Respondents most frequently indicated that they would like YCAT to provide service until 8pm, 9pm, or 10pm.

Other, non-proposed, improvements were listed by respondents, such as *operating on Sundays* and *restoring suspended routes*, particularly the Red Route.

Figure 8: O-D Survey - Alighting Locations



Town of Wellton

Old Hwy 80

Ave 27 E

Ave 28 E

Ave 29 E

Los Angeles Ave

Co 11th St

Co 12th St

8

C



2.5.2 Telephone Survey

The general public in Yuma County was surveyed regarding fixed-route transit service. Telephone calls were made in order to obtain over 400 completed surveys. The survey contained 31 questions and asked respondents to provide information regarding six categories. The survey questions and detailed information on responses are provided in Appendix F.

Demographic information

Only people who were 16 or older were interviewed. In addition to the age bracket, the surveyor asked for the respondent's zip code.

Familiarity with and usage of the existing bus service

30% of respondents answered that they were not at all familiar with the existing bus service. About 50% of respondents knew whether there was a bus stop within walking distance of their homes. 32% said there was no bus stop near their home, and 18% did not know. 65% of respondents answered that the walking time from their house to a bus stop is likely to be less than 20 minutes.

19% of respondents declared that they have ridden a bus within the last year. 36% of these commuters ride the bus a few times per year and 21% use the YCAT system more than twice a week. It appears from these numbers that the YCAT system is serving about 4% of the community.

Impression of the performance of the existing bus system

Five elements of the YCAT system were rated by the interviewee: ride length, weekday service hours, weekend service availability, ability to travel to regional destinations, and frequency of bus service. Although the answer *I don't know* was frequently selected, respondents consistently rated system performance as *Good*, *Excellent* or *Fair*.

Interviewees were asked to name places where additional bus service should be provided, if any. As presented in Table 12, the most cited locations are the Fortuna Foothills area (19%) and the area formerly served by the Red Route in downtown Yuma (14%). The largest percentage (36%) of responses regarding areas needing better bus service was "Other" and was very diverse. The most cited *other* destinations included the Pacific Avenue area, schools and health facilities.

Table 12: Areas Needing Better Bus Service

Areas Needing Better Bus Service	Number of request	Percentage
Fortuna Foothills	20	19%
Suspended Red Route Service Area	18	14%
USMC Base and Suspended Blue Route Service Area	8	8%
Arizona Western College	5	5%
Yuma Proving Ground	5	5%
Casinos	5	5%
City of San Luis	5	5%
City of Somerton	4	4%
Other	36	34%

Opinion regarding the role of bus service in Yuma County

54% of surveyed people strongly agreed with the statement that YCAT should provide transportation to those without other means of transportation. The other three bus service roles proposed were:

- Bus service helps reduce air pollution by providing an alternative to driving alone.
- Bus service helps the economy in Yuma County.
- Yuma County bus service provides an alternative to driving alone for many Yuma County residents when commuting to work or school.

These statements were equally supported at the *Agree* level by about 50% of the respondents. 60% of the respondents indicated they were *satisfied* or *very satisfied* with the service provided by YCAT. An additional 16% were *very satisfied*. Overall 81% of people surveyed, including riders and non riders, expressed some degree of satisfaction with the service.

Willingness to support additional funding for transit

This category addressed the need for additional funding for transit given both the current decline in revenue and continuing requests for improved service. Three questions were asked to gauge people's awareness of the decline in revenues, potential increased revenue sources for transit and whether the respondent would support a fare increase.

Half of respondents declared that they were not aware of a decrease in funding sources for public transportation. As summarized in Table 13, 47% of interviewees answered that YCAT should reduce its service to match its available revenue. 27% said that sales taxes should be increased in order to maintain the current service and 15 % said that sales tax should be increased to support expanded transit service. When combined, people in favor of an increase in sales tax to support transit counts for 42% of respondents. 53% of people surveyed answered that they would support raising transit fares to help reduce the funding shortfall.

Table 13: How to Bring Revenue in Line with Expenses?

	Number of Responses	Percentage
Increase Sales Tax to Expand Transit Service	62	15%
Increase Sales Tax to Maintain Transit Service	110	27%
Reduce Service to Match Available Revenue	187	47%
I Don't Know	33	8%
Other	10	2%

Opinion regarding the value of and willingness to use alternate transportation services

The final category proposed three possible new transportation services that could be alternatives to traditional bus service:

- Taxi voucher program
- Volunteer driver service using personal vehicles
- Carpool/vanpool matching programs

These potential alternatives to the bus system were found at least somewhat valuable by 70%, 74%, and 80% of respondents, respectively. Following this trend, carpooling was ranked highest (56%) among the suggested new services that people would be at least somewhat likely to use. The taxi voucher program would be at least somewhat likely to be used by 55% of respondents. And 52% of the interviewees are at least somewhat likely to use the service with volunteer drivers using personal vehicles.

2.5.3 Online Survey and Public Involvement

Public involvement was adopted as a key component in the development of the study to gather public input on existing transit conditions and to evaluate public opinions about the future scenarios that are developed as part of this study. An online survey and a public outreach effort regarding transit in southwestern Yuma County were conducted in August and September 2011. 400 respondents gave their opinion online or through in-person interviews at various locations in the Yuma region. The survey contained 43 questions and asked respondents to provide information regarding four categories: Demographic data, Use of the transit system, Role of transit in Yuma County, and Funding scenarios.

Detailed information on the online survey and the public involvement effort is provided in Appendix H and Appendix J.

Demographic information

Only people who were 16 or older were interviewed. The typical respondent was over the age of 40 and has lived in Yuma for more than 15 years.

Use of the transit system

As shown in Table 14, 75% of the respondents do not use public transportation on weekends and weekdays. Most respondents drive alone to get where they need to go.

Almost half (47%) stated they would use a carpool or vanpool program, if it was available and 35% would use a rideshare matching program. Less than a third of the respondents felt they would use a taxi voucher (30%) or volunteer driver service (27%). Current DAR passengers are using the service to travel to work, health care appointments, shopping, or to run errands.

Table 14: Use of Public Transit

Use of Public Transit	Response Total	Response Percent
I ride YCAT buses	87	22%
I use Dial-a-Ride	12	3%
I do not use public transportation	303	75%

Most current bus riders ride the bus both on weekends and weekdays and ride the Green and Yellow lines to work, shopping, or school. Bus rider respondents also reported the following information.

- Respondents walk 6-15 minutes to reach the bus stop and wait approximately 10-20 minutes.
- Two-thirds of the respondents report a travel time of 30-60 minutes from home to destination.
- Most aspects of current bus service received good or fair ratings.
- The improvements respondents wanted most were more frequent bus service and later evening service. Two-thirds of respondents want service extended to 9 p.m.
- Overall, just under two-thirds of respondents are satisfied or very satisfied with existing service.
- The importance of transit service in the San Luis area was stressed by several respondents.

60% of respondents who do not currently use public transit reported they would utilize the bus service if it was as convenient as driving. Half of respondents are willing to walk up to 5 minutes to reach a bus stop and are willing to wait 10 minutes for a bus. Acceptable total travel time on the bus is less than 30 minutes.

Role of the transit system

90% of the respondents think bus service is needed in southwestern Yuma County to provide transportation to residents who do not have any other way to get around. More than 70% of the respondents strongly agree or agree that transit provides an alternative to driving and helps reduce air pollution as well as helps the economy in Yuma.

Funding scenarios

Respondents were asked if they would support a transit-dedicated sales tax increase and what type of funding scenario should be used in Yuma County.

As shown in Table 15, 51% of the respondents stated they would support an increase in sales tax if it was the only way to pay for transit services and are very willing or willing to pay a 1/10 cent sales tax increase. Respondents are mixed on whether or not fares should be increased to help fund transit services.

Table 15: Support of a Transit-dedicated Sales Tax

Support of a transit-dedicated sales tax	Response Total	Response Percent
Yes	181	51%
No	109	31%
Not sure	65	18%

2.5.4 Dial-A-Ride Survey

The riders on the DAR service were surveyed in June 2011. Information collected on 32 trips was analyzed in this study. The survey contained 9 questions and asked respondents to provide information regarding four categories. Detailed information on responses is provided in Appendix G.

Information about the respondent

The survey asked respondents about their age range and whether they use a personal mobility device or travel with an assistant. 50% of respondents were between 65 and 74 years old. 79% of respondents are older than 65, and no respondents were under 18. 34% of respondents use a personal mobility device or travel with an assistant. As shown in Table 16, among those commuters traveling with mobility assistance, 64% of respondents use a cane, crutches or a walker and 54% use a manual or electric wheelchair. 18% of respondents travel with an assistant.

Table 16: Type of Mobility Assistance

Type of Mobility Assistance	Number of Responses	Percentage Among Respondents With Mobility Assistance
Travel With Assistant	2	18%
Electric Wheelchair or Scooter	1	9%
White Cane	0	0%
Manual Wheelchair	5	45%
Cane / Crutches / Walker	7	64%
Service Animal	0	0%
Other	0	0%

Trip destination

50% of the respondents were going to a medical appointment; while 19% of the respondents answered that their trip destination had a social or recreational purpose. 19% of the respondents were going to a senior center. An equal amount of 16% of respondents, respectively, were going home, shopping, or to work. No one was using the DAR service to go to school.

Transportation habits

According to the survey's results, 87% of respondents use the DAR service on a weekly basis. 56% of respondents use the service 2-4 days per week, while 31% of respondents use the service more than 5 days per week.

As shown in Table 17, 72% of the respondents sometimes use another transportation mode in addition to the DAR service. 18% of the respondents use their personal car on average 2.3 times per week. The second most frequently used transportation modes are taxi or traveling with a friend or family member. Both modes are used by 13% of respondents. YCAT or ridesharing are each used by 6% of respondents.

Table 17: Other Transportation Modes Used

Other Transportation Mode	Average Times Per Week	Number of Responses	Percentage
Personal Car	2.3	9	28%
YCAT	1.5	2	6%
Rideshare	3.5	2	6%
Taxi	2.3	4	13%
Other (Family or Friend)	-	4	13%
Other (Unspecified)	-	2	6%
No Other Means	-	1	3%
No Answer	-	8	25%

Service quality and improvements needed

This category assessed riders' satisfaction with the DAR service. Overall, respondents seem pleased with the service provided. 94% of the respondents rated the service as either *Very Good* or *Excellent*. Table 18 details what respondents particularly like about the DAR service.

44% of the respondents answered that they like the drivers, indicating that they are very helpful, courteous, and friendly. 19% of the respondents appreciate the fact that the buses are on time. Another 19% of respondents find the DAR service convenient because it provides door-to-door service, allowing them to be more independent since riders can travel without relying on a friend or relative.

Table 18: What Riders Like About The DAR Service

Positive Aspect	Number of Responses	Percentage
Pleasant Drivers	14	44%
Punctuality	6	19%
Convenience	6	19%
Everything	2	6%
Reliability	1	3%
Office Staff Available	1	3%

Finally, the survey asked respondents to indicate if there were any changes they would like to see to the DAR service. The results of this question are presented in Table 19.

56% of the respondents identified no change with the DAR service, 19% of the respondents asked for a specific change in the DAR system, and several respondents wrote more than one answer. The most commonly suggested change was related to the hours of operation. 16% of the respondents would prefer later service to be provided, at least until 7pm or 8pm. 6% of the respondents would prefer enhanced scheduling. By picking up and dropping off several commuters in one trip, some riders may be late to their scheduled appointments or experience increased wait time. Other changes equally identified by 3% of the respondents are providing DAR service on Sundays, offering online booking and adding additional drivers.

Table 19: Proposed Improvements

Proposed Changes	Number of Responses	Percentage of all respondents
Proposed Change	6	19%
Later Service	5	16%
Enhanced Scheduling	2	6%
Service on Sundays	1	3%
Online Booking	1	3%
Add a Driver	1	3%
None	18	56%
No Answer	8	25%

2.6. Current Socio-economic Conditions

2.6.1 Population and Demographics

According to the 2010 U.S. Census, the population in Yuma County is 195,751, which represents a 22% increase from the 2000 Census. Like the state of Arizona, Yuma County as a whole has experienced periods of rapid population growth.

Within the County, there are 87,850 housing units of which 73.7% are occupied. The Arizona state occupancy status is 83.7%. 2010 U.S. Census data indicate that 70.7% of vacant housing is due to migratory workers, or seasonal and recreational use. Thus, the lower housing occupancy in Yuma County reflects the fact that the Greater Yuma Area is generally a destination for seasonal visitors and workers. Table 20 compares historical population data within the County, including incorporated and unincorporated areas and provides a breakdown of key demographic indicators by focus area.

As shown in Appendix K the general repartition of the population remains the same between 2000 and 2010. As shown in Figure 10, the highest population densities in Yuma County are found in downtown areas of Yuma, Somerton, and San Luis, as well as into CDPs such as Avenue B and C, Donovan Estates, Fortuna Foothills, Orange Grove and Rancho Mesa Verde. The population density particularly increased in areas such as the downtown of San Luis and Somerton, Fortuna Foothills and south of AWC. San Luis, Somerton and Wellton are the fastest-growing communities in Yuma County and have more than doubled in population since 2000. It should be noted that most of Quechan Indian Tribe's population is located in the California portion of the reservation.

Table 20: Yuma County Demographic Conditions

Area	Total Population 2010 Census unless otherwise cited				Housing Units 2010 Census			
	2010 Census	2008 RTP Az DoC	2000 Census	Change 2010/2000	Total	Occupied	Vacant for seasonal use ¹	
City of San Luis	25,505	26,705	15,322	Increase +66%	6,525	5,953	77	13%
City of Somerton	14,287	11,377	7,266	Increase +97%	4,052	3,791	27	10%
Town of Wellton	2,882	2,318	1,829	Increase +58%	2,081	1,220	727	84%
City of Yuma	93,064	93,719	77,515	Increase +20%	38,626	30,714	5,230	66%
Cocopah Indian Tribe	817	-	1,025	Decrease -20%	753	312	377	85%
Quechan Indian Tribe AZ part	8	-	36	Decrease -78%	10	7	-	-
Quechan Indian Tribe CA/AZ	2,197	-	2,376	Decrease -8%	878	698	54	30%
Avenue B and C CDP	4,176	-	4,798	Decrease -13%	1,968	1,451	226	44 %
Donovan Estates CDP	1,508	-	1,623	Decrease -7%	394	374	4	20%
El Prado Estates CDP	504	-	478	Increase +5%	199	157	29	69%

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Area	Total Population 2010 Census unless otherwise cited				Housing Units 2010 Census			
	2010 Census	2008 RTP Az DoC	2000 Census	Change 2010/2000	Total	Occupied	Vacant for seasonal use ¹	
Fortuna Foothills CDP	26,265	-	20,478	Increase +28%	21,642	12,006	7,872	82%
Gadsden CDP	678	-	953	Decrease -29%	225	192	9	27%
Rancho Mesa Verde CDP	625	-	767	Decrease -19%	162	153	0	0%
Orange Grove Mobile Manor CDP	594	-	729	Decrease -19%	174	165	1	11%
Tacna CDP	602	-	555	Increase +8%	291	216	33	44%
Other Unincorporated areas	24,236	69,660	35,047	Decrease -9%	10,748	8,056	1,870	70%
Yuma County	195,751	203,779	160,026	Increase +22%	87,850	64,767	16,159	70%
¹ Percentage of total vacant housing which is vacant due to migratory workers, or seasonal, recreational, or occasional use.								
Source: U.S. Census 2000 and 2010; RTP 2010-2033								

2.6.2 Environmental Justice

Executive Order 12898 on Environmental Justice requires that projects receiving federal funds do not contribute, encourage, or result in actions that discriminate against people based on race, color, national origin, or income. As shown in Appendix L, several locations in the study area have distinctive demographic compositions that are relevant for the environmental justice assessment.³ The Cities of San Luis and Somerton, the Cocopah Indian Tribe, and Gadsden have a higher percentage of households below poverty level⁴. The Cocopah Indian Tribe has a much higher Native American population than the County as a whole. Gadsden has a higher proportion of population of Hispanic origin⁵. The Town of Wellton and Fortuna Foothills have a higher percentage of residents over the age of 60.

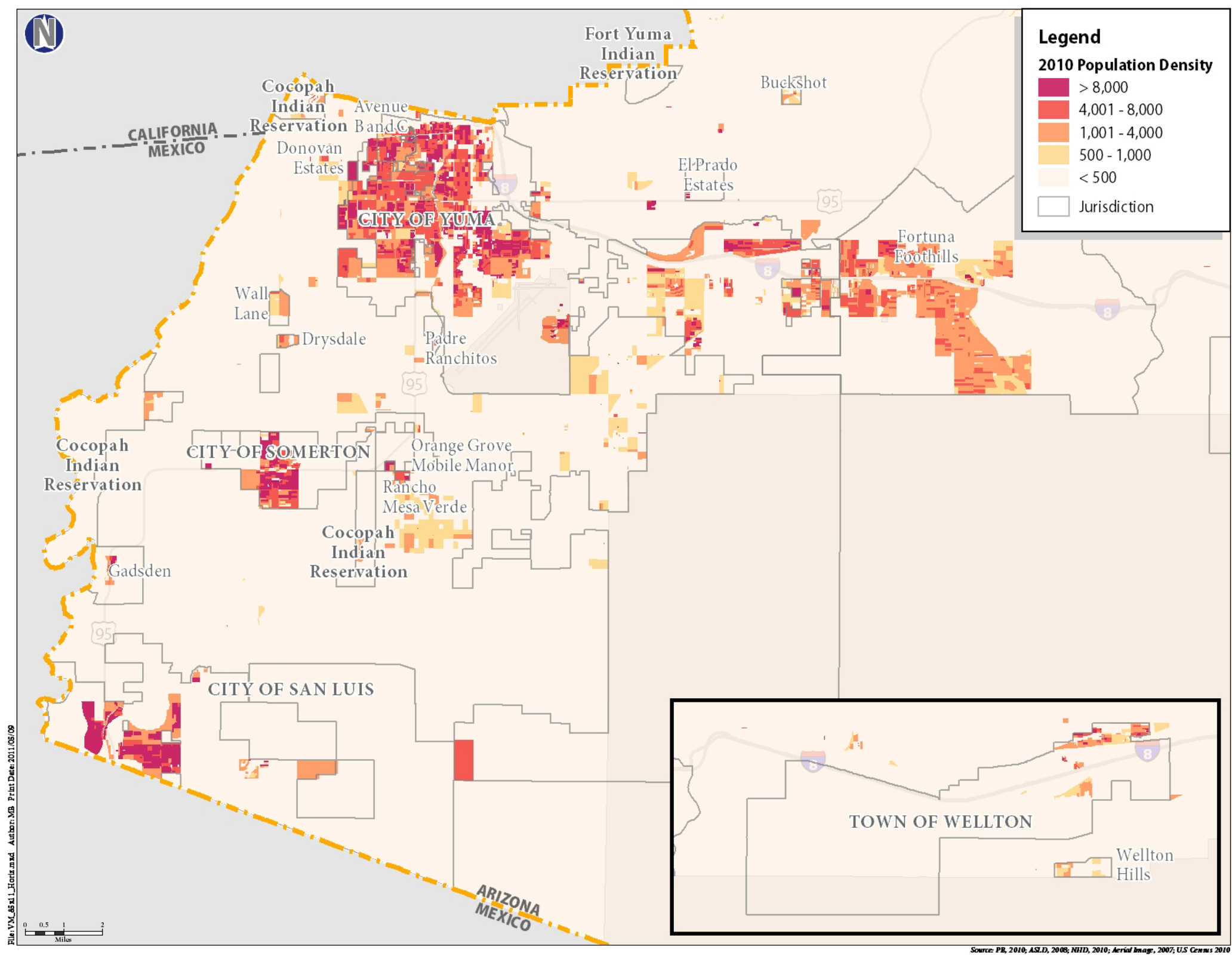
In order to comply with Executive Order 12898 requirements, recommendations made by this study will ensure that impacts from alternatives developed do not negatively affect these protected populations. Appendix L illustrates the distribution of protected population.

³ Note that 2010 Census data is used for racial and age demographic information, while 2000 Census data is used for income information.

⁴ Following the Office of Management and Budget's Directive 14, the Census Bureau uses a set of money income thresholds that vary by family size and composition to detect who is has low income. If the total income for a household falls below the relevant poverty threshold, then the household is classified as being "below the poverty level."

⁵ As defined by the U.S. Census Bureau, "Hispanic Origin" refers to those who classify themselves in one of the specific Hispanic or Latino categories ("Mexican", "Puerto Rican", "Cuban", or "other Spanish, Hispanic, or Latino"). Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.

Figure 10: Population Density (In Persons per Sq Miles) – 2010 U.S. Census



2.7. Land Use

Land use patterns are established by the Cities of Yuma, Somerton, and San Luis, the Town of Wellton and Yuma County, for their respective territories and sometimes extend beyond their boundaries as shown in Figure 11.

City of San Luis

Two ports of entry are located on the City of San Luis' border with Mexico. Activity centers, and business and industrial areas have been developed following the major vehicular access ways: State Highway 195/Juan Sanchez Boulevard, US 95/Avenue J, Avenue E and Avenue B. The existing land use pattern also includes residential areas with rural low-density detached housing and mixed-use neighborhoods. The City is surrounded by agricultural lands as well as three specific conservation areas. According to the City of San Luis 2010 General Plan Update, identified growth areas are located along the two primary transportation corridors: US 95 toward Gadsden and east along Juan Sanchez Blvd/Area Service Highway (ASH).

City of Somerton

The City of Somerton is mainly developed along US 95/Main Street, which is lined with commercial establishments and has historically been the commercial center of town. Agricultural land uses dominate the periphery of this planning area. The second primary land use includes rural and low density residential with single-family detached housing.

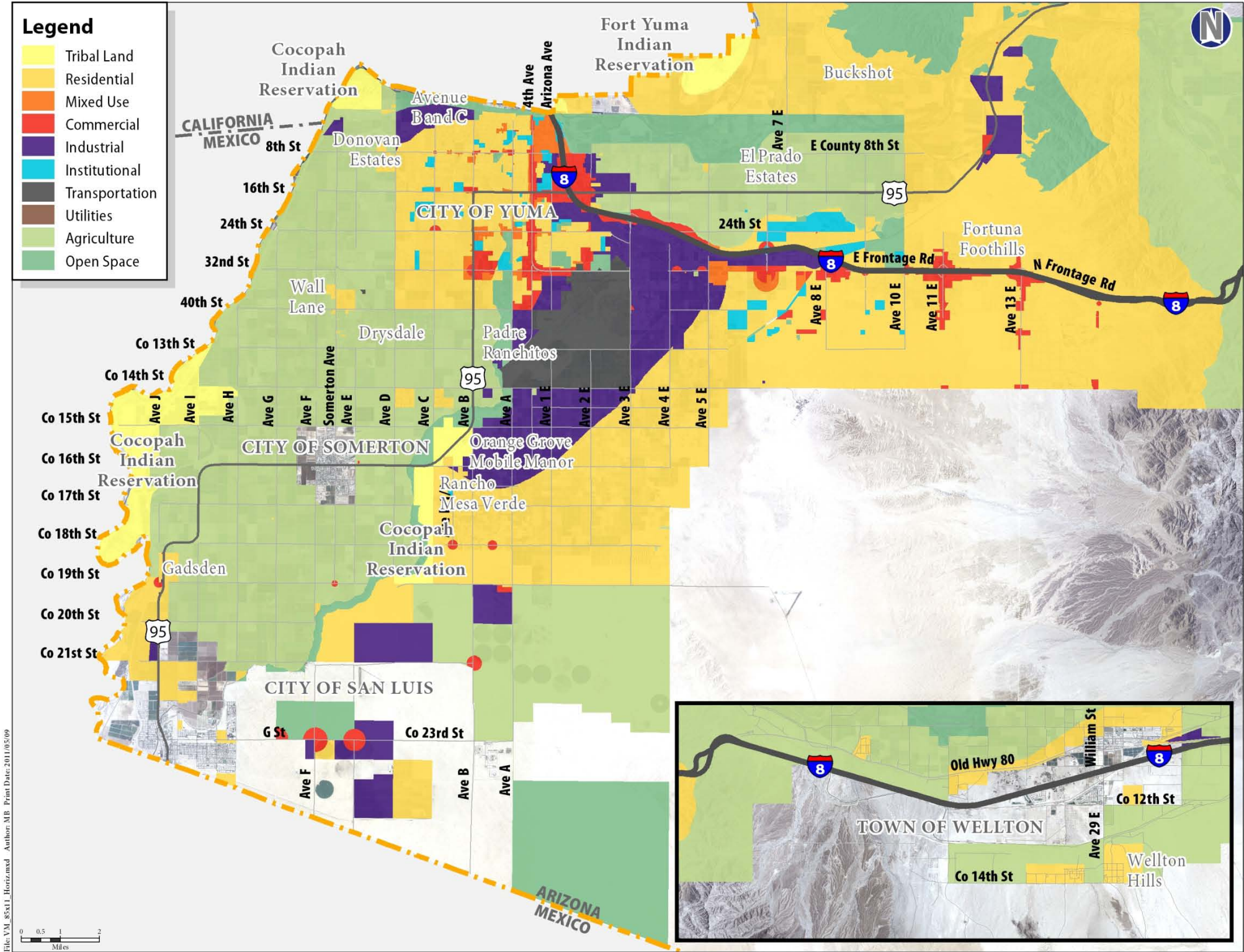
Town of Wellton

With the exception of the Town of Wellton, the Dome Valley/Wellton Planning Area is rural, predominantly agricultural and characterized by grain, vegetable and leafy green production, as well as cattle operations. Land use also includes residential and industrial areas.

City of Yuma

Land use in the City of Yuma mainly includes industrial, public and quasi-public areas, and agricultural areas located east of the downtown, south of County 18th Street and in Gila Valley. The City's residential areas are located in and around the downtown, south along the edge of the mesa, west in the north Yuma Valley and southeast around AWC. Single-family detached housing in low- or medium-density residential areas is the most common housing type in the City. Significant commercial areas are located along 32nd Street, 4th Avenue and within two regional commercial developments. The Yuma Palms Regional Center is located near Interstate 8 and Highway 95 and the Cielo Verde commercial center is located at Avenue 8E and 32nd Street. According to the City of Yuma 2012 General Plan and Yuma County 2010 Comprehensive Plan, the Yuma Valley, the Foothills area, and east mesa are the fastest growing residential areas in the city.

Figure 11: Land Use



2.8. Employment and Activity Centers

A diversity of activities and employment sectors are present in the southwestern Yuma County area. However, some industries have a major impact on the economy because of combined elements such as the climate, the relief, and the rural land use.

The main industries in Yuma County

Southwestern Yuma County is a winter destination for about 90,000 seasonal residents and visitors. Therefore, the tourism industry has a significant seasonal impact on the Greater Yuma area, particularly in the hospitality and food services sector.

In addition to tourism, farming, cattle, agricultural industry support activities, and two military bases (the MCAS and the YPG) are the county's principal industries.

Greater Yuma's agricultural industry is mainly dedicated to citrus, salad and winter vegetable crops, along with meat and dairy production. Several major growers, such as *Dole Fresh Vegetables*, have plants and processing facilities in Yuma County. The Yuma area supplies about 90% of the lettuce sold in the U.S. from November through February. This intense and seasonal activity requires labor, which mainly comes from Mexico. A number of farm workers cross the border every work day through the San Luis Land Port of Entry I.

The MCAS is located in the southwest mesa within the City of Yuma. This facility hosts military flight training and temporary military events. As of January 2011, the base had a population of 4,249 active military, 1,877 civilians, and 6,777 family members, for a total of 12,903 people. As stated in the City of Yuma 2012 General Plan, approximately 4,200 people live on base. The remainder live in off-base housing in a MCAS housing development located on 16th Street or in private housing.

The U.S. Army Yuma Proving Ground (YPG) hosts the YPG headquarters and the largest of three test facilities for the U.S. Army. The YPG manages testing of weapons systems and munitions in a desert environment. The center also includes a desert automotive test facility operated in partnership with General Motors. The proving ground is Yuma County's largest single employer of civilians and uses about 20% of the county's land. As stated by the YPG, the facility's workforce consists of over 3000 military and civilian employees. Approximately 450 people reside at the proving ground and nearly all the civilian personnel reside in the City of Yuma. Additionally YPG hosts over 23,000 visitors per year.

The tertiary sector

Tertiary employment sectors are also present in Yuma County. They include healthcare, education, retail, food and hospitality, administrative services and public administration.

The traditional economic center of Yuma County is the downtown of the City of Yuma. However, as shown in Figure 12, the main employment and activity centers are now located in the Cities of Yuma and San Luis. Significant commercial developments have occurred over the past decades in these cities. Numerous car dealers and retail centers are located along 32nd Street in the City of Yuma. Supermarkets and various small shopping and business centers can be found along 4th Avenue. In response to residential development, several neighborhood commercial centers have been built in the urbanized areas of the southwestern Yuma County. The two newest commercial developments are the

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Yuma Palms Regional Center located near Interstate 8 and Highway US 95 and the Cielo Verde commercial center at Avenue 8E and 32nd Street.

Detailed maps showing major activity and employment centers, schools, health facilities, and commercial locations, around existing transit facilities are presented in Appendix C.

Except in the City of San Luis and the City of Yuma, most areas of Yuma County have limited employment opportunities other than farming or retail.

Major employment locations in Southwestern Yuma County

Table 21 below identifies the largest employers based on the number of employees, with one main employment location. The three major employers in Yuma County are the MCAS, YPG, and YRMC. The largest employer in the private sector is the Bose Corporation plant in the City of Yuma.

Table 21: Major Employment Locations in Yuma County – With More than 100 Employees

Employer	Employees	Activity
U.S. Marine Corps Air Station - Yuma (MCAS)	5586 (including about 1,200 civilians) ¹	Military
U.S. Army Yuma Proving Ground (YPG) Including General Motors Desert Proving Ground	Over 3,000 military and civilians ²	Military
Yuma Regional Medical Center	2080 ²	HealthCare
City of Yuma	1388 ²	Government
Yuma County	1350 ²	Government
Bose Corporation	1300 ²	Manufacturing
US Border Patrol	920 ²	Government
Advanced Call Center Technologies (ACT)	814 ²	Call Center
Quechan Paradise Casino	800 ⁴	Casino
Arizona State Prison Complex (ASPC) Yuma	755 ³	Government
Dole Fresh Vegetables	750 ⁴	Agribusiness
Cocopah Indian Tribe	600 ⁴	Government
Datepac	500 ⁶	Agribusiness
Skyview Cooling Company	500 ⁴	Agribusiness
Arizona Western College	350 full-time 657 part-time and student workers ⁵	Education
Walmart – Avenue B	404 ⁴	Retail
Shaw Industries	358 ⁴	Manufacturing
Walmart - Pacific Avenue	350 ⁴	Retail
Walmart – Foothills	300 ⁴	Retail
Cocopah Bingo & Casino	300 ⁴	Casino
Walmart - San Luis	289 ⁴	Retail
Grower's Company	260-300 ⁴	Agribusiness
Gowan Milling	260 ⁴	Manufacturing
City of San Luis	235 ⁴	Government
Bill Alexander Automotive	220 ⁴	Retail
Russell Coil	200 ⁴	Manufacturing
Life Care Center of Yuma	200 ⁶	Health Care
Dillard's – Yuma Palms Regional Center	196 ⁶	Retail

Yuma Regional Transit Study

Current Conditions

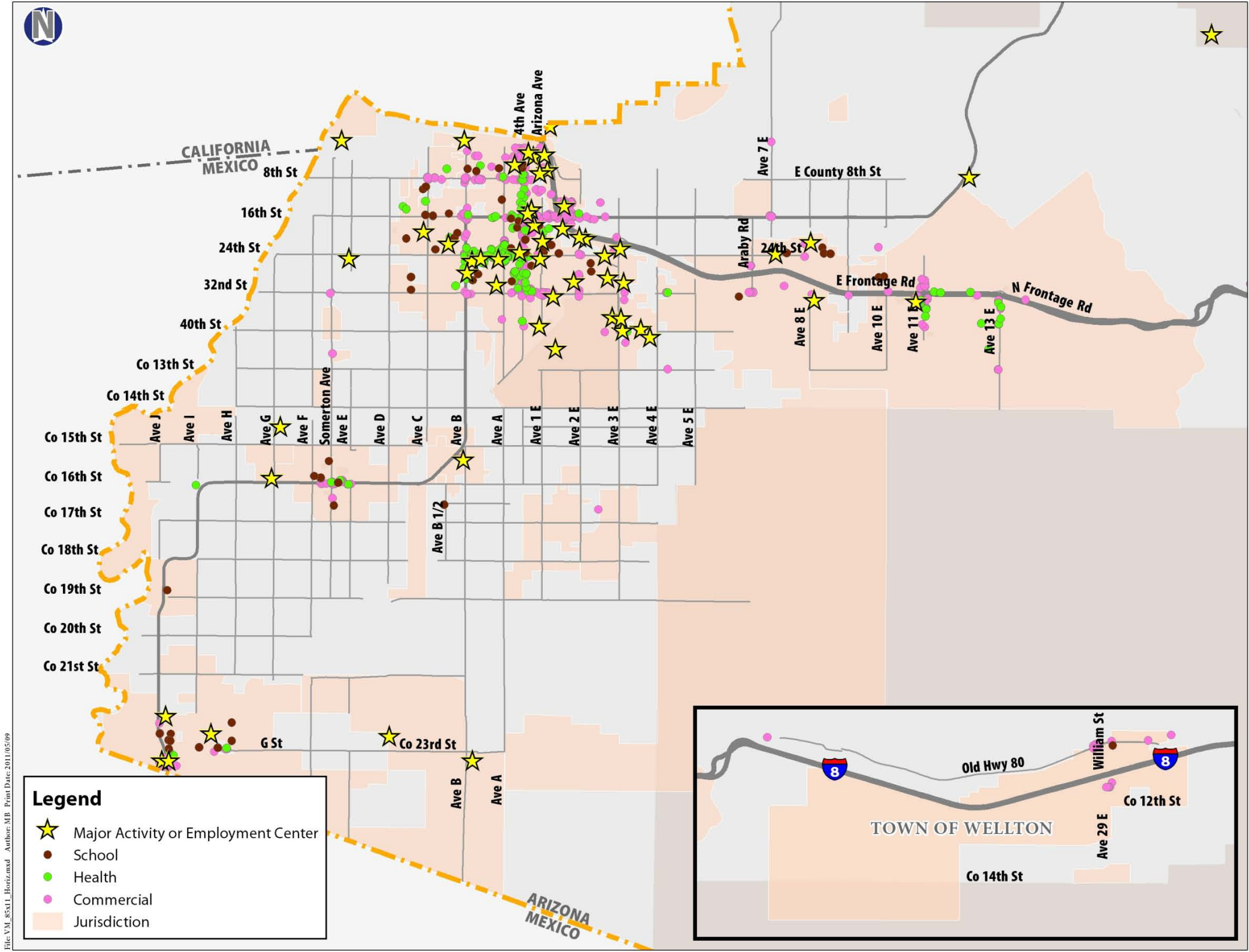


Employer	Employees	Activity
US Bureau of Reclamation	196 ⁴	Government
Mission Citrus	175 ⁴	Agribusiness
Sam's Club – Yuma Palms Regional Center	166 ⁴	Retail
Arizona Public Service	165 ⁴	Utilities
Fry's Food and Drug	150 ⁶	Retail
City of Somerton	150 ⁴	Government
Barkley Ag Enterprises	150 ⁴	Agribusiness
Associated Citrus Packers	150 ⁶	Agribusiness
Target – Yuma Palms Regional Center	130 ⁴	Retail
Kohl's Department Store – Yuma Palms Regional Center	123 ⁶	Retail
Home Depot – Yuma Palms Regional Center	120 ⁶	Retail
Freedom Newspapers	117 ⁴	Media/Advertising
Cemex Materials	100-249 ⁶	Construction
Fry's Food and Drug - Foothills	100-249 ⁶	Retail
JCPenney – Yuma Palms Regional Center	100-249 ⁶	Retail
LA Mesa Care Center	100-249 ⁶	Health Care
Southwest Recovery Center	100-249 ⁶	Health Care
Hettinga Milk Processing	100-249 ⁶	Agribusiness

Sources:

1. City of Yuma 2010 Comprehensive Annual Financial Report; MCAS Website
2. Yuma County Chamber of Commerce
3. Arizona Department of Corrections
4. Greater Yuma Economic Development Corporation
5. Arizona Western College
6. Manta.com

Figure 12: Employment and Activity Centers



Source: PB, 2010; ASLD, 2008; Aerial Image, 2007; YMPO, 2011

Chapter 3 - Future Conditions

The assessment of future conditions forms the basis for analyzing the public transportation needs of the southwestern Yuma County. Future land use and development plans, projected population and employment data, as well as forecasted travel demand in Yuma County are summarized in the following sections. Figure 13 illustrates growth and redevelopment areas that are most relevant to this study.

3.1. Future Land Use and Development

Several previously completed studies have recommended plans for future land use and development in Yuma County. Municipalities and unincorporated areas whose growth plans are most relevant to this study are summarized below.

3.1.1 City of Yuma

As shown on Figure 4 in Appendix B, the *City of Yuma 2012 General Plan* (February 2011) identifies several subareas within the planning area for extensive evaluation, planning, and redevelopment. These zones are located in downtown Yuma: Historic North End area, Old Town South and Riverfront, Big Curve Area, Carver Park Area, Yuma High School Area, Central Yuma Area, West Riverfront Area, South Avenues Area, and Corridors along 4th Avenue, West Main Canal, 8th Street, 16th Street, and Arizona Avenue.

The *City of Yuma 2012 General Plan* identifies several future commercial and residential developments. The two newest major commercial developments are the Yuma Palms Regional Center located near Interstate 8 and US 95 and the Cielo Verde commercial center at Avenue 8E and 32nd Street. Some corridors, such as 4th Avenue in the downtown, are already oriented to commercial development and will continue to be so in the future. It is anticipated that the City of Yuma will continue to be the retail and employment center for the region.

In addition, two mixed-used, master-planned communities are planned within the City:

- The Laurel project is the development of approximately 240 acres, located in the South Gila Valley along 24th street, near the Araby Road and Interstate 8 interchange. The community will incorporate a mix of land uses including 1,169 dwelling units, retail, a business park, a hotel, and a farm.
- The Estancia community is a future development which will include approximately 3,842 acres of agricultural land, located on the South Mesa, east to west between Avenue 4E and Avenue A, and south to north between County 15½ Street and County 19th Street. The development will include about 20,000 homes, as well as shops, services, parks, schools, and utilities to serve an anticipated population of 50,000 people. Development plans for this project are in the initial stages and development is not anticipated for 10 to 15 years.

The south Yuma Valley and east mesa are the two fastest-growing residential areas in the City. The *City of Yuma 2012 General Plan* also identifies five specific growth areas, illustrated on Figure 5 in Appendix B. Three of these areas are large expanses of undeveloped land and represent emerging development areas.

- The Crossroads of Avenue B and 32nd Street: Mixed land use is planned along the south side of 32nd Street. The remainder of this area is primarily dedicated to low-density residential uses.

- Araby Road, from 24th Street to 32nd Street, in the East Mesa: this area will include low- to high-density residential uses, including the upcoming Laurel community and the development of desert land south of 40th Street. Commercial, public and quasi-public land uses are also planned for this area.
- Pacific Avenue at 8th Street, North of Yuma Palms Regional Center: following the trend initiated with the development of the Yuma Palms Regional Center, the area is dedicated to commercial, business, and industrial activities.

The other two areas are underdeveloped mixed-use districts, including commercial, cultural, governmental and residential uses. These areas have potential for higher densities and intense uses.

- The North End or Old Town District: the Old Town is identified has a mixed-use area with a government center focus and an emphasis on tourism and historic preservation.
- The vicinity of 16th Street, from 4th Avenue to Redondo Center Drive: the majority of this area is designated as commercial. However, high-density residential development should occur in the vacant and underutilized lands near 16th Street.

3.1.2 City of San Luis

During the last decade, the City of San Luis was one of the fastest-growing communities in Yuma County. The City is expected to experience further residential, commercial, and industrial growth. This growth will generally be directed along two primary transportation corridors: US 95 toward Gadsden and east along Juan Sanchez Boulevard/Area Service Highway. Various locations described below are identified for short-term growth.

According to the U.S. General Services Administration,⁶ the City of San Luis' first U.S. Port of Entry (San Luis I) is a full-service Land Port Of Entry (LPOE) for inspecting commercial traffic, privately owned vehicles, and pedestrians. Since its construction San Luis I has experienced dramatic growth in traffic volumes. Expansion of the existing port was necessary but limited by existing city infrastructure. Therefore, the San Luis II new Commercial LPOE was created in a rural area located east of downtown San Luis to remove commercial traffic from the San Luis I LPOE and therefore increase its capacity to process pedestrians and privately owned vehicles, while eliminating a disruptive and crowding element from the city center.

New commercial development will largely be centered in the vicinity of the new port of entry. As shown in Figure 3 on Appendix B, the *City of San Luis 2010 General Plan* (March 2011) identifies several areas where future land use will be dedicated to commercial activities. Key activity centers and short-term growth areas are identified along the US 95 corridor at County 20th, 21st, and 22nd Streets, and in the community of Gadsden. The intersection of County 24th Street and Avenue E is also expected to develop as an activity node. Corridors such as Avenue J, Avenue E, and Avenue B are identified as activity and business centers because they are continuations of the ports of entry and provide access to agricultural production areas and to the communities of Somerton and Yuma. More intense land uses, including higher density residential and mixed-use development, are planned at key intersections and along these corridors in general.

⁶ General Services Administration. "San Luis II Land Port of Entry." Retrieved July 5, 2011, from <http://www.gsa.gov/portal/content/103891>.

The residential-oriented areas within the City of San Luis planning area are located both north and south of Juan Sanchez Boulevard, between US 95 and Avenue E, adjacent to the US 95 corridor and to the west of the Business area along Avenue B. Two areas are specifically identified for neighborhood growth and expansion:

- County 24th Street: Additional single-family neighborhood development is planned for privately owned lands north of County 24th Street, east of Avenue H.
- North San Luis: The area north of Juan Sanchez Boulevard, south of County 22nd Street and between Avenue H and Avenue F is identified for residential growth and supporting retail development.

3.1.3 City of Somerton

A survey for the City of Somerton 2010 General Plan (adopted in December 2010) indicated Somerton residents would prefer that the City remain a rural and agricultural community while diversifying its economy as growth occurs.

In addition, the operations of the MCAS and the resulting High Noise or Accident Potential Zone (HNAPZ) create an abundance of land that is unsuitable for residential development but available for employment sites. In order to achieve a balanced employment projection, the land use map defines a more focused employment Growth Area for the community.

To reflect current residents' desire to maintain Somerton's small-town feel, the City has identified a growth area located in the downtown area, roughly between County 15th Street and County 17th Street and between Avenue E and the Central Canal, as shown in Figure 7 on Appendix B. The City of Somerton will focus its development in this area over the next 10 to 20 years.

3.1.4 Town of Wellton

According to the *Wellton PARA Study*, additional future commercial developments are generally expected along Interstate 8 (I-8) and Old Highway 80 and at their intersections with major roadways such as Avenue 20E, Avenue 23E, Avenue 25E, Avenue 29E, and Avenue 30E.

Industrial land uses are expected to increase in the future, primarily in the land adjacent to the Union Pacific Railroad (UPRR) tracks between I-8 and Old Highway 80 on the west side of the study area.

Residential land uses are expected to increase throughout the study area, most notably in the areas west of Avenue 28E and south of I-8. A large majority of the land located south of I-8 is anticipated to be low-density residential with smaller pockets of medium-density residential. Anticipated medium-density residential developments would be located south of I-8. Current land use restrictions on areas near the Barry M. Goldwater Range (BMGR) and between the Gila River and Old Highway 80 are expected to remain in place. As a result, these areas are anticipated to remain as open space, as shown in Figure 8 in Appendix B.

The *Yuma County 2010 Comprehensive Plan* assesses future land use in the wider Wellton planning area and Dome Valley. As shown on Figure 9 in Appendix B, the area will generally remain a rural and agricultural region to preserve the traditional local agricultural industry and enhance its productivity.

3.1.5 Fortuna Foothills, Yuma Valley, South County Planning Area

As stated in the *Yuma County 2010 Comprehensive Plan*, the Fortuna Foothills, South Mesa, and Yuma Valley planning areas have generally experienced rapid growth over the last decade and are expected to continue their current growth pattern. Although slower growth than in the past is forecasted, residential and commercial development is anticipated in the Foothills and South Mesa areas. In north Gila and Yuma Valley these trends have been less intense, with most land remaining in agricultural uses. While forecasts used in this document are based on regionally adopted growth rates, these future projections should be cross-referenced with annual Population Technical Advisory Committee (POPTAC) figures. Future Land Use in the unincorporated regions of the study area and in the City of Yuma is illustrated on Figure 10 in Appendix B.

Fortuna Foothills

Over the last several decades the number of permanent residents has rapidly increased in the Foothills area. Residential development in the area is expected to continue its growth and will approach the boundary of the Barry M. Goldwater Range. The development of commercial and office facilities would provide supportive goods and services to the residential areas. Further commercial and business facility growth is anticipated along the I-8 corridor, Foothills Boulevard, and Avenue 11E.

Mixed-use development is directed toward the south because expansion in the northern Foothills is limited by the Gila Mountains and other physical and soil constraints. Therefore, as shown on Figure 42, proposed land use patterns include preserving open space and agriculture mainly north and west of the area.

South Mesa

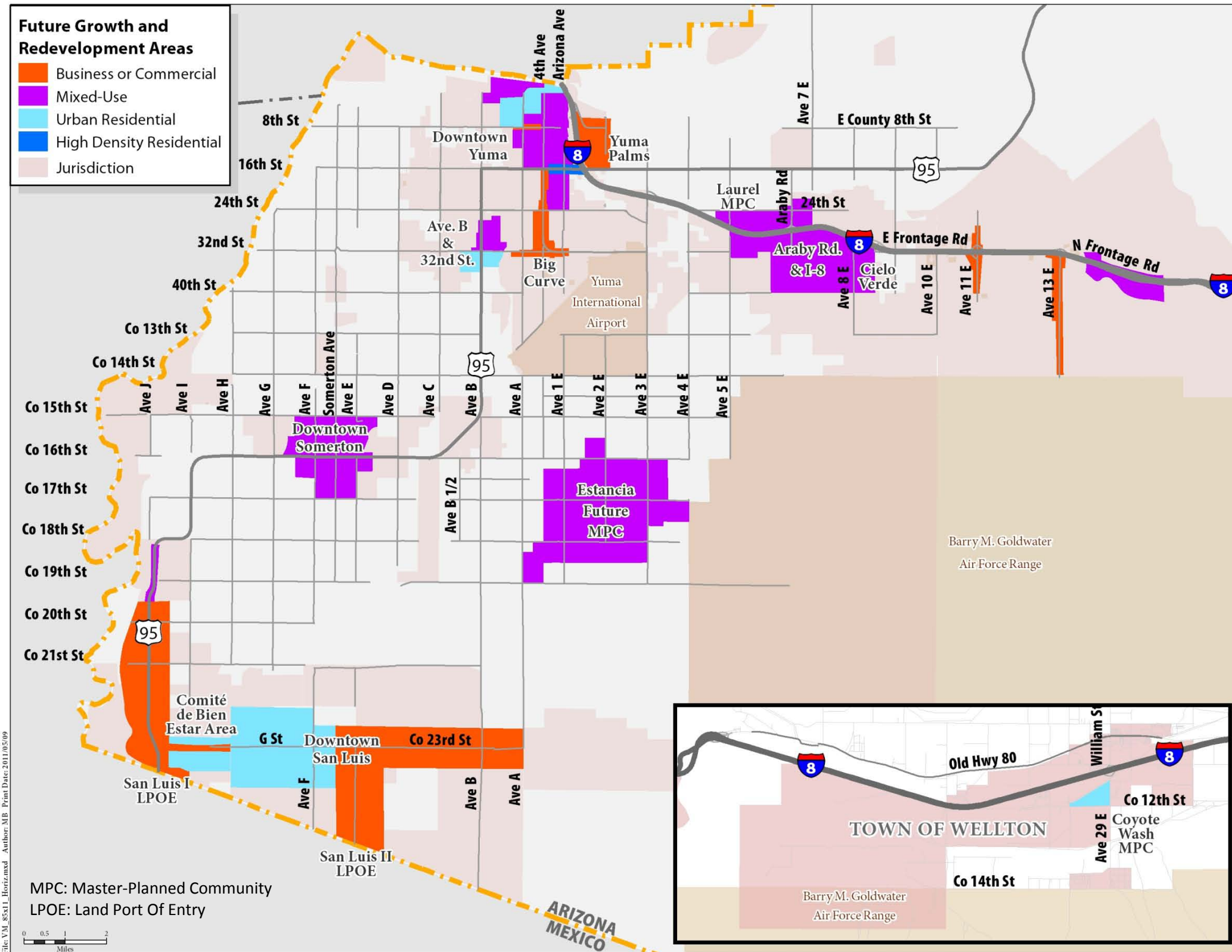
Existing land use in the South Mesa area is primarily agricultural with limited commercial growth. However, this region is located within the sphere of influence of the City of San Luis, whose growth affects county land use on the South Mesa. In addition, the San Luis II Port of Entry and the use of the Area Service Highway generate needs for further development in the area.

As a result, the conversion of agricultural land to residential development is anticipated to continue on the South Mesa. Similarly, new commercial and industrial developments are expected within existing industrial districts and at major transportation junctions. However, as shown in Figure 43, promoting the rural character and preserving agricultural areas where considerable agricultural infrastructure is in place are critical.

Yuma Valley

The Yuma Valley area contains the City of Somerton, a portion of the City of San Luis, the unincorporated community of Gadsden and the Cocopah Reservation. As shown in Figure 44, most development is located along US 95 in the City of Somerton, the Cocopah Reservation, the unincorporated Gadsden area and the west half of the City of San Luis. Agriculture is the primary land use within the area. Existing agricultural land and open space will be preserved where possible. However, expansion of the City of San Luis boundaries is anticipated. Conversion of agricultural land to residential or mixed-used zones is expected in annexed areas.

Figure 13: Growth and Redevelopment Areas in Southwestern Yuma County



3.2. Future Socio-economic Conditions

As part of this study, future socio-economic conditions in Yuma County were assessed by analyzing population and employment projections for the years 2015 and 2020.

3.2.1 Future Demographic Conditions

Yuma County's population estimates for the years 2015 and 2020 were calculated in this analysis using population data from the 2010 U.S. Census and the annual growth rates extracted from the RTP model.

Annual Population Growth Rates

Annual Population growth rates (GR) are presented in Table 22 and were obtained using the following formula: $GR = \left(\frac{\text{Year B population}}{\text{Year A population}} \right)^{\frac{1}{B-A}} - 1$, applied to the 2008 and 2033 population data from the RTP.

Table 22: Annual Population Growth Rates

Area	Population		Annual GR
	2008 ¹	2033 ²	
City of San Luis	26,705	61,320	3.38%
City of Somerton	11,377	20,310	2.35%
Town of Wellton	2,318	2,820	2.00% ³
City of Yuma	93,719	146,560	1.80%
Fortuna Foothills CDP	-	-	2.52% ⁴
Other Unincorporated areas	69,660	89,057	0.99%
Yuma County	203,779	323,435	1.87%
¹ Estimates from the Arizona Department of Commerce. ² Projections from the RTP model. ³ Growth rate assumed for the <i>Wellton PARA study</i> , because the population growth due to the development of large master-planned communities such as Coyote Wash was not anticipated by the Arizona Department of Commerce, and make the RTP GR inconsistent with actual growth. ⁴ Fortuna Foothills annual GR was calculated using 2000 and 2010 Census data to better reflect the recent and anticipated rapid growth in the area. Source: RTP, 2000 U.S. Census, 2010 U.S. Census			

Population Projections

Table 23 presents the population projections for years 2015 and 2020, as well as the 2010 U.S. Census population data.

By 2020, the total County population is projected to grow to over 235,000 people, a 20.3% increase from 2010.⁷ A large portion of the projected growth will occur in specific jurisdictions. For example, the City of San Luis' population is projected to increase by 39.4%; the City of Somerton's population is projected to grow by 26.1%; and Fortuna Foothills' population is projected to grow by 28.3%.

⁷ The total County population is the sum of the projected populations of the individual jurisdictions and unincorporated areas.

Table 23: Population Projections

Area	Annual GR	2010 U.S. Census	2015		2020	
			Population	Increase from 2010	Population	Increase from 2010
City of San Luis	3.38%	25,505	30,118	18.1%	35,566	39.4%
City of Somerton	2.35%	14,287	16,043	12.3%	18,014	26.1%
Town of Wellton	2.00%	2,882	3,183	10.4%	3,514	21.9%
City of Yuma	1.80%	93,064	101,770	9.4%	111,290	19.6%
Cocopah Indian Tribe	0.99%	817	858	5.0%	901	10.3%
Quechan Indian Tribe - AZ part	0.99%	8	8	0.0%	9	12.5%
Avenue B and C CDP	0.99%	4,176	4,386	5.0%	4,607	10.3%
Donovan Estates CDP	0.99%	1,508	1,584	5.0%	1,664	10.3%
El Prado Estates CDP	0.99%	504	529	5.0%	556	10.3%
Fortuna Foothills CDP	2.52%	26,265	29,746	13.3%	33,687	28.3%
Gadsden CDP	0.99%	678	712	5.0%	748	10.3%
Rancho Mesa Verde CDP	0.99%	625	656	5.0%	690	10.4%
Orange Grove Mobile Manor CDP	0.99%	594	624	5.1%	655	10.3%
Tacna CDP	0.99%	602	632	5.0%	664	10.3%
Other Unincorporated areas	0.99%	24,236	25,456	5.0%	26,738	10.3%
Yuma County	1.87%	195,751	214,699	9.7%	235,481	20.3%

Projected Population Densities

Figure 14 and Figure 15 illustrate the population densities, by 2010 U.S. Census Block, for the years 2015 and 2020, respectively.

The population is concentrated in the core City of Yuma, the City of Somerton, Fortuna Foothills, and the City of San Luis. In portions of these areas, the population density is greater than 8,000 people per square mile. By 2020, if development continues in a similar density pattern, a greater portion of these areas will have density greater than 8,000 people per square mile.

Figure 14: 2015 Population Densities (In Persons per Square Mile)

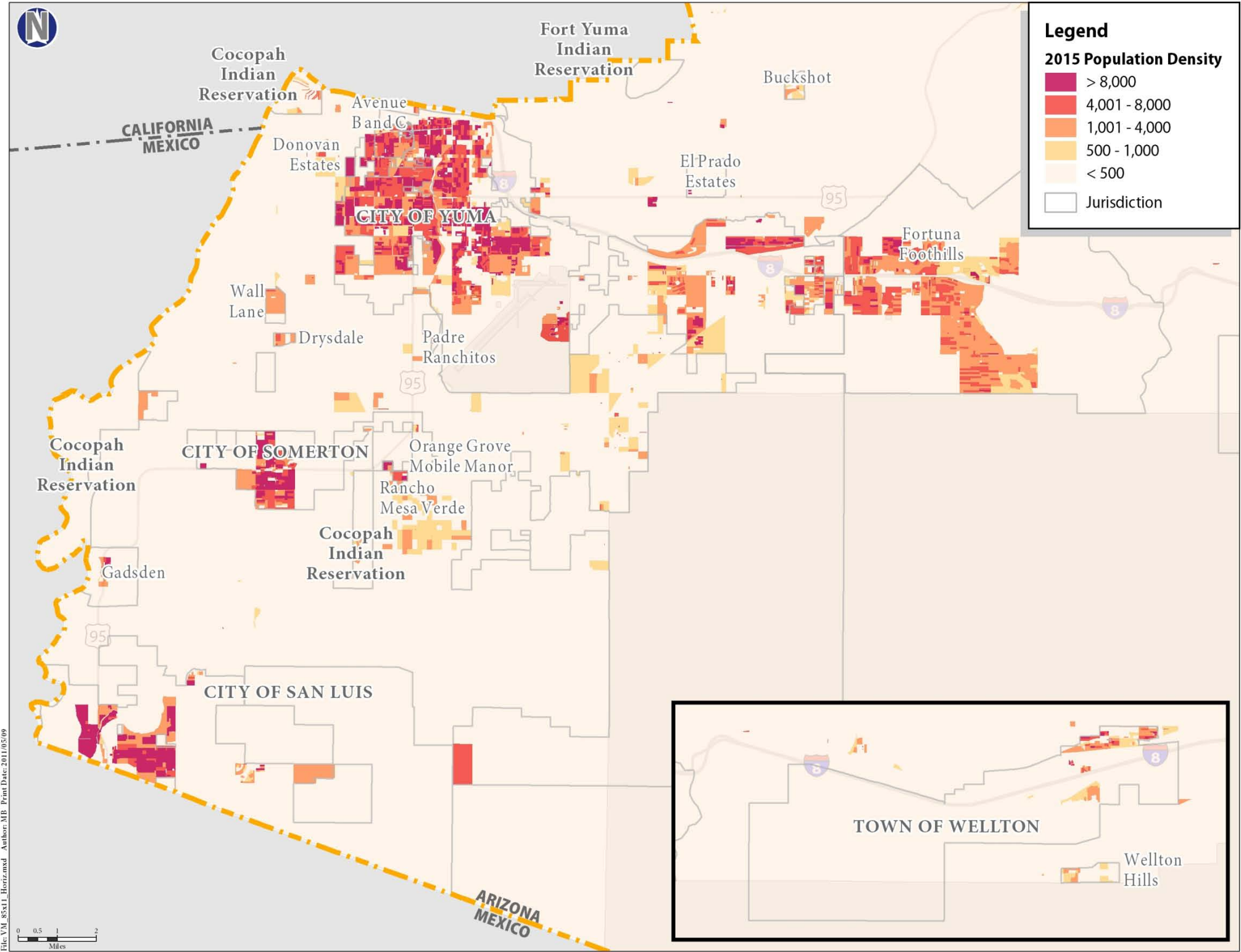
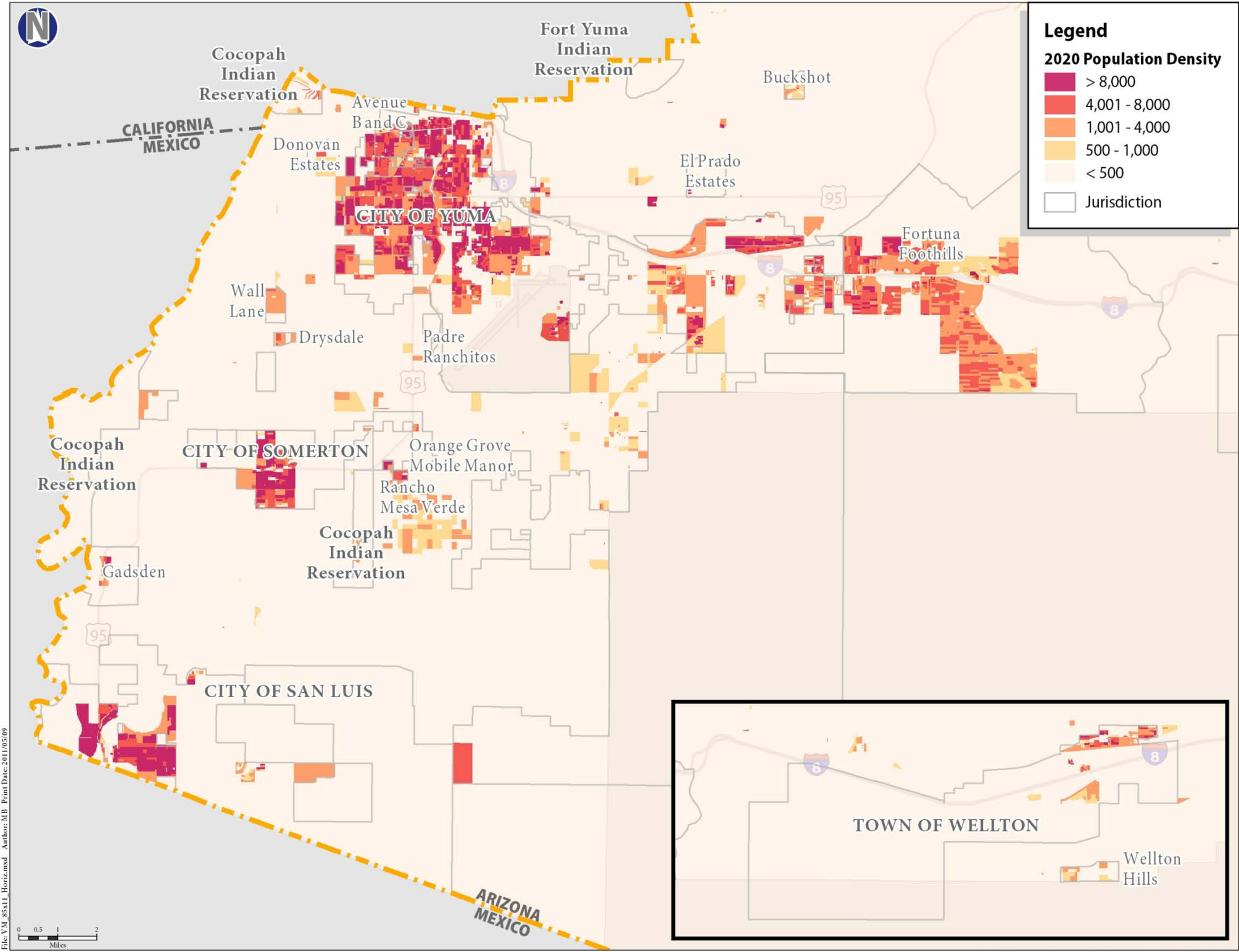


Figure 15: 2020 Population Densities (In Persons per Square Mile)



3.2.2 Future Employment Conditions

Yuma County's employment estimates for the years 2015 and 2020 were obtained using 2009 and 2033 employment data, by Traffic Analysis Zone (TAZ), and the annual growth rates extracted from the RTP model.⁸

Employment Growth Rates

Employment growth rates (GR) from the RTP are presented in Table 24. For each TAZ the employment growth rate was obtained using the following formula: $GR = \left(\frac{2033 \text{ employment}}{2009 \text{ employment}} \right)^{\frac{1}{24}} - 1$.

Table 24: Employment Growth Rates

Area	Employment 2033 ¹	Growth Rate
City of San Luis	9,488	221%
City of Somerton	3,949	109%
Town of Wellton	1,120	28%
City of Yuma	68,316	25%
Cocopah Indian Tribe	2,461	54%
Other Unincorporated areas	32,917	187%
Yuma County	118,251	62%

¹ Projections from the RTP model

Employment Projections

Table 25 presents the employment projections for years 2015 and 2020, as well as the 2009 employment data from the RTP model.

Table 25: Employment Projections

Area	2009 (RTP)	2015	2020
City of San Luis	4,190	4,667	5,208
City of Somerton	1,858	2,044	2,232
Town of Wellton	251	256	273
City of Yuma	45,244	49,030	52,658
Cocopah Indian Tribe	1093	1,213	1,323
Other Unincorporated areas	24,236	25,456	26,738
Yuma County	195,751	214,699	235,481

Projected Employment Densities

Figure 16, Figure 17, and Figure 18 illustrate the employment densities by TAZ for the years 2009, 2015 and 2020, respectively. Employment is mainly located in the Cities of Yuma, San Luis, Somerton, and in Fortuna Foothills. There are few high-density employment areas in Yuma County, although some parts of the City of Yuma have employment densities of greater than 5,000 employees per square mile. Within the next years, the number of jobs in Yuma County is expected to continue growing, especially if projected developments occur. The density pattern is anticipated to remain the same.

⁸ Employment information by census tract was not yet available at the time of the writing of this report.

Figure 16: 2009 Employment Densities (In Jobs per Square Mile)

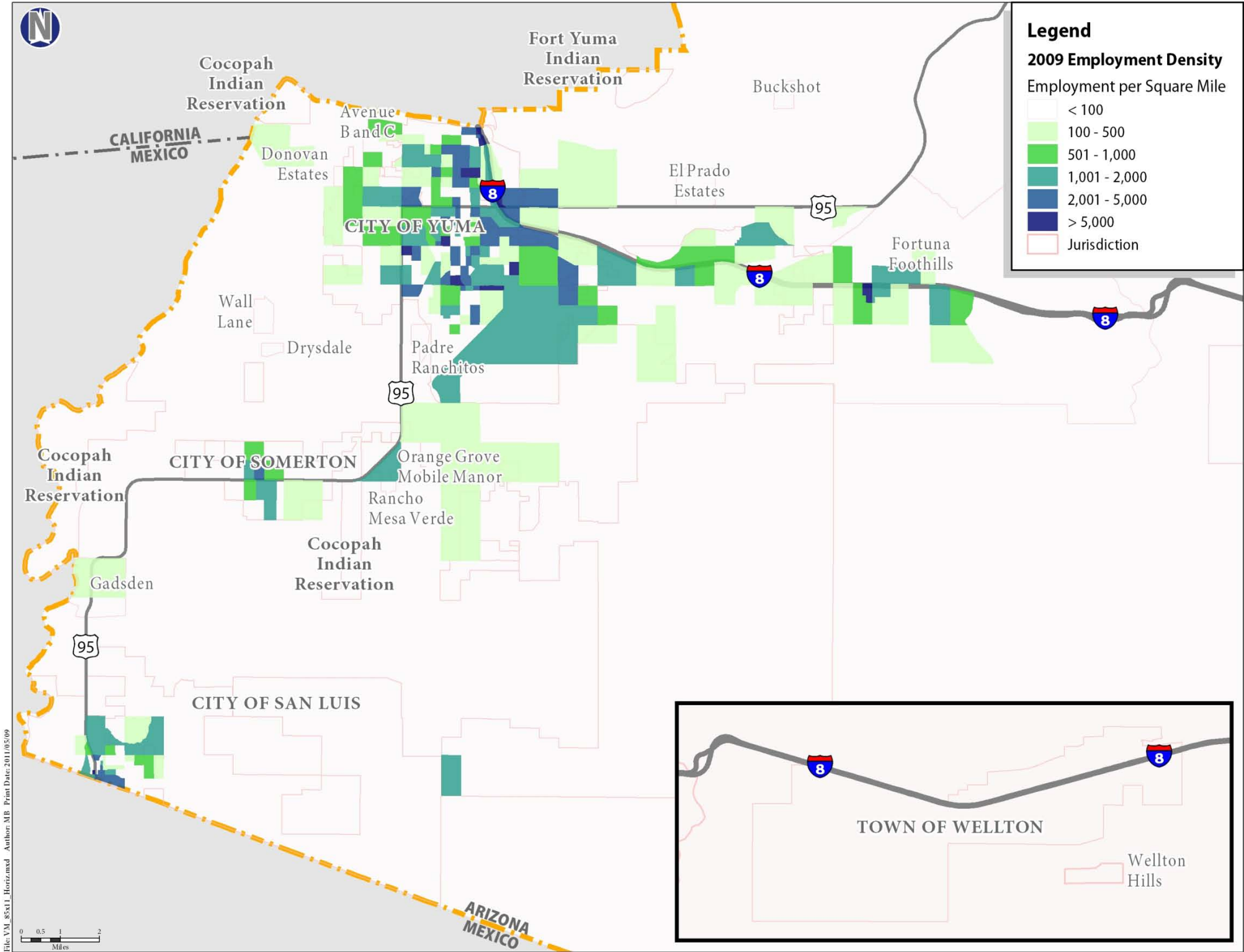


Figure 17: 2015 Employment Densities (In Jobs per Square Mile)

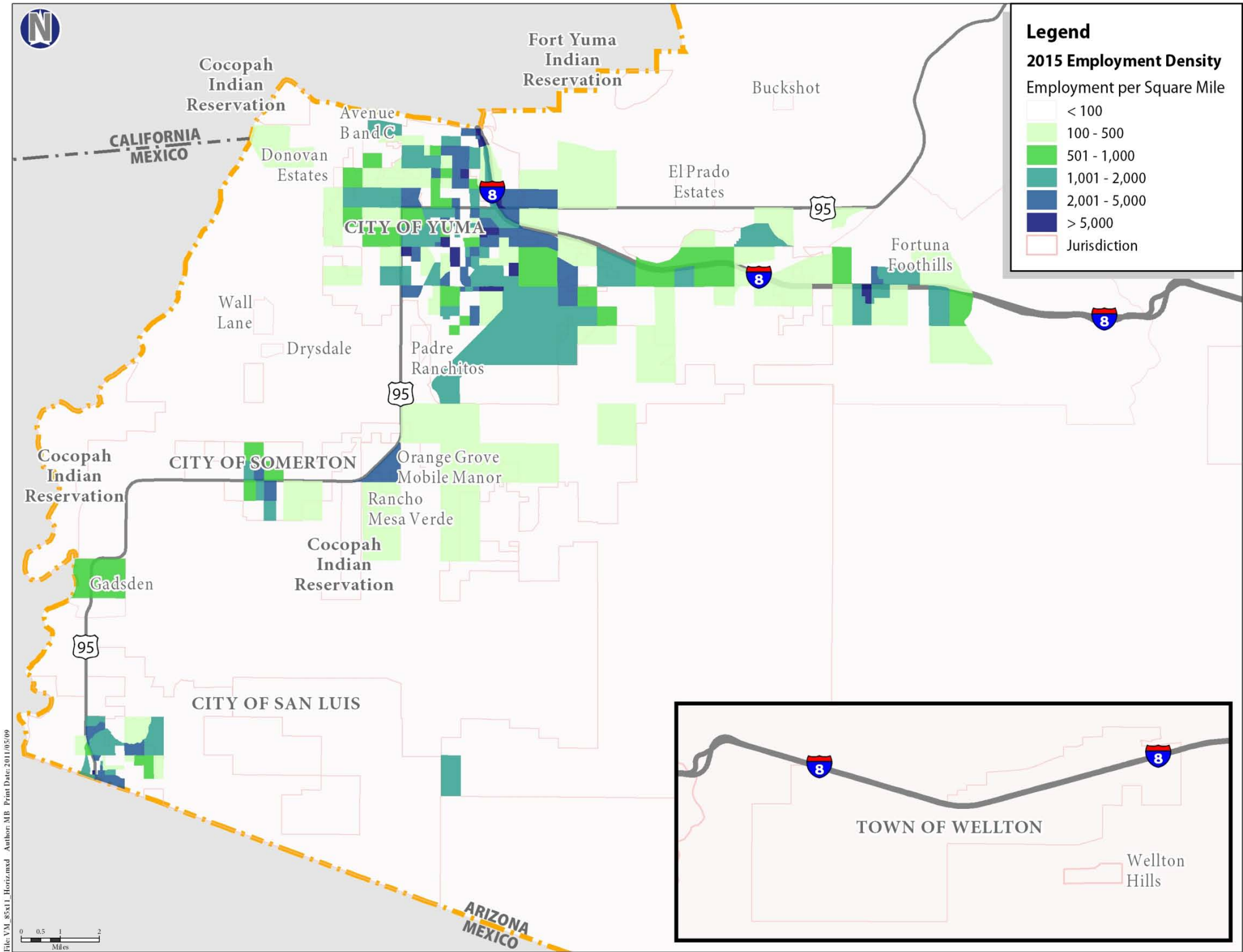
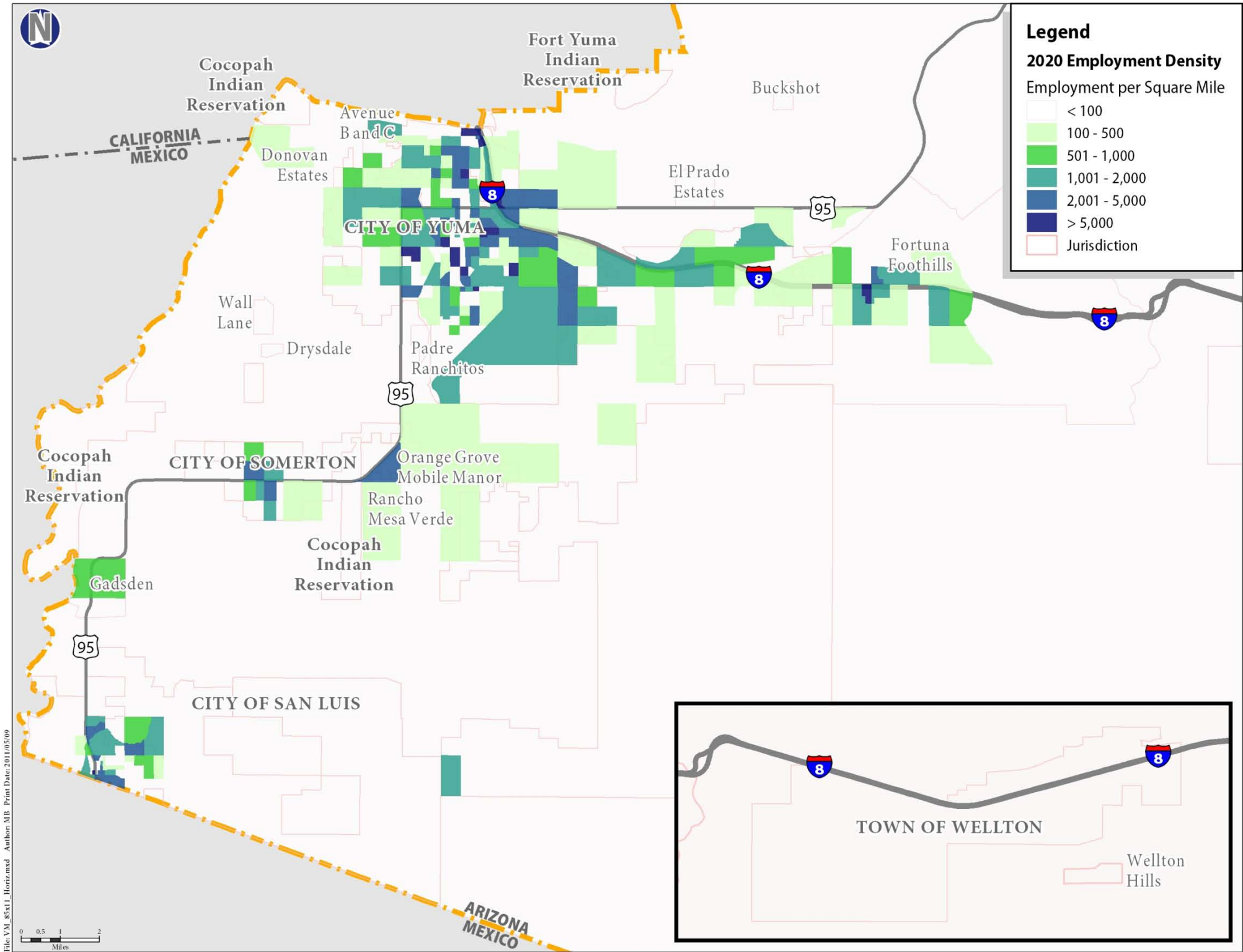


Figure 18: 2020 Employment Densities (In Jobs per Square Mile)



3.3. Future Travel Demand

3.3.1 Future Base Roadway Network and Traffic Forecasts

As stated in the 2033 RTP, a future base street network has been developed for use in the travel-forecasting model. The future network is built from the existing network using the 2029 RTP, which represents projects that have a commitment from the Arizona Department of Transportation (ADOT), Yuma County, or the municipalities. Several of the added projects will have a significant impact on capacity and mobility, especially those that extend corridors and/or increase roadway capacity. This is important for transit services because it shows where additional travel demand may develop or where congestion may occur that could slow down transit service.

The RTP travel-forecasting model was used to develop traffic forecasts for the year 2033 base network. After calibrating the model for the year 2008, the future socio-economic data and future base network were used to develop 2033 traffic forecasts. Volumes, capacities and levels of service were assessed to identify road segments that are expected to have high volume per hour and those with level of service E or F, under the 2033 base condition.

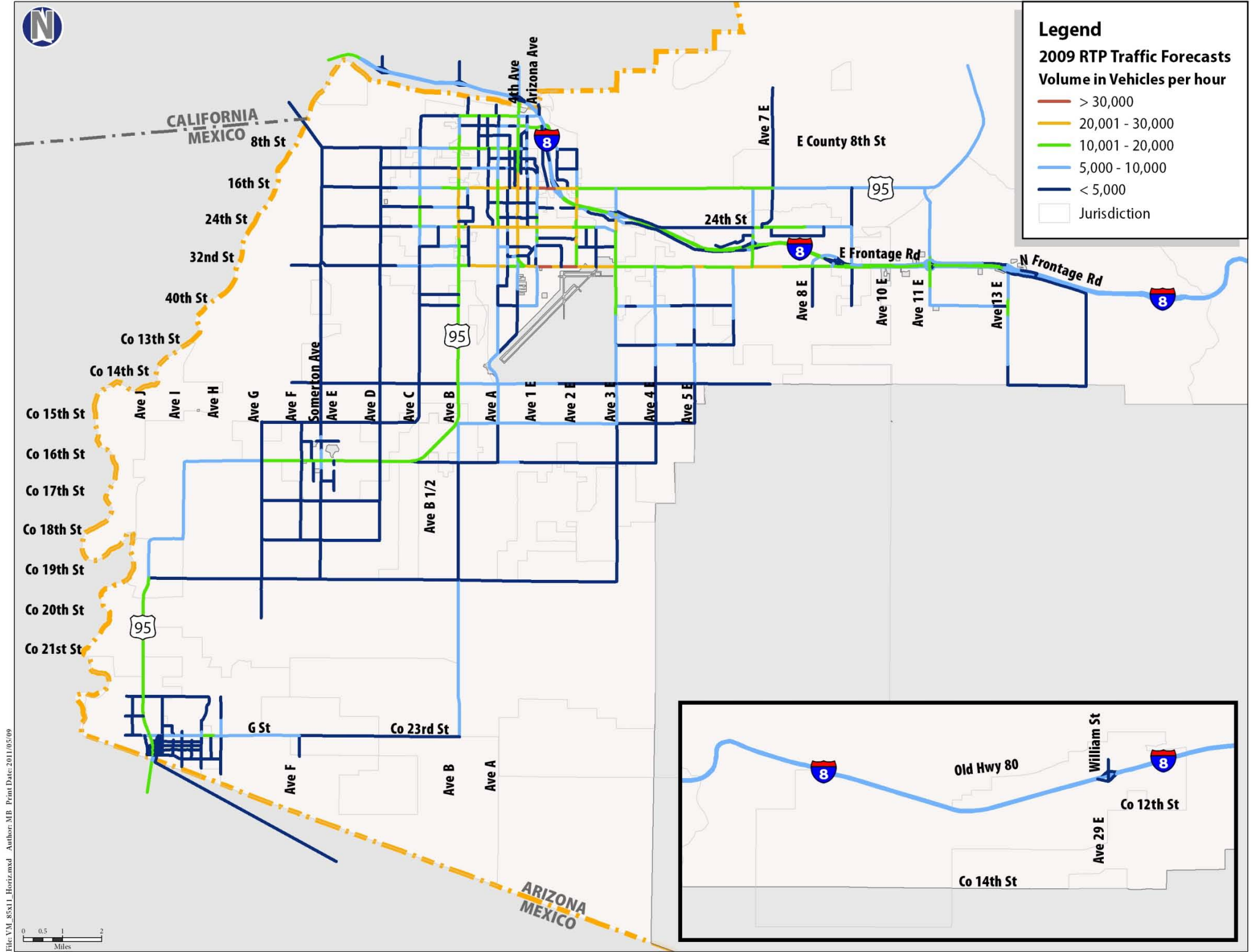
Given the roadway capacity in Yuma County few road segments experience level of service E or F. Most of them operate at level of service A or B.

Figure 19 and Figure 20 present the 2009 and 2033 forecasted volumes on major roadways in Yuma County, respectively. The increase in traffic volumes between 2009 and 2033 is in accordance with the demographic and economic growth in the region. Several high demand corridors can be identified, such as:

- US 95 / 16th Street,
- 24th Street between Avenue B and Avenue 2E,
- 32nd Street between Avenue B and Avenue 8E, and
- Avenue 3E near the MCAS.

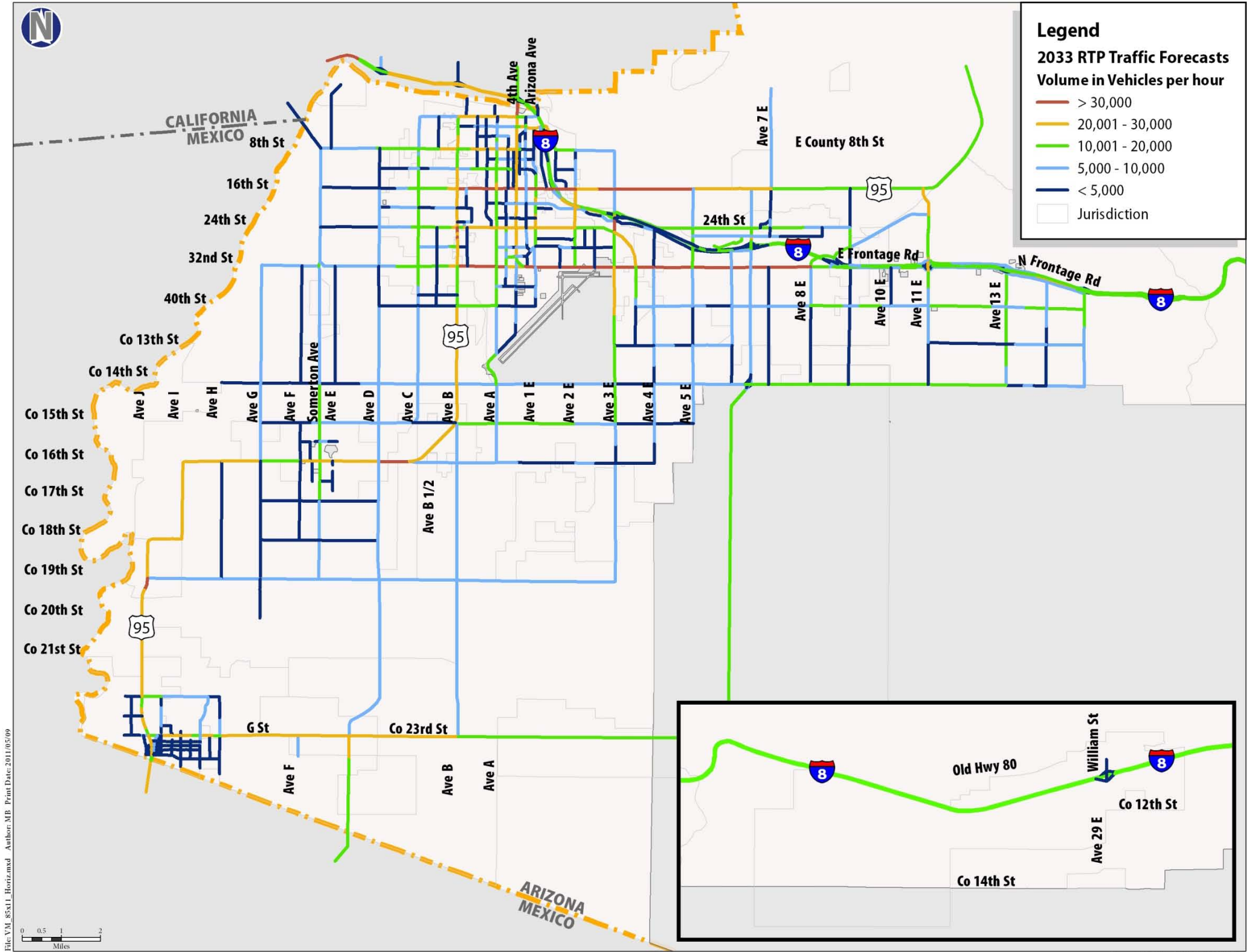
Notably, these high demand corridors connect the City of Yuma with the Cities of Somerton and San Luis, as well as the Fortuna Foothills area.

Figure 19: 2009 Traffic Forecasts



Source: PB, 2010; ASLD, 2008; 2033 RTP

Figure 20: 2033 Traffic Forecasts



3.3.2 Mode Choice

Based on 2000 U.S. Census data, Yuma County's travel patterns compared with those of the state and country are shown in Table 26 below. In 2000, 90.5% of the population in Yuma County used a personal vehicle to travel to work, whether driving alone or carpooling. This is comparable to the state and national rates.

Public transportation mode share in Yuma County was 1.1%. It is almost one percentage point lower than in the State of Arizona (1.9%) and more than three percentage points lower than the national mode share (4.7%). In contrast, a higher percentage of people walked to work in Yuma County (4.3%) compared to Arizona (2.6%) and across the country (2.9%).

Table 26: Travel Mode to Work - 2000 Census

Travel Mode	Yuma County	Arizona	U.S.
Drive Alone	74.5%	74.1%	75.7%
Carpool	16.0%	15.4%	12.2%
Public Transportation	1.1%	1.9%	4.7%
Bicycle	0.9%	1.0%	0.4%
Walk	4.3%	2.6%	2.9%
Other Means	1.3%	0.9%	0.7%
Work at Home	1.9%	3.7%	3.3%
Source: 2000 U.S. Census			

3.4. Summary of Future Conditions

The following conclusions can be made from the assessment of future conditions in Yuma County:

- Several commercial, residential, or mixed-use growth areas have been identified within the County. They are specifically located in downtown Yuma and Somerton, along major corridors in Fortuna Foothills and the City of San Luis, and at the Estancia, Laurel and Coyote Wash Master Planned Communities. Land use in rural areas will generally not change.
- Population and employment is expected to continue growing in Yuma County and increase in density. Employment and population distribution throughout the study area are anticipated to remain the same, except in newly developed areas that are not currently urbanized.
- In accord with regional growth, travel demand will increase in general, specifically for transit. Several corridors, such as those connecting the Cities of San Luis, Somerton, and Yuma, as well as Fortuna Foothills, are expected to experience high travel demand.

Chapter 4 - Analysis of Deficiencies

This chapter documents the deficiencies identified in the existing YCAT fixed-route system and complementary DAR services. Deficiencies were identified by analyzing the route system in relationship to current and anticipated development patterns; current ridership levels; industry standards and best practices from peer cities (See Appendix N); as well as from extensive community input in the form of surveys of riders and non-riders, and interviews with riders and stakeholders.

This analysis revealed deficiencies in network design, route coverage, service levels, transit facilities, and customer service information, as well as management structure. These deficiencies are discussed in more detail in the sections that follow.

4.1. Transit Network and Operations

4.1.1 Network and Coverage

This section examines how well the existing transit network serves the study area in terms of providing access to key destinations and reaching potential transit passengers in proximity to where they live.

Fixed-Route Network Structure

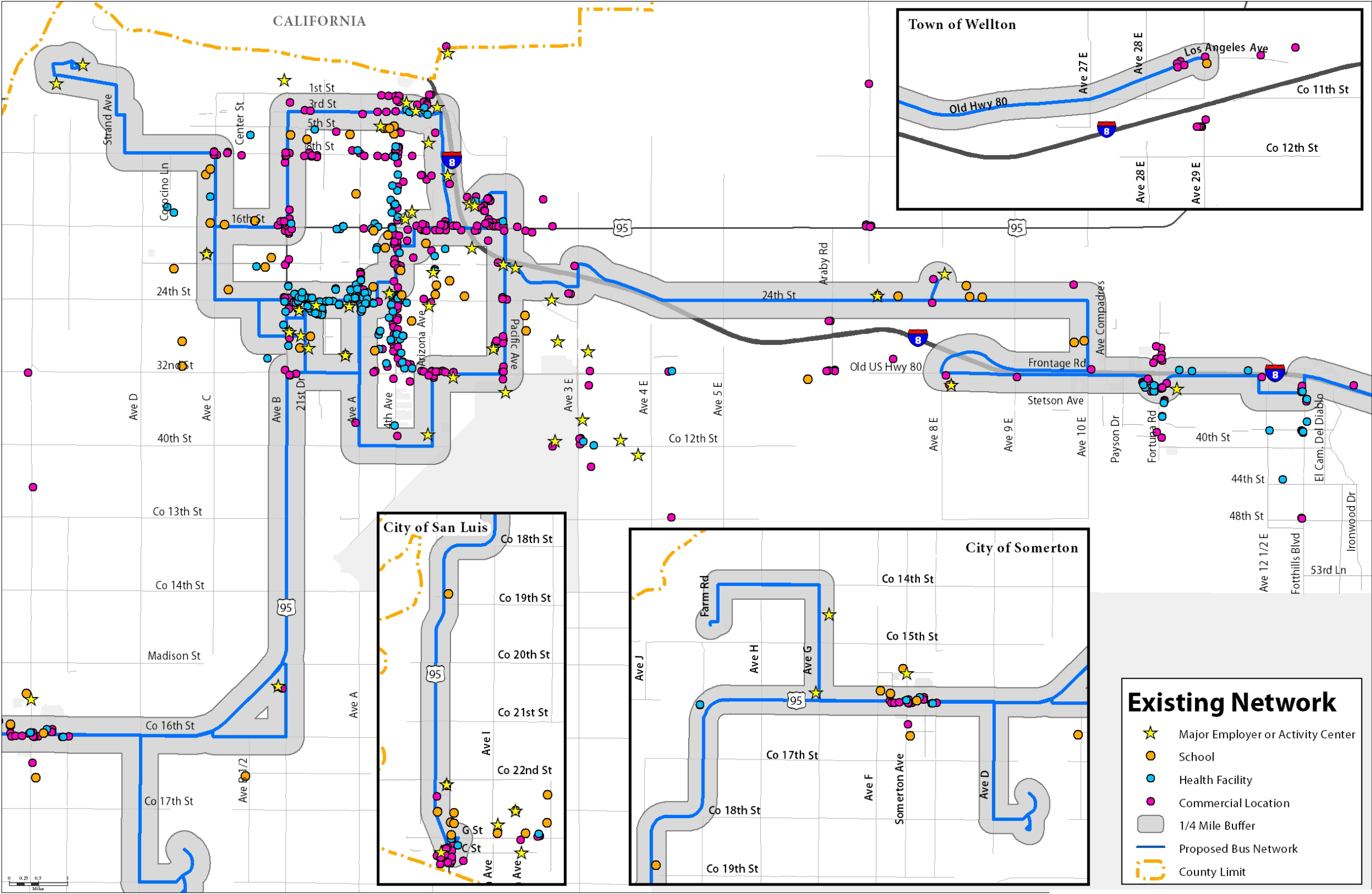
Network structure refers to the overall configuration of routes for the fixed-route transit services. Several deficiencies were identified in the structure of the existing fixed-route network, including:

- **Lack of coverage in Yuma City Core:** With the suspension of the Red and Blue routes, many stakeholders and survey respondents noted the lack of transit options serving downtown Yuma. Origin and destination studies revealed that there are many destinations in downtown Yuma that cannot be conveniently accessed by transit.
- **Inefficient bus stop placement:** Some bus stops are located very close to others, resulting in inefficient operations, and some bus stops are spaced very far apart, resulting in long walking distances for riders.
- **Lack of connectivity:** Several factors combine to create a lack of connectivity on the fixed-route network: (1) existing service headways of 1 hour to 2 hours are so long that waiting for a transfer may be less effective than walking to one's final destination; (2) one-way circulator routes require out-of-direction travel to final destinations; (3) there does not appear to be timed transfer points on existing YCAT fixed-route services; and (4) transit passengers are penalized for transferring as they are required to purchase a second ticket.
- **Redundancy:** The Purple and Grey routes provide redundant services between the West Cocopah Indian Reservation and the Cocopah Casino. Both routes serve the Cocopah Indian Reservation and operate on the same schedule. Combining these routes would allow resources to be relocated for other services or would provide a higher level of service to existing riders.

Important Destinations

Downtown Yuma is the economic center of the region and has the highest population and employment density in Yuma County. With the suspension of the Blue and Red routes, this area is left with considerably less transit coverage. As shown on Figure 21, there are many destinations between 8th Street and 24th Street, and along 4th Avenue, several of which are not located within ¼ mile of an existing bus route.

Figure 21: Activities and 1/4 Mile Buffer



Source: YMPO; Analysis by PB

Population Density and Growth

The analysis of available 2010 U.S. Census data and projected growth in southwestern Yuma County revealed the following deficiencies.

Based upon population growth between 2000 and 2010, current population densities, and projections of future growth, some areas currently need or will need more coverage or frequent fixed-route service. As shown on Figure 22, urbanized areas in the City of San Luis and Fortuna Foothills, downtown Somerton, the MCAS, and the Laurel Master Planned Community (Araby Road and I-8) region are densely populated and rapidly growing areas that need better transit service today and in the future.

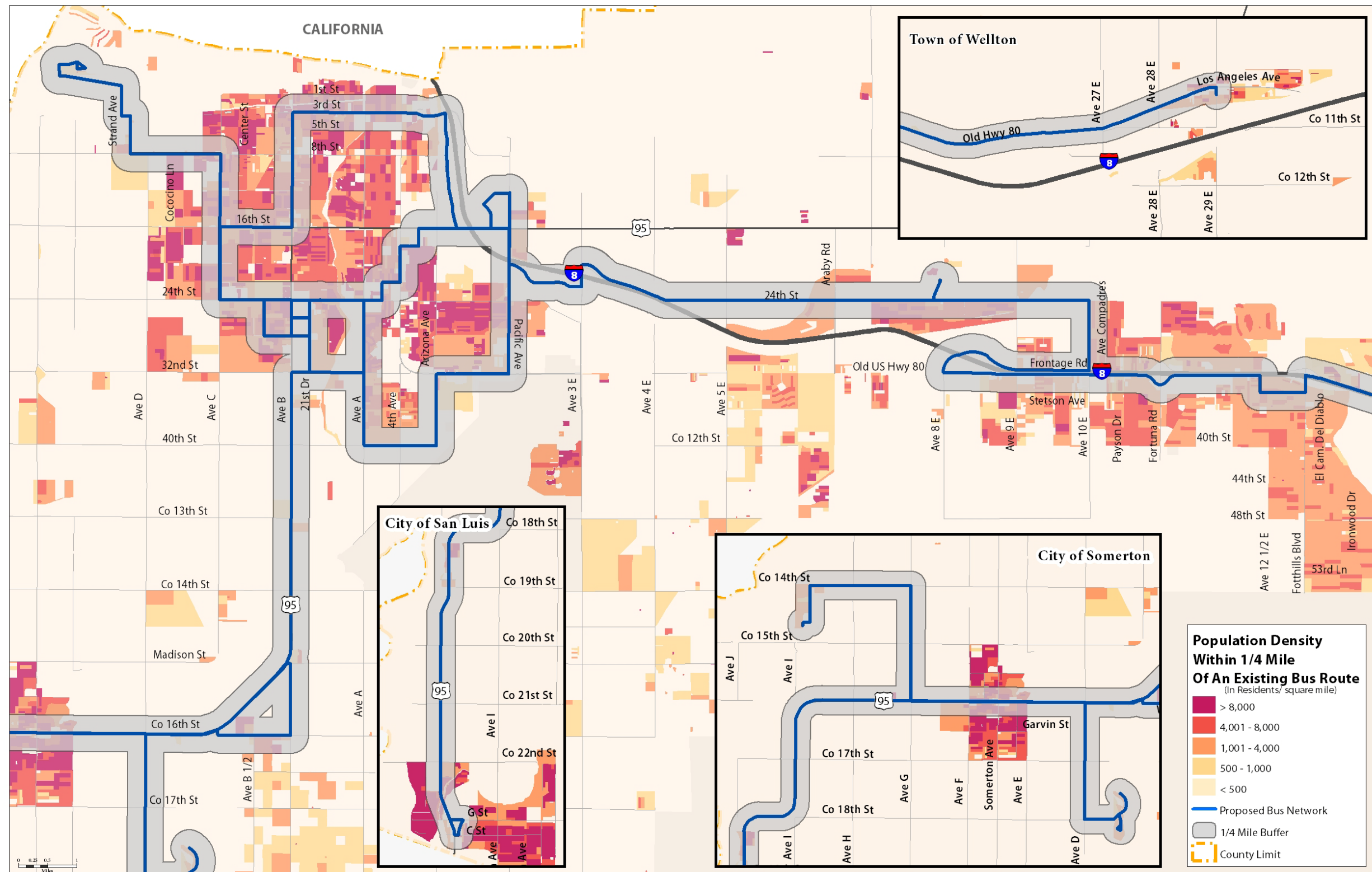
In evaluating access to transit, walking $\frac{1}{4}$ mile, which equates roughly to a ten-minute walk, is generally considered acceptable. Many agencies and cities assume that transit customers are willing to walk about $\frac{1}{4}$ mile to access bus transit. Surveys of YCAT passengers revealed that about 10% are willing to walk more than 20 minutes to access the YCAT fixed-route system. Distance from transit services is not the only criterion by which transit need is determined.

Table 27 presents the percentage of the population that lives within $\frac{1}{4}$ mile of a fixed-route. Only 30% of the County's population is located within $\frac{1}{4}$ mile of a fixed-route. The percentage of residents within a $\frac{1}{4}$ mile of a bus route is particularly low in the City of San Luis (12%) and Fortuna Foothills (17%).

Table 27: Population Within $\frac{1}{4}$ Mile and $\frac{1}{2}$ Mile of a Fixed-Route

Area	Total Population	Population Within $\frac{1}{4}$ Mile of a Fixed-Route	
		Number	Percent
City of San Luis	25,505	3,078	12%
City of Somerton	14,287	4,131	29%
Town of Wellton	2,882	989	34%
City of Yuma	93,064	36,011	39%
Cocopah Indian Tribe	817	525	64%
Quechan Indian Tribe CA-AZ	2,197	0	0%
Avenue B and C CDP	4,176	840	20%
Donovan Estates CDP	1,508	723	48%
El Prado Estates CDP	504	0	0%
Fortuna Foothills CDP	26,265	4,464	17%
Gadsden CDP	678	665	98%
Rancho Mesa Verde CDP	625	592	95%
Orange Grove Mobile Manor CDP	594	594	100%
Yuma County	195,751	57,747	30%
Source: 2010 U.S. Census; Analysis by Parsons Brinckerhoff			

**Figure 22: Population Density Within 1/4 Mile Of An Existing Bus Route
In Persons Per Square Mile - 2010 U.S. Census**



Transit-Dependent Populations

Another indication of potential transit need is the presence of populations that may be dependent on transit because they are too old or too young to drive, cannot afford a car, or have a disability that prevents them from driving. Appendix M shows the percentage of seniors (people aged 60 and over), youth (residents aged between 10 and 19), low-income residents, and people with disabilities in the various sub-areas of Yuma County.

The Town of Wellton and Fortuna Foothills have particularly high numbers of residents aged 60 and over, compared to the rest of the County. Key deficiencies with regard to senior and youth populations that were identified in southwestern Yuma County are detailed below.

- In the Town of Wellton 14% of the population aged 60 and over lives within ¼ mile of a bus route. In Fortuna Foothills, 20% of the senior live within a ¼ mile of a fixed-route. Fortuna Foothills is a developing area, and its transit-dependent population is poorly served by the existing transit system; especially along Foothills Boulevard.
- In the City of San Luis, only 10% of those aged 10 to 19 live within a ¼ mile of a bus route.

In 2000⁹, the Cocopah Indian Tribe, the Town of Wellton, and Fortuna Foothills had particularly high numbers of residents with disabilities, compared to the rest of the County. In the Town of Wellton, the City of San Luis, the Cocopah Indian Reservation, and Fortuna Foothills, less than 10% of the population with disabilities lived within ¼ mile of a fixed-route.

In 2000, Gadsden, the City of San Luis, and the Cocopah Indian Tribe had particularly high numbers of residents below the poverty level, in comparison to the rest of the County.

- In the City of San Luis, only 4.3% of this population lived within ¼ mile of a fixed-route.
- In Gadsden, 6.0% of the population below the poverty level lived within ¼ mile of a fixed-route.

4.1.2 Transit-Related Facilities and Amenities

Bus stops, in the form of bus flags or shelters, are the only transit amenities provided in Yuma County. Several current transit riders and community stakeholders mentioned the need to provide enhanced transit-related amenities. This would provide better service and information to existing riders and could make the bus system more appealing to potential new riders. The following deficiencies in facilities and amenities have been identified.

- Although Yuma Palms Regional Center is a major destination and currently the de facto regional transit center, there is only limited infrastructure and information for transit passengers. Enhanced amenities such as transit maps, schedules, and secure bike parking should be provided at this location.
- Enhanced transit amenities such as transit maps and schedules, shelters for passengers to wait, and secure bike parking should be provided at major bus stops, as identified in the Origin-Destination survey.
- There is a lack of transit-related information, including detailed maps of the network, accurate schedules, and detailed fare information available on-board buses, at bus stops, on the YCAT website, and within the community.
- The majority of bus riders walk to and from the bus stops. Enhanced pedestrian facilities would ensure that walking access to transit for existing customers is direct and safe, and would make transit more appealing to potential riders.

⁹ Detailed 2010 Census data is currently unreleased (10/6/2011)

4.1.3 Operations

Many survey respondents and stakeholders commented on service hours and the frequency of the existing transit system. The current service levels appear very low compared to general industry standards.

Schedule and Hours of Operations

Deficiencies that were identified in the operational characteristics of the fixed-route transit system are detailed below.

- **Hours of Operation:** The current service does not operate later than 6pm or on Sundays. There is a need for longer hours of operations, as well as Sunday service. This was the most popular suggested improvement from riders, non-riders, and stakeholders. Providing services later in the evening would serve people who work past 6pm, or those who use transit to reach evening recreation and shopping destinations. Earlier service hours were also requested by several riders and stakeholders.
- **Headways:** The fixed-route service operates with headways longer than one hour. Long headways make taking transit a less attractive option because missing the bus means a considerable wait time until the next one arrives.

Seasonal Transit Demand

Southwestern Yuma County is a seasonal destination for both visitors and workers. The seasonal population influx results in significant travel demand fluctuations. Bus operations should be adjusted to reflect these demand variations.

Similarly, because students are often transit-dependent, and frequent and reliable transit users, bus service needs to be adequate to accommodate demand during school periods. The existing bus system does not serve most schools in southwestern Yuma County, and bus schedules do not reflect class schedules. The AWC shuttle provides limited service, and only operates in the morning Monday through Thursday.

Dial-a-Ride Service Operations

While the existing DAR services cover an extensive area, well beyond that required by complementary paratransit guidelines, this coverage makes the service very expensive to operate and may be creating operational inefficiencies. These inefficiencies and deficiencies are detailed below.

- In areas with low demand, such as the Town of Wellton, an alternative paratransit service may be more financially efficient.
- Many survey respondents listed the need for better scheduling and operation of the DAR service in order to improve reliability.
- The service provided and the vehicle used need to be adapted to the user's type of disability and to the number of riders.¹⁰
- There is a lack of coordination and partnership with other paratransit providers in the study area.

¹⁰ For instance, if there is one commuter without a mobility assistance device, there is no need to send a DAR bus. An alternative service should be provided.

4.2. System Management and Viability

In order to be viable, southwestern Yuma County's transit system needs to be well-managed and funded by reliable sources.

4.2.1 Management System

Compared with the size of the southwestern Yuma County's transit network, the management system is quite complex. The following deficiencies in the existing transit management system were identified.

- There is no detailed management plan organizing replacement and maintenance of facilities, amenities and fleet.
- There are no periodic audits of the system to assess and improve the system's performance.
- The fare revenues control system is not accurate or transparent.
- There is little information on ridership, and that which exists is not detailed enough.

4.2.2 Fare Structure

The current fare structure for both the YCAT fixed-route system and the DAR system is confusing. Fares are based on route traveled, regardless of distance traveled. The fare structure does not allow for transfers between routes. Furthermore, passengers are penalized in paying more fares when they do not purchase a day pass. For many passengers the transit fare structure appears to be a hardship.

4.2.3 Funding

Funding for the southwestern Yuma County transit services mainly come from Federal Sources, Yuma County, local jurisdictions, and fare revenue. These sources are outside of the control of the transit agency and can reflect changing state and Federal priorities rather than local needs. Several funding deficiencies have been identified through this analysis and are detailed below.

- There are no existing dedicated and reliable sources of funding for transit services in southwestern Yuma County.
- Local funding sources are very limited and decreasing.
- The transit system is not financially sustainable, which threatens its reliability and viability.

4.2.4 Marketing, Outreach, and Communication

A transit system can only be viable if strategies are consistently implemented to increase, or at least maintain, the number of riders. Therefore, marketing, outreach and communication plans need to be implemented in order to make the system more appealing to commuters.

In Yuma County there is a lack of education and communication programs dedicated to potential and current bus riders. Deficiencies related to marketing, outreach and communication are detailed below.

- There is a lack of transit-related information.
- The YCAT website is not used efficiently and does not convey detailed information.
- No educational programs are implemented to help existing and potential DAR riders use the fixed-route services when they can.
- There are few incentives to use the transit system.

4.3. Summary of Deficiencies

In general, the transit system in Yuma County lacks productivity and efficiency. There is a need to balance coverage and frequency to develop a network based on productivity, and not solely on coverage. The analysis of deficiencies in the existing transit system in southwestern Yuma County resulted in the following conclusions:

- The existing fixed-route network serves a small portion of the transit-dependent population and does not serve current and future distributions of the population.
- The structure and operations of the fixed-route network do not conform to a productivity-based system.
- The ADA complementary paratransit service is not efficient and is expensive to operate and ride.
- The existing transit system is not financially viable and needs to be more efficiently managed.
- No strategies have been implemented to attract new riders, retain current users, and provide an enhanced overall transit experience.

Chapter 5 - Goals and Objectives

This chapter details goals and objectives for the YCAT based on guidance from the Technical Advisory Committee (TAC) for the Yuma Regional Transit Study.

The purpose of goals and objectives is to outline the framework for developing the transit system in a manner that reflects the overall vision of the community. Goals describe future expected outcomes, provide programmatic direction, and focus on ends rather than means. Objectives outline how to meet a goal. They are statements of action which - when completed - will move towards goal achievement.

5.1. Enhance Mobility And Accessibility

SECTION A - ENHANCE MOBILITY AND ACCESSIBILITY	
Goal A.1 - Develop a productivity-based transit system providing high-quality service in a cost-effective manner	<p>Objective A.1.a - Ensure fair and equitable transportation service</p> <p>Objective A.1.b - Improve transportation service within areas with high transit-dependent population and employment data</p> <p>Objective A.1.c - Evaluate the feasibility of a range of transit services, such as commuter express, local circulators, demand responsive, and hybrid fixed-route/ DAR services in areas where demand is suitable</p> <p>Objective A.1.d - Provide alternative transportation services to meet paratransit requirements in areas where fixed-route or DAR is not financially viable</p> <p>Objective A.1.e - Regularly evaluate route productivity, adjusting levels of service as needed to meet variable demands</p>
Goal A.2 - Ensure transit facilities and amenities are adequate	<p>Objective A.2.a - Ensure transit amenities and vehicles are accessible, safe, comfortable and well-maintained</p> <p>Objective A.2.b - Provide transit-related information and amenities commensurate with usage</p> <p>Objective A.2.c - Enhance the current transit center, located at Yuma Palms Regional Center, with appropriate amenities</p> <p>Objective A.2.d - Explore and apply technologies such as an enhanced website, an advanced fare collection system, and Intelligent Transportation Systems (ITS)</p>
Goal A.3 - Promote mobility, accessibility, and multi-modal options	<p>Objective A.3.a - Promote transit-supportive policies, land uses, and street design</p> <p>Objective A.3.b - Integrate the transit system into the multi-modal transportation system, providing facilities such as park & rides, bicycle amenities, and bus pullouts as appropriate</p> <p>Objective A.3.c - Provide enhanced access to major destinations, employment and tourism centers, and events</p> <p>Objective A.3.d - Encourage transit oriented developments, to accommodate future transit services as appropriate</p> <p>Objective A.3.e - Provide enhanced bicycle and pedestrian facilities to access major transit facilities when developed</p> <p>Objective A.3.f - Coordinate planning of the transit system with other transportation providers, Indian Tribes and adjacent communities, including Winterhaven</p> <p>Objective A.3.g - Effectively refer users to transportation services that are the most appropriate to their needs</p>

5.2. Ensure Transit System Viability

SECTION B - ENSURE TRANSIT SYSTEM VIABILITY	
Goal B.1 - Implement a dedicated management program	<p>Objective B.1.a - Establish an entity to oversee transit operations in Yuma County separate from YMPO</p> <p>Objective B.1.b - Develop and maintain the facilities and fleet management plans including maintenance, replacement, and improvement programs</p> <p>Objective B.1.c - Conduct an annual performance review to detect inefficiencies and implement mitigation measures</p> <p>Objective B.1.d - Incrementally restructure and improve the transit system to reduce costs and increase productivity</p> <p>Objective B.1.e - Administer the fixed-route and paratransit operating contracts, and examine contract structure and compensation at the conclusion of each term</p> <p>Objective B.1.f - Encourage sustainable practices in the operations of the transit system</p>
Goal B.2 - Develop and implement long-term financing strategies	<p>Objective B.2.a - Identify and evaluate feasibility of dedicated funding sources for transit, including sales tax revenues</p> <p>Objective B.2.b - Leverage external funding sources, including federal and state opportunities</p> <p>Objective B.2.c - Address capital requirements, maintenance, and operation of the transit system in the annual funding plan</p> <p>Objective B.2.d - Anticipate and plan for the impacts of population growth on federal grant funding programs</p> <p>Objective B.2.e - Explore financing partnerships, such as employer-based subsidies, student pass programs, and advertising revenue</p> <p>Objective B.2.f - Encourage entities benefiting from seasonal residents and worker influx to fund transit services to this population</p> <p>Objective B.2.g - Explore bulk purchasing of insurance, vehicle maintenance services, and other items/services in order to realize cost savings for the region's transportation providers</p>
Goal B.3 - Develop marketing, outreach, and education programs	<p>Objective B.3.a - Provide regular opportunities to inform, educate, and receive input from riders and non-riders about the transit system</p> <p>Objective B.3.b - Enhance availability and access to transit-related information</p> <p>Objective B.3.c - Coordinate with public and private entities to develop transit incentive programs for employees, customers, and students</p> <p>Objective B.3.d - Partner with event sponsors to promote transit use and provide special service during events</p>

Chapter 6 - Service Alternatives and Recommendations

This chapter details three alternatives proposed to develop and maintain an improved transit system in southwestern Yuma County. The alternatives are based on three funding scenarios:

- The first scenario is based on current funding levels.
- The second funding scenario assumes current levels of funding plus revenues from a 1/10 cent dedicated transit sales tax in Yuma County
- The third funding scenario assumes current levels of funding plus revenues from a 1/5 cent dedicated transit sales tax in Yuma County.

Scenarios two and three assume increased, flexible funding for both transit operations and capital expenses. Therefore, the alternatives based on these increased funding levels show how different funding levels reflect increased levels of service and network coverage for transit riders.

6.1. Description of Service Alternatives

Three service alternatives have been developed for YCAT¹¹ based on the three funding scenarios described above. These alternatives differ in terms of coverage, service frequency, and days and hours of operations.

6.1.1 Service Alternative 1

Service Alternative 1 is based on current funding levels. Service Alternative 1 comprises seven routes and includes a flexible demand-response evening service. The route network is made up of the following:

- Two long-distance routes connecting downtown Yuma to the City of San Luis, the City of Somerton, and the Town of Wellton (the Yellow and Orange routes),
- Two medium-distance routes connecting the North Cocopah Indian Reservation and the AWC campus to downtown Yuma (the Purple and Blue routes),
- One local route serving the City of Somerton and the Cocopah Indian Reservation (the Grey route), and
- Two one-way circulators serving downtown Yuma (the Red and Green routes).

Three of the seven routes – the Orange, Purple, and Grey routes – are “hybrids,” meaning that they follow a fixed-route for the majority of their service area but can also deviate from their fixed-route service in specific areas in response to a customer request. (This is referred to as a deviated fixed-route service.)

Combined, these routes serve most of the urbanized areas of southwestern Yuma County and specific communities with high population densities relative to the rest of the County. Most of the routes operate with a one-hour frequency.

¹¹ YCAT refers to fixed-route and deviated fixed-route bus services. The ADA complementary paratransit service, which is referred to as Greater Yuma Area Dial-A-Ride (DAR), is described later in this report.

Yuma Regional Transit Study

Service Alternatives and Recommendations



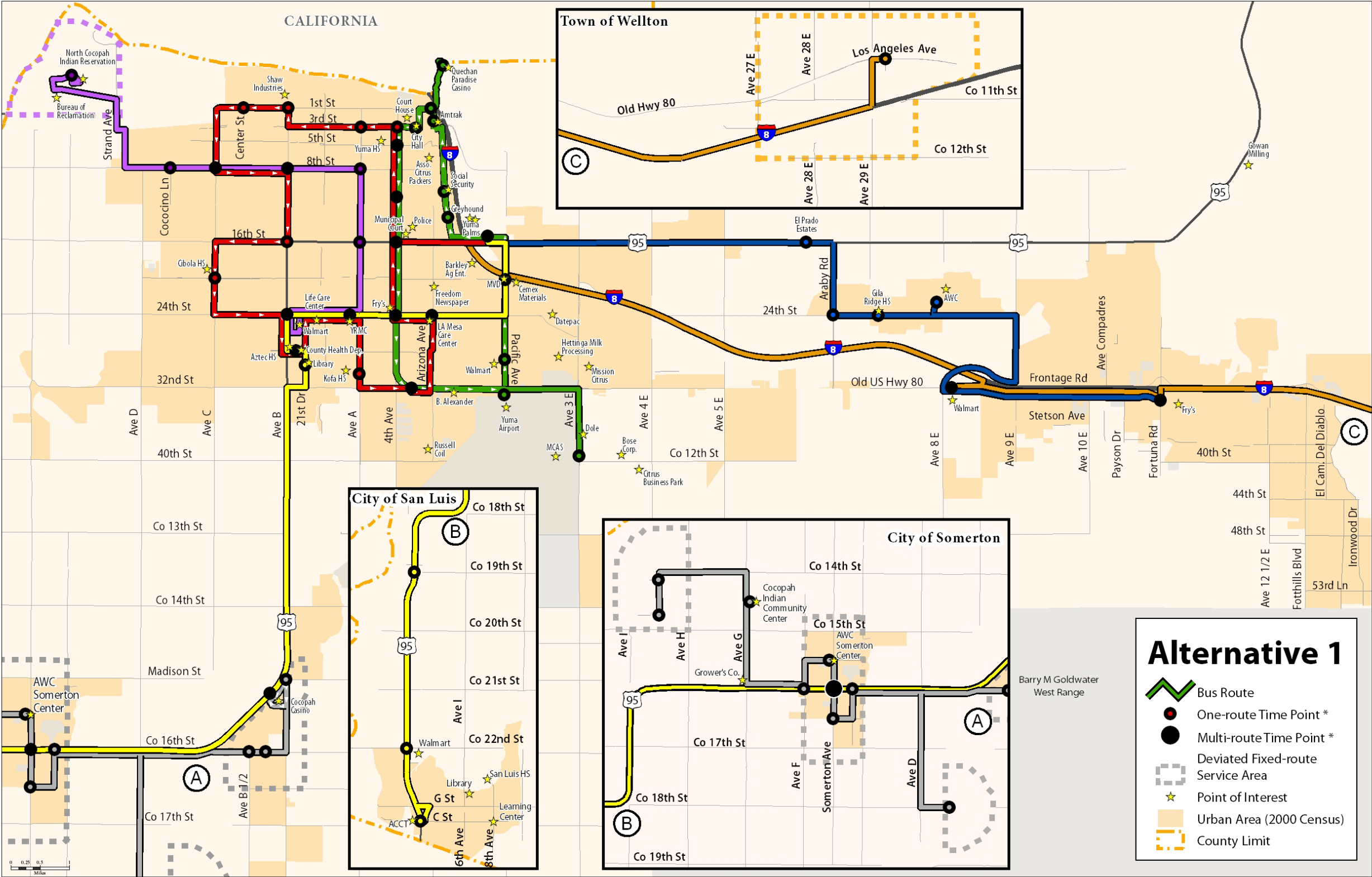
The route network in Service Alternative 1 facilitates transfers between routes by offering timed transfer points where several routes are coordinated to arrive/depart at the same time. Two transit centers (which are principal transfer points) are located at Yuma Palms Regional Center and Walmart on Avenue B. A third transfer point is located at Cocopah Casino.

Most of the routes in Service Alternative 1 operate Monday through Saturday, except on holidays. This corresponds to 252 weekdays and 52 Saturdays of service per year. The hourly operating cost, excluding agency administrative costs, is estimated at \$67.49/hr in Fiscal Year 2011/2012¹² (FY11/12). Seven vehicles are necessary to provide the transit service in Service Alternative 1.

Figure 23 illustrates the routes of Service Alternative 1.

¹² The fiscal year is from July 1st to June 30th of the next year. (e.g.: July 1st 2011 to June 30th 2012)

Figure 23: Service Alternative 1



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Service Alternatives and Recommendations



Yellow Route – Yuma Palms Regional Center to Somerton and San Luis

The Yellow Route connects downtown Yuma with the City of San Luis, serving Gadsden and the City of Somerton along the way. Within the City of Yuma, the Yellow Route primarily operates on Avenue B, 24th Street and Pacific Avenue. From downtown Yuma to San Luis, the Yellow Route runs on US 95. In the City of San Luis, the Yellow Route serves C St. and G St. along US 95. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Avenue B, the YRMC, Yuma Library, Aztec High School, Cocopah Casino, and Walmart in San Luis. The Yellow Route coordinates with all other routes at Yuma Palms Regional Center, Walmart on Avenue B, or Cocopah Casino.

Under Service Alternative 1, the Yellow Route would operate with a one-hour frequency. Trips would depart hourly from Yuma Palms Regional Center from 6:30am to 7:30pm on weekdays, and from 9:30am to 4:30pm on Saturdays. This route uses 2 buses, one which originates and ends in San Luis. Planning level schedules for the Yellow Route are presented in Appendix O.

Table 28 summarizes characteristics of the Yellow Route in Service Alternative 1.

Table 28: Yellow Route - Service Alternative 1

Yellow Route		
Jurisdiction(s)/Communities Served	Yuma, Somerton, Gadsden, San Luis	
Frequency	1 hour	
Annual Service Hours	7,258	
Percent of Total YCAT Service	28.7%	
Vehicles Needed	2	
Schedule	Weekdays 6:30am to 8:34pm Last trip from Yuma Palms Regional Center at 7:30pm Last trip from San Luis at 7:39pm	Saturday 9:30am to 5:34pm Last trip from Yuma Palms Regional Center at 4:30pm Last trip from San Luis at 4:39pm
Points of Interest	Yuma Palms Regional Center Motor Vehicle Department LA Mesa Care Center Fry's on 24th Street Walmart on Avenue B YRMC	Yuma Library Aztec High School County Health Department Cocopah Casino Walmart San Luis
Timed Transfers	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Green Route, and Orange Route
	At ##:12, at Walmart on Avenue B	Purple Route
	At ##:52 and ##:01, every other hour, at Cocopah Casino	Grey Route
Characteristics	Long-distance fixed-route service	

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Red Route – West Downtown Yuma to Yuma Palms Regional Center

The Red Route is a one-way, counter-clockwise circulator that connects the western part of downtown Yuma to Yuma Palms Regional Center. This route primarily operates on Avenue C, 1st Street, 3rd Street, 4th Avenue and 24th Street. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Avenue B, YRMC, Aztec High School, Yuma High School, and Kofa High School.

The Red Route would operate with a one-hour frequency and leave from Yuma Palms Regional Center on weekdays from 6:30am to 5:30pm, and on Saturdays from 9:30am to 4:30pm. This route uses one bus and is coordinated with several other routes at Yuma Palms Regional Center. Planning level schedules for the Red Route are presented in Appendix O.

Table 29 summarizes characteristics of the Red Route in Service Alternative 1.

Table 29: Red Route - Service Alternative 1

Red Route		
Jurisdiction(s)/ Communities Served	Yuma	
Frequency	1 hour	
Annual Service Hours	3,450	
Percent of Total YCAT Service	13.6%	
Vehicles Needed	1	
Schedule	Weekdays 6:30am to 6:22pm Last trip from Yuma Palms Regional Center at 5:30pm	Saturday 9:30am to 5:22pm Last trip from Yuma Palms Regional Center at 4:30pm
Points of Interest	Yuma Palms Regional Center Municipal Court House Yuma Police Court House Yuma High School Shaw Industries Cibola High School Walmart on Avenue B	Aztec High School County Health Department YRMC Kofa High School Big Curve LA Mesa Care Center Fry's on 24th Street
Timed Transfers	At ##:30, at Yuma Palms Regional Center	Blue Route, Yellow Route, Green Route, and Orange Route
Characteristics	One-way circulator	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Green Route – East Downtown Yuma to Yuma Palms Regional Center

The Green Route is a one-way counter-clockwise circulator that connects the eastern part of downtown Yuma to Yuma Palms Regional Center and the MCAS. This route primarily operates on 4th Avenue, Redondo Center Drive, Pacific Avenue, and 32nd Street. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Pacific Avenue, the Yuma International Airport, the MCAS, Big Curve, Yuma High School, the Amtrak station, the Senior Center, Yuma City Hall, the Social Security Administration offices, and the Quechan Paradise Casino. The bus stop located at the Quechan Paradise Casino represents a potential transfer point to the Imperial Valley Transit system and to potential tribal transportation services. Coordination should be conducted to ensure connectivity between these transportation system and YCAT.

The Green Route would operate with a one-hour frequency and leave from Yuma Palms Regional Center on weekdays from 6:40am to 5:40pm, and on Saturdays from 8:40am to 3:40pm. This route uses one bus and is coordinated with several routes at Yuma Palms Regional Center. Planning level schedules for the Green Route are presented in Appendix O.

Table 30 summarizes characteristics of the Green Route in Service Alternative 1.

Table 30: Green Route - Service Alternative 1

Green Route		
Jurisdiction(s)/Communities Served	Yuma	
Frequency	1 hour	
Annual Service Hours	3,437	
Percent of Total YCAT Service	13.6%	
Vehicles Needed	1	
Schedule	Weekdays 6:40am to 6:30pm Last trip from Yuma Palms Regional Center at 5:40pm	Saturday 8:40am to 4:30pm Last trip from Yuma Palms Regional Center at 3:40pm
Points of Interest	Yuma Palms Regional Center University of Phoenix Social Security Amtrak station Senior Nutrition Program Quechan Paradise Casino Yuma City Hall Yuma Court House Yuma High School	Yuma Municipal Court House Yuma Police Fry's on 24th Street Big Curve Yuma International Airport MCAS Walmart on Pacific Avenue Motor Vehicle Department
Timed Transfers	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Yellow Route, and Orange Route
Characteristics	One-way circulator	

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Purple Route – North Cocopah Indian Reservation to Yuma

The Purple Route connects the North Cocopah Indian Reservation to downtown Yuma. The route primarily operates on 8th Street, Avenue A, and 24th Street. Significant attractions along the Purple Route are Walmart on Avenue B and YRMC. The Purple Route operates as a deviated fixed-route service within part of the north Cocopah Indian Reservation, as shown in Figure 23.

The Purple Route would operate with a one-hour frequency, to include hourly departures from Walmart on Avenue B on weekdays from 7:12am to 6:12pm, and on Saturdays from 10:12am to 4:12pm. This route uses one bus and has timed transfers with the Yellow Route at Walmart on Avenue B. Planning level schedules for the Purple Route are presented in Appendix O.

Table 31 summarizes characteristics of the Purple Route in Service Alternative 1.

Table 31: Purple Route - Service Alternative 1

Purple Route		
Jurisdiction(s)/ Communities Served	Yuma, North Cocopah Indian Reservation, Donovan Estates	
Frequency	1 hour	
Annual Service Hours	3,358	
Percent of Total YCAT Service	13.3%	
Vehicles Needed	1	
Schedule	Weekdays 7:12am to 7:05pm Last trip from Walmart at 6:12pm Last trip from the reservation at 6:40pm	Saturday 10:12am to 5:05pm Last trip from Walmart at 4:12pm Last trip from the reservation at 4:40pm
Points of Interest	Walmart on Avenue B YRMC	Donovan Estates North Cocopah RV Park
Timed Transfers	At ##:12, at Walmart on Avenue B	Yellow Route
Characteristics	Fixed-route service with deviated fixed-route service in northern part of Cocopah Indian Reservation	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Grey Route – West Cocopah Indian Reservation to Somerton and East Cocopah Indian Reservation

The Grey Route connects the West Cocopah Indian Reservation to the Cocopah Casino area, while serving the East Cocopah Indian Reservation and the City of Somerton. The route primarily operates as fixed-route service on US 95, with deviated fixed-route service in the West and East part of the Cocopah Indian Reservation, downtown Somerton, and the area around the Cocopah Casino. Significant attractions along the Grey route are the Cocopah Indian Community Center and administration, as well as the Cocopah Casino.

The Grey Route would operate with a two-hour frequency, departing every two hours from the Cocopah Casino on weekdays from 8:05am to 4:05pm, and on Saturdays from 10:05am to 4:05pm. This route uses one bus and has timed transfers with the Yellow Route at the Cocopah Casino. Planning level schedules for the Grey Route are presented in Appendix O.

Table 32 summarizes characteristics of the Grey Route in Service Alternative 1.

Table 32: Grey Route - Service Alternative 1

Grey Route		
Jurisdiction(s)/ Communities Served	West Cocopah Indian Reservation, East Cocopah Indian Reservation, Somerton, Orange Grove Mobile Manor, Rancho Mesa Verde	
Frequency	2 hours	
Annual Service Hours	2,890	
Percent of Total YCAT Service	11.4%	
Vehicles Needed	1	
Schedule	Weekdays 8:05am to 6:04pm Last trip from Cocopah Casino at 4:05pm Last trip from West Cocopah at 5:00pm	Saturday 10:05am to 6:04pm Last trip from Cocopah Casino at 4:05pm Last trip from West Cocopah at 5:00pm
Points of Interest	Cocopah Casino Cocopah Indian Community Center	Cocopah administration building Somerton AWC Center
Timed Transfers	At ##:52 and ##:01, every other hour, at Cocopah Casino	Yellow Route
Characteristics	Deviated fixed-route service in the West and East part of the Cocopah Indian Reservation, in downtown Somerton, and in the surroundings of the Cocopah Casino.	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Blue Route –Yuma Palms Regional Center to AWC and Fortuna Foothills

The Blue Route connects downtown Yuma to the AWC campus and the eastern region of Fortuna Foothills. This route primarily operates on US 95, Araby Road, 24th Street and Old US Highway 80. Significant attractions along the route are Yuma Palms Regional Center, Gila Ridge High School, AWC campus, Walmart and Fry's in Fortuna Foothills. In Fortuna Foothills, the bus will terminate at the intersection of Fortuna Road and Frontage Road and turn around in commercial area's parking lot. An alternative may be to travel south to 35th Place, west to Payson Drive, and north to reconnect to the Frontage Road.

The Blue Route would operate with a one-hour frequency, departing hourly from Yuma Palms Regional Center on weekdays from 7:30am to 6:30pm, and on Saturdays from 7:30am to 3:30pm. This route uses one bus and will have timed transfers with several routes at Yuma Palms Regional Center. Planning level schedules for the Blue Route are presented in Appendix O.

Table 33 summarizes characteristics of the Blue Route in Service Alternative 1.

Table 33: Blue Route - Service Alternative 1

Blue Route		
Jurisdiction(s)/ Communities Served	Yuma, Fortuna Foothills, El Prado Estates	
Frequency	1 hour	
Annual Service Hours	3,695	
Percent of Total YCAT Service	13.6%	
Vehicles Needed	1	
Schedule	Weekdays 7:30am to 7:21pm Last trip from Yuma Palms Regional Center at 6:30pm Last trip from the campus at 7:07pm	Saturday 7:30am to 4:21pm Last trip from Yuma Palms Regional Center at 3:30pm Last trip from the campus at 4:07pm
Points of Interest	Yuma Palms Regional Center Gila Ridge High School AWC/NAU Campus	Walmart in Fortuna Foothills Fry's Fortuna Foothills
Timed Transfers	At ##:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, and Orange Route

Yuma Regional Transit Study

Service Alternatives and Recommendations



Night CAT – Deviated Fixed-Route Service from AWC/NAU Campus

To provide late-evening service to students of the AWC/NAU main campus, the Blue Route would be complemented by a late-night deviated fixed-route service called Night CAT. Night CAT would operate Monday through Friday during the academic year, with departures from the campus at 8:10pm, 9:10pm and 10:10pm.

This service would serve the Cities of Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation, and other unincorporated areas within ¾ mile of the Blue Route’s normal route. The shuttle would only pick up riders at the bus stop on campus and would drop them off at the closest major intersection to their destination.

For this study, it is assumed 190 days of operation for the Night CAT service. Table 34 summarizes characteristics of Night CAT in Service Alternative 1.

Table 34: Night CAT - Service Alternative 1

Night CAT	
Jurisdiction(s)/ Communities Served	Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation
Frequency	3 trips per evening
Annual Service Hours	760
Percent of Total YCAT Service	3.0%
Vehicles Needed	1
Schedule	Weekdays Departures from AWC at 8:10 pm, 9:10pm, and 10:10pm
Points of Interest	AWC/NAU Campus
Characteristics	Deviated fixed-route from AWC/NAU Campus to Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation, and other unincorporated areas within ¾ mile of a fixed-route.

Orange Route – Yuma Palms Regional Center to Wellton and Fortuna Foothills

The Orange Route connects the Town of Wellton to downtown Yuma, serving Fortuna Foothills along the way. The route mainly operates as a direct connector with few stops. It provides a flexible demand responsive service in the Town of Wellton, with stops at Fry’s and Walmart in Fortuna Foothills, and terminates at Yuma Palms Regional Center.

The Orange Route would operate two days a week, with three trips on each of those days. The Orange Route may be reassessed to provide service 2 times per day, 6 days per week, if there is an expressed need to provide daily access to other parts of the Southwestern County. Service twice a day, 6 days per week would assume a deadhead between Yuma and Wellton in the morning and a deadhead to Yuma from Wellton in the evening.

In this study the Orange Route cost assumptions are 3 trips per day, 2 days per week. This route uses one bus and will have timed transfers with most of the routes at Yuma Palms Regional Center. A planning level schedule for the Orange Route is shown in Appendix O. Table 35 summarizes characteristics of the Orange Route in Service Alternative 1.

Table 35: Orange Route - Service Alternative 1

Orange Route		
Jurisdiction(s)/Communities Served	Yuma, Wellton, Fortuna Foothills	
Frequency	3 trips per day	
Annual Service Hours	709	
Percent of Total YCAT Service	2.8%	
Vehicles Needed	1	
Schedule	Two days per week Departures from Wellton at 7:28am, 12:28pm, 3:28pm Departures from Yuma Palms Regional Center at 8:30am, 1:30pm, and 4:30pm	
Point of Interest	Yuma Palms Regional Center Walmart in Fortuna Foothills	Fry's Fortuna Foothills
Time Transfers	At ##:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, and Blue Route
Characteristics	Flexible demand responsive service in the Town of Wellton	

Summary of Service Alternative 1

As presented in Table 36, the cost to operate Service Alternative 1 is estimated at \$1.7 million (excluding administrative costs), which corresponds to 25,305 annual revenue service hours.

Table 36: YCAT Annual Revenue Service Hours and Cost - Service Alternative 1

Route	Annual Service Hours	Annual Cost
Blue Route	3,437	\$232,372
Green Route	3,437	\$231,956
Grey Route	2,890	\$195,055
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Purple Route	3,358	\$226,570
Red Route	3,450	\$232,863
Yellow Route	7,258	\$489,863
Total	25,305	\$1,707,844
Assumptions <ul style="list-style-type: none"> The annual revenue service hours calculations assume service operates on 252 weekdays and 52 Saturdays per year for all routes except for Night CAT (which operates 190 weekdays), and the Orange route (which operates 104 weekdays). The cost per hour of operation (excluding agency administrative costs) is \$67.49/hr. 		

6.1.2 Service Alternative 2

Service Alternative 2 has a network of eight routes and a deviated fixed-route evening service. The coverage area and transit network proposed in this alternative are quite similar to the one developed in Service Alternative 1. The main differences are an additional route exclusively serving Fortuna Foothills, a loop serving downtown San Luis, and two-way circulators in downtown Yuma. The network of Service Alternative 2 consists of:

- Two long-distance routes connecting downtown Yuma to the City of San Luis, the City of Somerton, and the Town of Wellton (Yellow and Orange Routes),
- Two medium-distance routes connecting the North Cocopah Indian Reservation and the AWC campus to downtown Yuma (Purple and Blue Routes),
- A local route serving the City of Somerton and the Cocopah Indian Reservation (Grey Route),
- Two two-way circulators serving downtown Yuma (Green and Red Routes), and
- A one-way circulator serving Fortuna Foothills (Pink Route).

Four of these routes (the Purple, Orange, Grey, and Pink Routes) are hybrids, meaning that they operate on a fixed-route for the majority of their service areas but can deviate from the route in certain areas up to a $\frac{3}{4}$ mile from the fixed-route in response to customer requests.

Compared with Service Alternative 1, Service Alternative 2 provides coverage to a larger service area: bus routes serve all of the urbanized areas of southwestern Yuma County as well as the most densely populated parts of the County. In addition, service frequencies are greater compared to Service Alternative 1. Under Service Alternative 2, route frequencies vary from every 30 minutes to once per hour on weekdays, and every hour to every two hours on weekends.

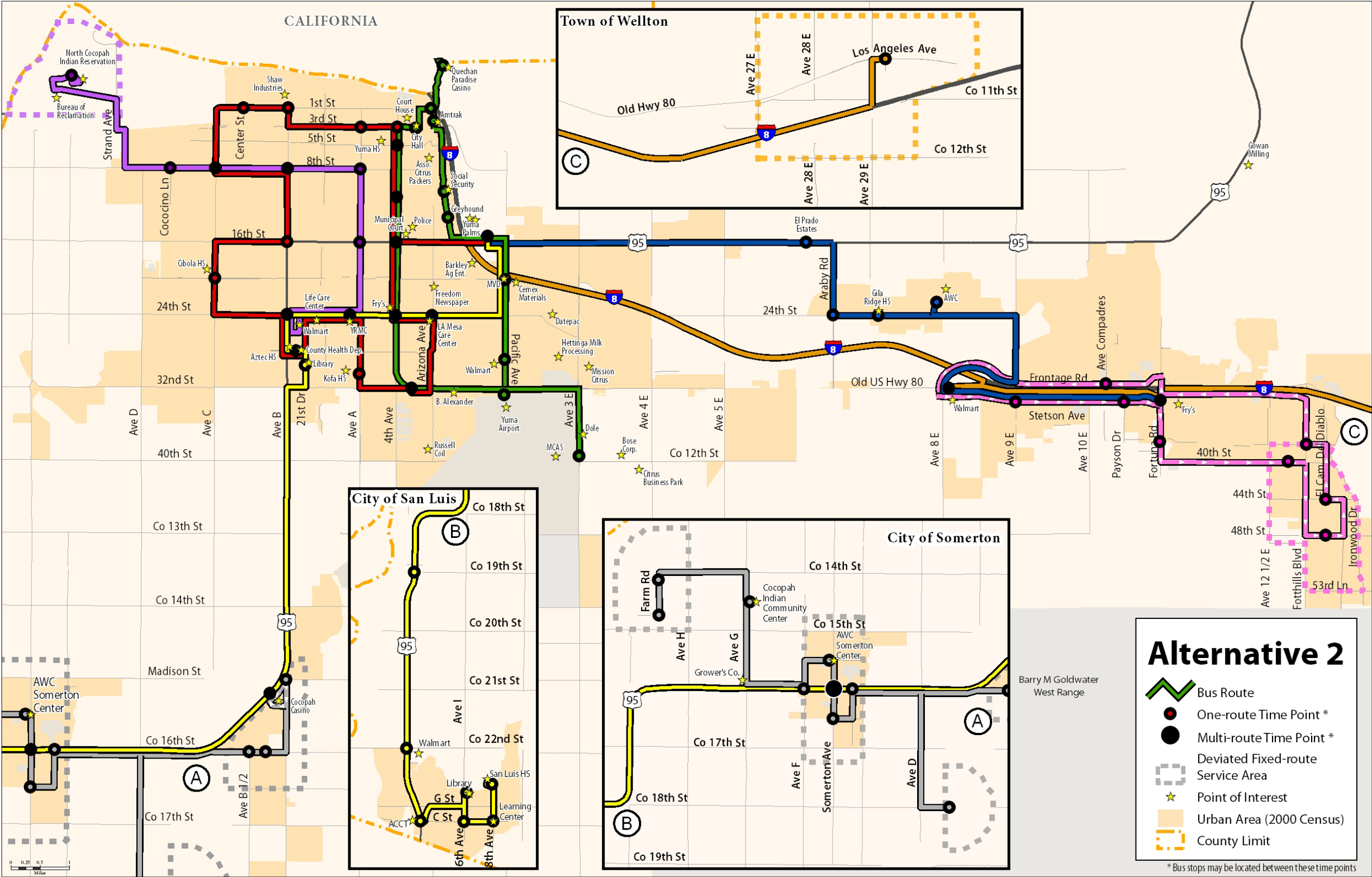
The route structure facilitates transfers by offering several timed transfer points where certain route schedules are coordinated. Two principal transfer points are located at Yuma Palms Regional Center and Walmart on Avenue B. Additional transfer points are located at Cocopah Casino and Fry's in Fortuna Foothills.

Service Alternative 2 requires 15 buses on weekdays and 14 buses on weekends.

Under Service Alternative 2, most routes operate Monday through Sunday, except on holidays. This corresponds to 252 weekdays, 52 Saturdays, and 52 Sundays of service per year. The hourly operating cost, excluding agency administrative costs, is assumed at \$67.49/hr in FY11/12.

Figure 24 illustrates the routes of Service Alternative 2.

Figure 24: Service Alternative 2



Yellow Route – Yuma Palms Regional Center to Somerton and San Luis

The Yellow Route connects downtown Yuma with the City of San Luis, serving Gadsden and the City of Somerton along the way. Within the City of Yuma the route primarily operates on Avenue B, 24th Street and Pacific Avenue. From downtown Yuma to San Luis, the Yellow Route runs on US 95. In the City of San Luis, the Yellow Route serves as a local route on G Street, C Street, and 8th Avenue. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Avenue B, YRMC, Yuma Library, Aztec High School, Cocopah Casino, San Luis Library, San Luis AWC Learning Center, and San Luis High School. The Yellow Route schedule is coordinated with all other routes at Yuma Palms Regional Center, Walmart on Avenue B, or Cocopah Casino.

On weekdays, the Yellow Route would operate with a 30-minute frequency with half-hourly departures from Yuma Palms Regional Center from 6:00am to 8:00pm. On weekends, this route would operate with a 30-minute frequency with half-hourly departures from Yuma Palms Regional Center from 8:00am to 8:00pm. This route would require five buses; one of which originates and ends in San Luis. Planning level schedules for the Yellow Route are presented in Appendix O.

Table 37 summarizes characteristics of the Yellow Route in Service Alternative 2.

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Table 37: Yellow Route - Service Alternative 2

Yellow Route		
Jurisdiction(s)/Communities Served	Yuma, Somerton, Gadsden, San Luis	
Frequency	30 minutes	
Annual Service Hours	24,475	
Percent of Total YCAT Service	39.5%	
Vehicles Needed	5	
Schedule	Weekdays 6:00am through 10:17pm Last trip from Yuma Palms Regional Center at 8:00pm Last trip from San Luis at 9:04pm	Saturday and Sunday 8:00am through 10:17pm Last trip from Yuma Palms Regional Center at 8:00pm Last trip from San Luis at 9:04pm
Point of Interest	Yuma Palms Regional Center Motor Vehicle Department LA Mesa Care Center Fry's on 24th Street Walmart on Avenue B YRMC Yuma Library	Aztec High School County Health Department Cocopah Casino Walmart San Luis San Luis High School San Luis Library San Luis AWC Learning Center
Weekday Timed Transfers	At ##:00, at Yuma Palms Regional Center	Red Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Green Route, Red Route, and Orange Route
	At ##:07, at Walmart on Avenue B	Purple Route
	At ##:51 and ##:56, at Cocopah Casino	Grey Route
Weekend Timed Transfers	At ##:00, at Yuma Palms Regional Center	Red Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Green Route
	At ##:07, at Walmart on Avenue B	Purple Route
	At ##:51 and ##:56, at Cocopah Casino, every other hour	Grey Route
Characteristics	Long-distance fixed-route with local service in San Luis	

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Service Alternatives and Recommendations



Red Route – West Downtown Yuma to Yuma Palms Regional Center

The Red Route is a two-way circulator that connects the western part of downtown Yuma to Yuma Palms Regional Center. This route primarily operates on Avenue C, 1st Street, 3rd Street, 4th Avenue and 24th Street. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Avenue B, YRMC, Aztec High School, Yuma High School, and Kofa High School. Special branding of the directional circulators may be desired to distinguish between clockwise and counter-clockwise service.

The Red Route would operate in each direction with a one-hour frequency, with hourly departures from Yuma Palms Regional Center on weekdays from 6:00am to 8:30pm, and on weekends from 8:00am to 6:30pm. This route uses two buses and its schedule would be coordinated with several routes at Yuma Palms Regional Center. Planning level schedules for the Red Route are presented in Appendix O.

Table 38 summarizes characteristics of the Red Route in Service Alternative 2.

Table 38: Red Route - Service Alternative 2

Red Route		
Jurisdiction(s)/Communities Served	Yuma	
Frequency	1 hour	
Annual Service Hours	9,882	
Percent of Total YCAT Service	16.0%	
Vehicles Needed	2	
Schedule	Weekdays 6:00am to 9:22pm Last trip from Yuma Palms Regional Center at 8:30pm	Saturday and Sunday 8:00am to 7:22pm Last trip from Yuma Palms Regional Center at 6:30pm
Points of Interest	Yuma Palms Regional Center Municipal Court House Yuma Police Court House Yuma High School Shaw Industries Cibola High School Walmart on Avenue B	Aztec High School County Health Department YRMC Kofa High School Big Curve LA Mesa Care Center Fry's on 24th Street
Weekday Timed Transfers	At ##:00 at Yuma Palms Regional Center	Yellow Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Green Route, Yellow Route, and Orange Route
Characteristics	Two-way circulator	

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Green Route – East Downtown Yuma to Yuma Palms Regional Center

The Green Route is a two-way circulator that connects the eastern part of downtown Yuma to Yuma Palms Regional Center and the MCAS. This route primarily operates on 4th Avenue, Redondo Center Drive, Pacific Avenue, and 32nd Street. Significant attractions along the route are Yuma Palms Regional Center, Walmart on Pacific Avenue, the Yuma International Airport, the MCAS, Big Curve, Yuma High School, the Amtrak station, the Senior Center, Yuma's City Hall, the Social Security Administration Office, and the Quechan Paradise Casino. Special branding of the directional circulators may be desired to distinguish between clockwise and counter-clockwise service.

The Green Route would operate in each direction with a one-hour frequency and leave from Yuma Palms Regional Center on weekdays from 6:40am to 8:50pm, and on weekends from 8:40am to 6:50pm. This route uses two buses and is coordinated with several routes at Yuma Palms Regional Center. Suggested schedules for the Green Route are presented in Appendix O.

Table 39 summarizes characteristics of the Green Route in Service Alternative 2.

Table 39: Green Route - Service Alternative 2

Green Route		
Jurisdiction(s)/Communities Served	Yuma	
Frequency	1 hour	
Annual Service Hours	9,850	
Percent of Total YCAT Service	15.9%	
Vehicles Needed	2	
Schedule	Weekdays 6:40am to 9:40pm Last trip from Yuma Palms Regional Center at 8:50pm	Saturday and Sunday 8:40am to 7:40pm Last trip from Yuma Palms Regional Center at 6:50pm
Points of Interest	Yuma Palms Regional Center University of Phoenix Social Security Amtrak station Senior Nutrition Program Quechan Paradise Casino Yuma City Hall Yuma Court House Yuma High School	Yuma Municipal Court House Yuma Police Fry's on 24th Street Big Curve Yuma International Airport MCAS Walmart on Pacific Avenue Motor Vehicle Department
Timed Transfers	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Yellow Route, Orange Route
Characteristics	Two-way circulator	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Purple Route – North Cocopah Indian Reservation to Yuma

The Purple Route connects the North Cocopah Indian Reservation to downtown Yuma. The route primarily operates on 8th Street, Avenue A, and 24th Street. Significant attractions along the Purple Route are Walmart on Avenue B and YRMC. The Purple Route operates as a deviated fixed-route service within part of the North Cocopah Indian Reservation, as shown in Figure 24.

The Purple Route would operate with a one-hour frequency and leave from Walmart on Avenue B on weekdays from 7:12am to 6:12pm, and on weekends from 9:12am to 6:12pm. This route would require one bus and would coordinate its schedule with the Yellow Route at Walmart on Avenue B. Planning level schedules for the Purple Route are presented in Appendix O.

Table 40 summarizes characteristics of the Purple Route for Service Alternative 2.

Table 40: Purple Route - Service Alternative 2

Purple Route		
Jurisdiction(s)/Communities Served	Yuma, North Cocopah Indian Reservation, Donovan Estates	
Frequency	1 hour	
Annual Service Hours	4,028	
Percent of Total YCAT Service	6.5%	
Vehicles Needed	1	
Schedule	Weekdays 7:12am to 7:05pm Last trip from Walmart at 6:12pm Last trip from the reservation at 6:40pm	Saturday and Sunday 9:12am to 7:05pm Last trip from Walmart at 6:12pm Last trip from the reservation at 6:40pm
Points of Interest	Walmart on Avenue B YRMC	Donovan Estates North Cocopah RV Park
Timed Transfers	At #:07, at Walmart on Avenue B	Yellow Route
Characteristics	Fixed-route service with deviated fixed-route service area in the northern part of the Cocopah Indian Reservation	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Grey Route – West Cocopah Indian Reservation to Somerton and East Cocopah Indian Reservation

The Grey Route connects the West Cocopah Indian Reservation to the Cocopah Casino area, while serving the East Cocopah Indian Reservation and the City of Somerton. The route primarily operates as a fixed-route service on US 95, with deviated fixed-route service in the West and East part of the Cocopah Indian Reservation, downtown Somerton, and the area around the Cocopah Casino. Significant attractions along the Grey Route are the Cocopah Indian Community Center and administration and the Cocopah Casino.

On weekdays, the Grey Route would operate with hourly departures from the Cocopah Casino from 7:05am to 5:05pm. On weekends, the Grey Route would operate with a two-hour frequency, with departures from the Cocopah Casino from 8:05am to 4:05pm. This route uses two buses on weekdays and one bus on weekends. The Grey Route coordinates with the Yellow Route at the Cocopah Casino. Suggested schedules for the Grey route are presented in Appendix O.

Table 41 summarizes characteristics of the Grey Route in Service Alternative 2.

Table 41: Grey Route - Service Alternative 2

Grey Route		
Jurisdiction(s)/Communities Served	West Cocopah Indian Reservation, East Cocopah Indian Reservation, Somerton, Orange Grove Mobile Manor, Rancho Mesa Verde	
Frequency	1 hour on weekdays, 2 hours on weekends	
Annual Service Hours	5,831	
Percent of Total YCAT Service	9.4%	
Vehicles Needed	2 on weekdays, 1 on weekends	
Schedule	Weekdays 7:05am through 7:04pm Last trip from Cocopah Casino at 5:05pm Last trip from West Cocopah at 6:00pm	Saturday and Sunday 8:05am through 6:04pm Last trip from Cocopah Casino at 4:05pm Last trip from West Cocopah at 5:00pm
Points of Interest	Cocopah Casino Cocopah Indian Community Center	Cocopah administration Somerton AWC Center
Weekdays Timed Transfers	At ##:51 and ##:56, at Cocopah Casino	Yellow Route
Weekends Timed Transfers	At ##:51 and ##:56, every other hour, at Cocopah Casino	Yellow Route
Characteristics	Deviated fixed-route service in West and East parts of Cocopah Indian Reservation, in downtown Somerton, and area near Cocopah Casino	

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Service Alternatives and Recommendations



Blue Route –Yuma Palms Regional Center to AWC and Fortuna Foothills

The Blue Route connects downtown Yuma to the AWC Campus and the eastern portion of Fortuna Foothills. This route primarily operates on US 95, Araby Road, 24th Street and Old US Highway 80. Significant destinations along the route are Yuma Palms Regional Center, Gila Ridge High School, AWC campus, Walmart and Fry's in Fortuna Foothills.

The Blue Route would operate with a one-hour frequency, with hourly departures from Yuma Palms Regional Center on weekdays and weekends from 7:30am to 6:30pm. This route uses one bus and is coordinated with several routes at Yuma Palms Regional Center and at Fry's in Fortuna Foothills. Planning level schedules for the Blue Route are presented in Appendix O.

Table 42 summarizes characteristics of the Blue Route in Service Alternative 2.

Table 42: Blue Route - Service Alternative 2

Blue Route		
Jurisdiction(s)/Communities Served	Yuma, Fortuna Foothills, El Prado Estates	
Frequency	1 hour	
Annual Service Hours	4,215	
Percent of Total YCAT Service	6.8%	
Vehicles Needed	1	
Schedule	Weekdays 7:30am to 7:21pm Last trip from Yuma Palms Regional Center at 6:30pm Last trip from the campus at 7:07pm	Saturday, Sunday 7:30am to 7:21pm Last trip from Yuma Palms Regional Center at 6:30pm Last trip from the campus at 7:07pm
Points of Interest	Yuma Palms Regional Center Gila Ridge High School AWC/NAU Campus	Walmart in Fortuna Foothills Fry's Fortuna Foothills
Timed Transfers	At #:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, Orange Route
	At #:55, at Fry's in Fortuna Foothills	Pink Route

Yuma Regional Transit Study

Service Alternatives and Recommendations



Night CAT – Flexible demand responsive service from AWC/NAU Campus

To provide late-evening service to students of the AWC/NAU main campus, the Blue Route would be complemented by a late-night deviated fixed-route service called Night CAT. Night CAT would operate Monday through Friday during the academic year, with departures from the campus at 8:10pm, 9:10pm and 10:10pm. This service would serve the Cities of Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation, and other unincorporated areas within ¾ mile of a the Blue Route’s normal route. The shuttle would only pick up riders at the bus stop on campus and would drop them off at the closest major intersection to their destination.

Table 43 summarizes characteristics of Night CAT in Service Alternative 2.

Table 43: Night CAT - Service Alternative 2

Night CAT	
Jurisdiction(s)/Communities Served	Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation
Frequency	3 trips per evening
Annual Service Hours	760
Percent of Total YCAT Service	1.2%
Vehicles Needed	1
Schedule	Weekdays Departures from AWC at 8:10pm, 9:10pm and 10:10pm
Point of Interest	AWC/NAU Campus
Characteristics	Flexible demand responsive service from AWC/NAU Campus to Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation, and other unincorporated areas within ¾ mile of a fixed-route

Yuma Regional Transit Study

Service Alternatives and Recommendations



Orange Route – Yuma Palms Regional Center to Wellton and Fortuna Foothills

The Orange Route connects the Town of Wellton to downtown Yuma, serving Fortuna Foothills along the way. The route mainly operates as a direct connector with few stops. It operates as a deviated fixed-route service in the Town of Wellton, then stops at Fry's and Walmart in Fortuna Foothills, before continuing to Yuma Palms Regional Center.

The Orange Route would operate two days a week, with 3 trips on each of those days. This route uses one bus and its schedule would be coordinated with most of the routes at Yuma Palms Regional Center.

Table 44 summarizes characteristics of the Orange Route in Service Alternative 2.

Table 44: Orange Route - Service Alternative 2

Orange Route		
Jurisdiction(s)/Communities Served	Yuma, Wellton, Fortuna Foothills	
Frequency	3 trips per day	
Annual Service Hours	709	
Percent of Total YCAT Service	1.1%	
Vehicles Needed	1	
Schedule	Two days a week Departures from Wellton at 7:28am, 12:28pm, 3:28pm Departures from Yuma Palms Regional Center at 8:30am, 1:30pm, 4:30pm	
Point of Interest	Yuma Palms Regional Center Walmart in Fortuna Foothills	Fry's Fortuna Foothills
Timed Transfers	At #:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, and Blue Route
Characteristics	Flexible demand responsive service in the Town of Wellton	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Pink Route – Fortuna Foothills

The Pink Route is a seasonal, one-way circulator serving Fortuna Foothills. The route primarily operates south of I-8 and runs on roadways such as 40th Street, Fortuna Road and Foothills Boulevard. It operates as a deviated fixed-route service around Foothills Boulevard. Points of interests along this route are Fry's and Walmart in Fortuna Foothills.

The operations of the Pink Route vary with the seasonal population in southwestern Yuma County. From November to April, the peak season, the Pink Route would operate every day, except on holidays, with a one-hour frequency. During the peak season, trips would depart from Fry's in Fortuna Foothills, from 8:56am to 5:56pm. From May to October, the off-peak season, the Pink Route would operate two trips every day, except on holidays. This route uses one bus and would have timed transfers with the Blue Route at the bus stop located near Fry's in Fortuna Foothills. Planning level schedules are presented in Appendix O.

Table 45 summarizes characteristics of the Pink Route in Service Alternative 2.

Table 45: Pink Route - Service Alternative 2

Pink Route		
Jurisdiction(s)/Communities Served	Yuma, Wellton, Fortuna Foothills	
Frequency	1 hour during peak season, 2 trips during off-peak season	
Annual Service Hours	2,137	
Percent of Total YCAT Service	3.5%	
Vehicles Needed	1	
Schedule	Peak Season (November to April) Monday to Sunday 5:56am to 6:50pm Last trip from fry's at 5:56pm	Off-Peak Season (May to October) Monday to Sunday Departures from Fry's at 9:56am and 2:56pm
Point of Interest	Walmart in Fortuna Foothills	Fry's Fortuna Foothills
Timed Transfers	At #:55, at Fry's in Fortuna Foothills	Blue Route
Characteristics	Flexible demand responsive service in the east Fortuna Foothills	

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Service Alternatives and Recommendations



Summary of Service Alternative 2

As presented in Table 46, the cost to operate Service Alternative 2 is estimated at \$4.2 million (excluding agency administrative costs), which corresponds to 61,886 annual revenue service hours.

Table 46: YCAT Annual Revenue Service Hours and Cost- Service Alternative 2

Route	Annual Service Hours	Annual Cost
Blue Route	4,215	\$284,449
Green Route	9,850	\$664,786
Grey Route	5,831	\$393,505
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Pink Route	2,137	\$143,095
Purple Route	4,028	\$271,837
Red Route	9,882	\$666,908
Yellow Route	24,475	\$1,651,801
Total	61,886	\$4,175,546
Assumptions		
<ul style="list-style-type: none"> • The annual revenue service hours calculations assume service operates on 252 weekdays and 52 Saturdays per year for all routes except for Night CAT (which operates 190 weekdays), and the Orange Route (which operates 104 weekdays). • The cost per hour of operation (excluding agency administrative costs) is \$67.49/hr. 		

6.1.3 Service Alternative 3

The coverage area and transit network proposed in this alternative are identical to those developed in Service Alternative 2. As in Service Alternative 2, Service Alternative 3 has 8 routes and a flexible demand responsive evening service.

In contrast to Service Alternative 2, the frequencies of service are increased on routes that will serve the most population: the Yellow Route, Blue Route, Red Route and Green Route. Weekday service frequencies are every 15 minutes on the busiest routes and every hour on the less busy routes. Weekend service frequencies are from 30 minutes on the busiest routes to two hours on the less busy routes.

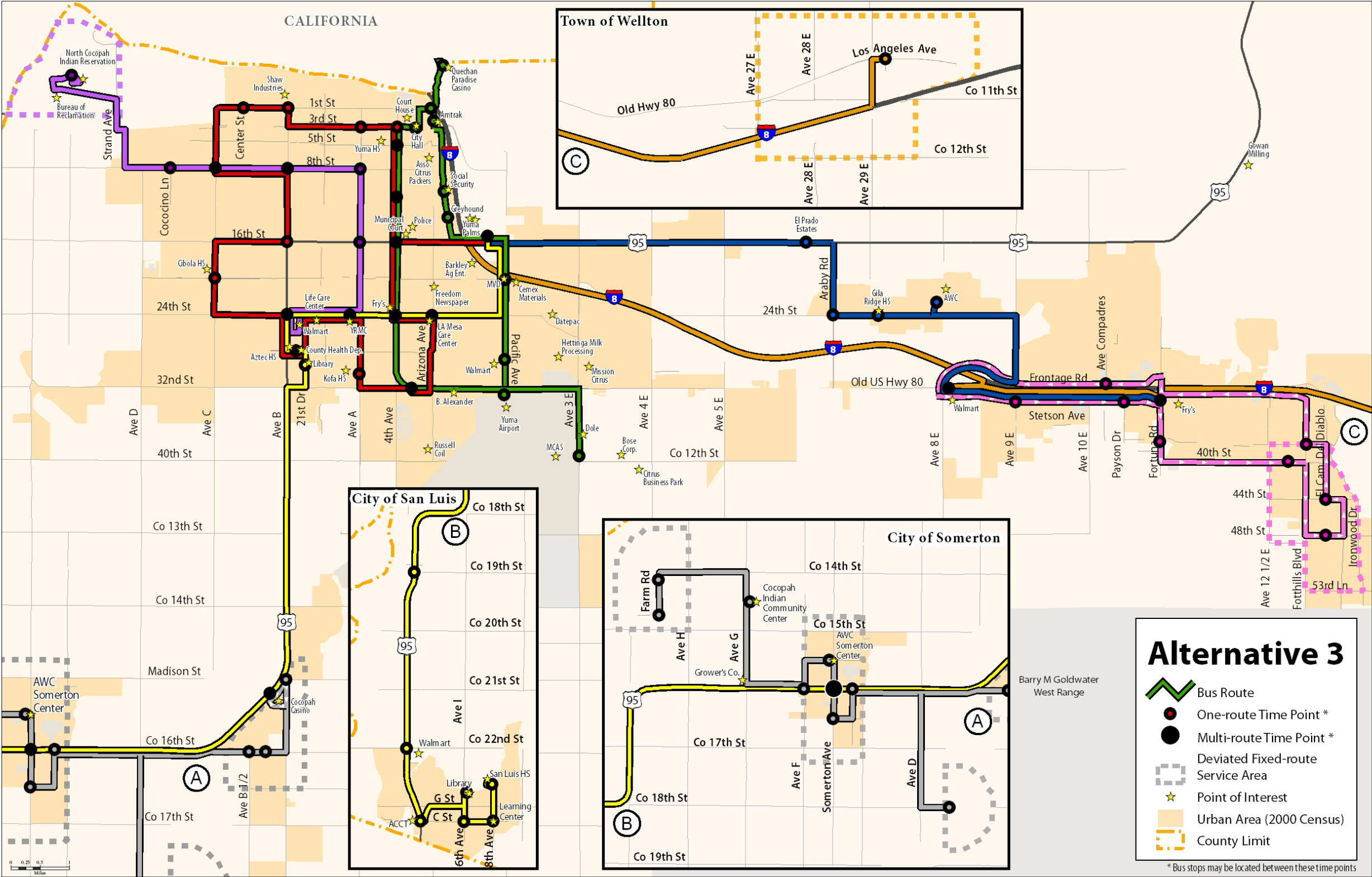
As in Service Alternative 2, the network facilitates transfers and offers several transfer points where certain routes are coordinated. Two principal transfer centers are located at Yuma Palms Regional Center and Walmart on Avenue B. Additional transfer points are located at Cocopah Casino and Fry's in Fortuna Foothills.

Service Alternative 3 requires 25 buses on weekdays and 14 buses on weekends.

In Service Alternative 3, most of the routes operate from Monday through Sunday, except on holidays, when there is no service. This corresponds to 252 weekdays, 52 Saturdays, and 52 Sundays of service per year. The hourly operating cost, excluding agency administrative costs, is estimated at \$67.49/hr.

Figure 25 illustrates the routes of Service Alternative 3.

Figure 25: Service Alternative 3



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Service Alternatives and Recommendations



Yellow Route – Yuma Palms Regional Center to Somerton and San Luis

This route structure is identical to the Yellow Route in Service Alternative 2.

The frequency is increased to 15 minutes on weekdays. On weekdays, the Yellow Route would leave every 15 minutes from Yuma Palms Regional Center from 6:00am to 8:00pm. On weekends, this route would operate with a 30-minute frequency with departures from Yuma Palms Regional Center from 8:00am to 8:00pm. This route uses 10 buses on weekdays and 5 on the weekend. In each case, one bus starts and ends in San Luis. Planning level schedules for the Yellow Route are presented in Appendix O.

Table 47 summarizes characteristics of the Yellow Route in Service Alternative 3.

Table 47: Yellow Route - Service Alternative 3

Yellow Route		
Jurisdictions /Community Served	Yuma, Somerton, Gadsden, San Luis	
Frequency	15 minutes on weekdays; 30 minutes on weekends	
Annual Service Hours	41,854	
Percent of Total YCAT Service	43.6%	
Vehicles Needed	10 on weekdays, 5 on weekends	
Schedule	Weekdays 6:00am to 10:17pm Last trip from Yuma Palms Regional Center at 8:00pm Last trip from San Luis at 9:04pm	Saturday and Sunday 8:00am to 10:17pm Last trip from Yuma Palms Regional Center at 8:00pm Last trip from San Luis at 9:04pm
Points of Interest	Yuma Palms Regional Center Motor Vehicle Department LA Mesa Care Center Fry's on 24th Street Walmart on Avenue B YRMC Yuma Library	Aztec High School County Health Department Cocopah Casino Walmart San Luis San Luis High School San Luis Library San Luis AWC Learning Center
Weekdays Timed Transfers	At ##:00, at Yuma Palms Regional Center	Blue Route, Green Route, Red Route
	At ##:22 and ##:52, at Yuma Palms Regional Center	
	At ##:30, at Yuma Palms Regional Center	Blue Route, Green Route, Red Route, Orange Route
	At ##:07, at Walmart on Avenue B	Purple Route
	At ##:51 and ##:56 at Cocopah Casino	Grey Route
Weekend Timed Transfers	At ##:00, at Yuma Palms Regional Center	Red Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Green Route
	At ##:07, at Walmart on Avenue B	Purple Route
	At ##:51 and ##:56, at Cocopah Casino, every other hour	Grey Route
Characteristics	Long-distance fixed-route with local service in San Luis	

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Service Alternatives and Recommendations



Red Route – West Downtown Yuma to Yuma Palms Regional Center

This route structure is identical to the Red Route in Service Alternative 2.

On weekdays, the Red Route would operate in each direction with a 30-minute frequency and leave from Yuma Palms Regional Center from 6:00am to 8:30pm. On weekends, this route would operate with a 1-hour frequency with departures from Yuma Palms Regional Center from 8:00am to 6:30pm. This route uses 4 buses on weekdays and 2 in the weekend. Planning level schedules for the Yellow Route are presented in Appendix O.

Table 48 summarizes characteristics of the Yellow Route in Service Alternative 3.

Table 48: Red Route - Service Alternative 3

Red Route		
Jurisdiction(s)/Communities Served	Yuma	
Frequency	30 minutes on weekdays; 1 hour on weekends	
Annual Service Hours	16,761	
Percent of Total YCAT Service	17.5%	
Vehicles Needed	4 on weekdays; 2 on weekends	
Schedule	Weekdays 6:00am to 9:22pm Last trip from Yuma Palms Regional Center at 8:30pm	Saturday and Sunday 8:00am to 7:22pm Last trip from Yuma Palms Regional Center at 6:30pm
Points of Interest	Yuma Palms Regional Center Municipal Court House Yuma Police Court House Yuma High School Shaw Industries Cibola High School Walmart on Avenue B	Aztec High School County Health Department YRMC Kofa High School Big Curve LA Mesa Care Center Fry's on 24th Street
Weekdays Timed Transfers	At ##:00, at Yuma Palms Regional Center	Yellow Route, Blue Route, Green Route
	At ##:22 and ##:52, at Yuma Palms Regional Center	Blue Route, Yellow Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Green Route, Yellow Route, and Orange Route
Weekend Timed Transfers	At ##:00 and ##:52, at Yuma Palms Regional Center	Yellow Route
	At ##:22, at Yuma Palms Regional Center	Blue Route, Yellow Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Green Route, Yellow Route
Characteristics	Two-way circulator	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Green Route – East Downtown Yuma to Yuma Palms Regional Center

This route structure is identical to the Green Route in Service Alternative 2.

On weekdays, the Green Route would operate in each direction with a 30-minute frequency and leave from Yuma Palms Regional Center half-hourly from 6:40am to 8:50pm. On weekends the Green Route would operate in each direction with an hourly frequency and leave from Yuma Palms Regional Center hourly from 8:40am to 6:50pm. This route uses 4 buses on weekdays and 2 on weekends. It is coordinated with several routes at Yuma Palms Regional Center. Suggested schedules for the Green Route are presented in Appendix O.

Table 49 summarizes characteristics of the Green Route in Service Alternative 3.

Table 49: Green Route - Service Alternative 3

Green Route		
Jurisdiction(s)/Communities Served	Yuma	
Frequency	30 minutes on weekdays; 1 hour on weekends	
Annual Service Hours	16,707	
Percent of Total YCAT Service	17.4%	
Vehicles Needed	4 on weekdays, 2 on weekends	
Schedule	Weekdays 6:40am to 9:40pm Last trip from Yuma Palms Regional Center at 8:50pm	Saturday and Sunday 8:40am to 7:40pm Last trip from Yuma Palms Regional Center at 6:50pm
Points of Interest	Yuma Palms Regional Center University of Phoenix Social Security Amtrak station Senior Nutrition Program Quechan Paradise Casino Yuma City Hall Yuma Court House Yuma High School	Yuma Municipal Court House Yuma Police Fry's on 24th Street Big Curve Yuma International Airport MCAS Walmart on Pacific Avenue Motor Vehicle Department
Weekdays Timed Transfers	At ##:00, at Yuma Palms Regional Center	Yellow Route, Blue Route, Red Route
	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Yellow Route, and Orange Route
Weekend Timed Transfers	At ##:30, at Yuma Palms Regional Center	Blue Route, Red Route, Yellow Route
Characteristics	Two-way circulator	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Purple Route – North Cocopah Indian Reservation to Yuma

This route structure and schedule are identical to the Purple Route in Service Alternative 2.

Table 50 summarizes characteristics of the Purple Route in Service Alternative 3.

Table 50: Purple Route - Service Alternative 3

Purple Route		
Jurisdiction(s)/Communities Served	Yuma, North Cocopah Indian Reservation, Donovan Estates	
Frequency	1 hour	
Annual Service Hours	4,028	
Percent of Total YCAT Service	4.2%	
Vehicles Needed	1	
Schedule	Monday through Friday 7:12am through 7:05pm Last trip from Walmart at 6:12pm Last trip from the reservation at 6:40pm	Saturday and Sunday 9:12am through 7:05pm Last trip from Walmart at 6:12pm Last trip from the reservation at 6:40pm
Points of Interest	Walmart on Avenue B YRMC	Donovan Estates North Cocopah RV Park
Timed Transfers	At #:07, at Walmart on Avenue B	Yellow Route
Characteristics	Flexible demand responsive service in the northern part of the Cocopah Indian Reservation	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Grey Route – West Cocopah Indian Reservation to Somerton and East Cocopah Indian Reservation

This route structure and schedule are identical to the Grey Route in Service Alternative 2.

Table 51 summarizes characteristics of the Grey Route in Service Alternative 3.

Table 51: Grey Route - Service Alternative 3

Grey Route		
Jurisdiction(s)/Communities Served	West Cocopah Indian Reservation, East Cocopah Indian Reservation, Somerton, Orange Grove Mobile Manor, Rancho Mesa Verde	
Frequency	1 hour on weekdays, 2 hours on weekends	
Annual Service Hours	5,831	
Percent of Total YCAT Service	6.1%	
Vehicles Needed	2 on weekdays, 1 on weekends	
Schedule	Monday through Friday 7:05am through 7:04pm Last trip from Cocopah Casino at 5:05pm Last trip from West Cocopah at 6:00pm	Saturday 8:05am through 6:04pm Last trip from Cocopah Casino at 4:05pm Last trip from West Cocopah at 5:00pm
Points of Interest	Cocopah Casino Cocopah Indian Community Center	Cocopah administration Somerton AWC Center
Weekdays Timed Transfers	At ##:52 and ##:56, at Cocopah Casino	Yellow Route
Weekend Timed Transfers	At ##:52 and ##:56, every other hour, at Cocopah Casino	Yellow Route
Characteristics	Flexible demand responsive service in the West and East part of the Cocopah Indian Reservation, downtown Somerton, and the surrounding area of the Cocopah Casino	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Blue Route –Yuma Palms Regional Center to AWC and Fortuna Foothills

This route structure and schedule are identical to the Blue Route in Service Alternative 2.

On weekdays, the frequency is increased to 30 minutes. On weekdays, the Blue Route would leave half-hourly from Yuma Palms Regional Center from 7:30am to 6:30pm. On weekends, this route would operate with a 1-hour frequency with departures from Yuma Palms Regional Center from 7:30am to 6:30pm. This route uses 2 buses on weekdays and 1 bus in the weekend. The Blue Route is coordinated with several routes at Yuma Palms Regional Center and at Fry's in Fortuna Foothills. Planning level schedules for the Blue Route are presented in Appendix O.

Table 52 summarizes characteristics of the Blue Route in Service Alternative 3.

Table 52: Blue Route - Service Alternative 3

Blue Route		
Jurisdiction(s)/Communities Served	Yuma, Fortuna Foothills, El Prado Estates	
Frequency	30 minutes on weekdays, 1 hour on weekends	
Annual Service Hours	6,946	
Percent of Total YCAT Service	7.3%	
Vehicles Needed	2 on weekdays, 1 on weekends	
Schedule	Weekdays 7:30am to 7:21pm Last trip from Yuma Palms Regional Center at 6:30pm Last trip from the campus at 7:07pm	Saturday, Sunday 7:30am to 7:21pm Last trip from Yuma Palms Regional Center at 6:30pm Last trip from the campus at 7:07pm
Points of Interest	Yuma Palms Regional Center Gila Ridge High School AWC/NAU Campus	Walmart in Fortuna Foothills Fry's Fortuna Foothills
Weekdays Timed Transfers	At ##:00, at Yuma Palms Regional Center	Red Route, Yellow Route, Green Route
	At ##:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, Orange Route
	At ##:22 and ##:52, at Yuma Palms Regional Center	Yellow Route, Red Route
	At ##:55, at Fry's in Fortuna Foothills	Pink Route
Weekend Timed Transfers	At ##:22, at Yuma Palms Regional Center	Yellow Route, Red Route
	At ##:30, at Yuma Palms Regional Center	Yellow Route, Green Route, Red Route

Yuma Regional Transit Study

Service Alternatives and Recommendations



Night CAT – Flexible demand responsive service from AWC/NAU Campus

This service is identical to the Night CAT Service in Service Alternative 2.

Table 53 summarizes characteristics of the Night CAT service in Service Alternative 3.

Table 53: Night CAT - Service Alternative 3

Night CAT	
Jurisdiction(s)/Communities Served	Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation
Frequency	3 trips per evening
Annual Service Hours	760
Percent of Total YCAT Service	0.8%
Vehicles Needed	1
Schedule	Weekdays Departs from AWC at 8:10pm, 9:10pm and 10:10pm
Point of Interest	AWC/NAU Campus
Characteristics	Flexible demand responsive service from AWC/NAU Campus to Yuma, Somerton, San Luis, the Cocopah Indian Reservation, Fortuna Foothills, the Fort-Yuma Indian Reservation, and other unincorporated areas within ¾ mile of a fixed-route

Orange Route – Yuma Palms Regional Center to Wellton and Fortuna Foothills

This route structure and schedule are identical to the Orange Route in Service Alternative 2.

Table 54 summarizes characteristics of the Orange Route in Service Alternative 3.

Table 54: Orange Route - Service Alternative 3

Orange Route		
Jurisdiction(s)/Communities Served	Yuma, Wellton, Fortuna Foothills	
Frequency	3 trips per day	
Annual Service Hours	710	
Percent of Total YCAT Service	0.7%	
Vehicles Needed	1	
Schedule	Two days a week Departures from Wellton at 7:28am, 12:28pm, 3:28pm Departures from Yuma Palms Regional Center at 8:30am, 1:30pm, 4:30pm	
Point of Interest	Yuma Palms Regional Center Walmart in Fortuna Foothills	Fry's Fortuna Foothills
Timed Transfers	At #:30, at Yuma Palms Regional Center	Yellow Route, Red Route, Green Route, and Blue Route
Characteristics	Flexible demand responsive service in the Town of Wellton	

Yuma Regional Transit Study

Service Alternatives and Recommendations



Pink Route – Fortuna Foothills

This route structure and schedule are identical to the Pink Route in Service Alternative 2.

Table 55 summarizes characteristics of this route in Service Alternative 3.

Table 55: Pink Route - Service Alternative 3

Pink Route		
Jurisdiction(s)/Communities Served	Yuma, Wellton, Fortuna Foothills	
Frequency	1 hour during peak season, 2 trips per day during off-peak season	
Annual Service Hours	2,137	
Percent of Total YCAT Service	2.2%	
Vehicles Needed	1	
Schedule	Peak Season (November to April) Monday through Sunday 5:56am through 6:50pm Last trip from fry's at 5:56pm	Off-Peak Season (May to October) Monday through Sunday Departures from Fry's at 9:56am and 2:56pm
Point of Interest	Walmart in Fortuna Foothills	Fry's Fortuna Foothills
Transfers	At #:55, at Fry's in Fortuna Foothills	Blue Route
Characteristics	Flexible demand responsive service in the east Fortuna Foothills	

Summary of Service Alternative 3

As presented in Table 56, the cost to operate Service Alternative 3 is estimated to \$6.5 million (excluding administrative costs), which corresponds to 95,731 annual revenue service hours.

Table 56: YCAT Annual Revenue Service Hours and Cost - Service Alternative 3

Route	Annual Service Hours	Annual Cost
Blue Route	6,946	\$468,793
Green Route	16,707	\$1,127,542
Grey Route	5,831	\$393,505
Night CAT	760	\$51,292
Orange Route	709	\$47,873
Pink Route	2,137	\$143,095
Purple Route	4,028	\$271,837
Red Route	16,761	\$1,131,167
Yellow Route	41,854	\$2,824,694
Total	95,731	\$6,459,780
Assumptions		
<ul style="list-style-type: none"> The annual revenue service hours are calculated considering 252 weekdays, 52 Saturdays and 52 Sundays per year. Except for the Night CAT operated 190 weekdays and the Orange route operated 104 weekdays. The cost per hour of operation (excluding administrative costs) is \$67.49/hr. 		

6.2. Analysis of Population and Activities in the Vicinity of a Bus Route

In order to assess how well each alternative addresses geographic coverage and accessibility, the population living in the vicinity of proposed bus routes has been analyzed as well activities and points of interests located nearby.

Features taken into account in this analysis are population density, the number of residents aged 60 or over (seniors), the number of residents aged 10 to 19 (youth), as well as the number of schools, health facilities, commercial locations, and points of interest within $\frac{1}{4}$ mile of a fixed-route and within a deviated fixed-route service area.

Since Service Alternatives 2 and 3 have the same route structure (and therefore the same coverage area), a single analysis was performed for both alternatives.

6.2.1 Service Alternative 1

Population Density

Table 57 presents the percentage of the total population that lives within $\frac{1}{4}$ mile of a bus route or within a deviated fixed-route service area for Service Alternative 1. As a comparison, the same figures are shown for the existing network.

In Service Alternative 1, 45% of the County's population would be located within $\frac{1}{4}$ mile of a fixed-route or within the coverage area of a deviated fixed-route service. This represents a 16% increase compared to the existing network.

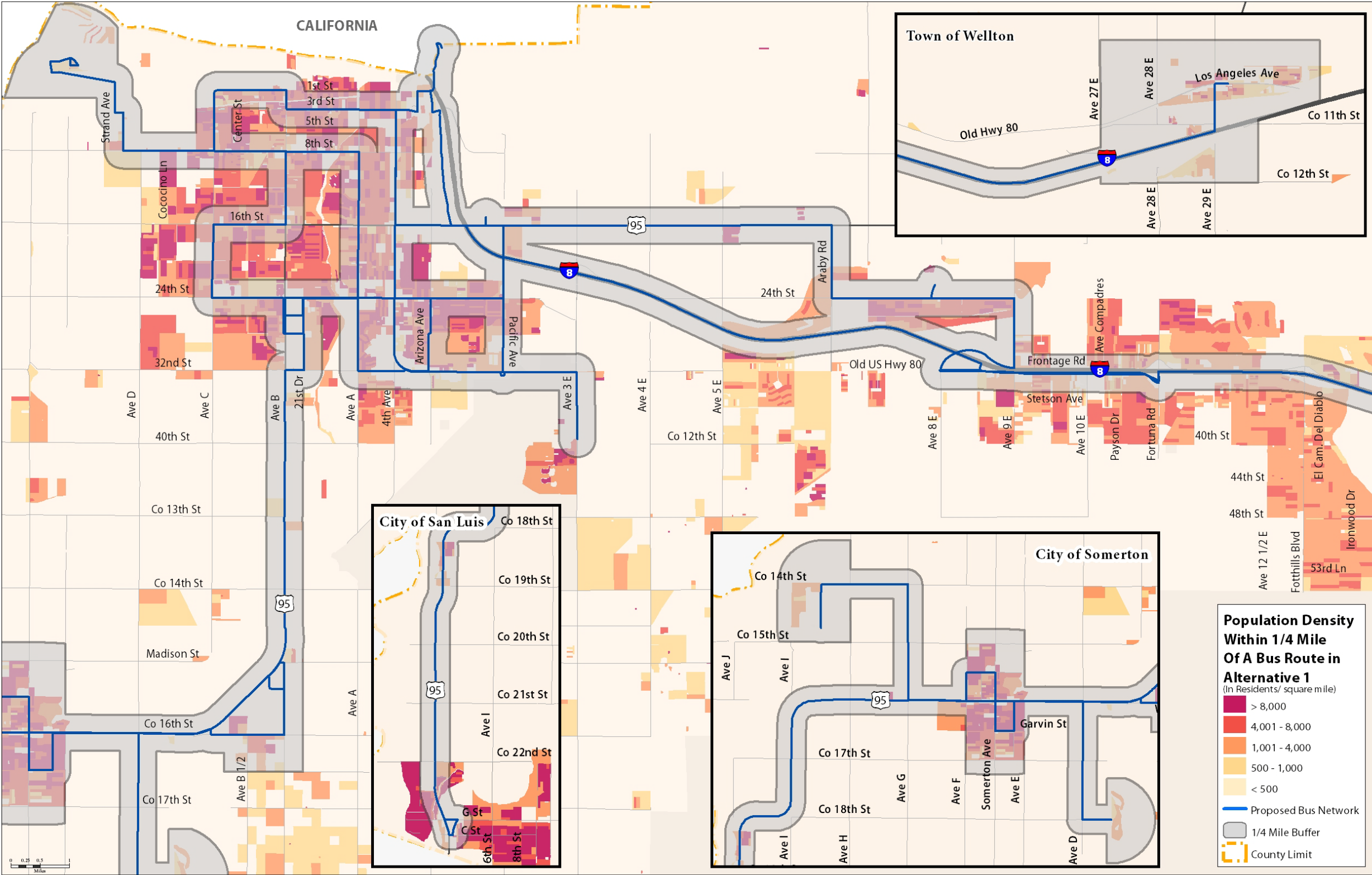
Most jurisdictions would have better transit service coverage with Service Alternative 1, compared to the existing network. In areas such as the City of Somerton, the Town of Wellton, or the Cocopah Indian Reservation, more than 95% of the population would live in the close vicinity of transit service. In the City of Yuma, 56% of the population would live within $\frac{1}{4}$ mile of a bus route, which represents a 17% increase compared to existing service.

Although no resident of the Fort Yuma Quechan Indian Reservation lives within $\frac{1}{4}$ mile of a fixed-route in Arizona, Service Alternative 1 provides service on the reservation and offers a transfer point for potential Imperial Valley Transit and tribal transit services.

In locations such as the City of San Luis and Fortuna Foothills, service has been decreased or remains the same compared with the existing network. In these areas, Service Alternative 1 offers identical or less coverage compared to the existing network; however, service frequency is increased to balance quality of operations and geographic coverage.

Figure 26 illustrates the population density within $\frac{1}{4}$ mile of a fixed-route or within a deviated fixed-route service area for Service Alternative 1.

Figure 26: Population Density within ¼ mile of a bus route – Service Alternative 1



Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 57: Population Within ¼ Mile of a Fixed-Route – Service Alternative 1

Jurisdiction	Total Population	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternative 1		
City of San Luis	25,505	3,078	12%	3,078	12%	0%
City of Somerton	14,287	4,131	29%	13,879	97%	+68%
Town of Wellton	2,882	989	34%	2,750	95%	+61%
City of Yuma	93,064	36,011	39%	52,191	56%	+17%
Cocopah Indian Tribe	817	525	64%	777	95%	+31%
Quechan Indian Tribe CA-AZ	2,197	0	0%	0	0%	0%
Avenue B and C CDP	4,176	840	20%	2,834	68%	+48%
Donovan Estates CDP	1,508	723	48%	723	48%	0%
El Prado Estates CDP	504	0	0%	191	38%	+38%
Fortuna Foothills CDP	26,265	4,464	17%	3,111	12%	-5%
Gadsden CDP	678	665	98%	665	98%	0%
Rancho Mesa Verde CDP	625	592	95%	625	100%	+5%
Orange Grove Mobile Manor CDP	594	594	100%	594	100%	0%
Yuma County	195,751	57,747	30%	89,008	45%	+16%
Analysis based on 2010 U.S. Census data						

Population With a Disability

Table 58 presents the number and percentage of residents with one or several disabilities (aged 5 or over) living within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternative 1.

In Service Alternative 1, the number of residents with a disability that are located in the vicinity of bus service is higher or identical to existing in most jurisdictions. In Yuma County, 38% of this population would live in the vicinity of transit service. This represents a 14% increase compared to existing service. In the Town of Wellton, the Cocopah Indian Reservation and the City of Somerton, the flexible demand responsive service will reduce the demand for DAR service.

Table 58: Residents With a Disability Within ¼ Mile of a Fixed-Route – Service Alternative 1

Jurisdiction	Percent of Residents With a Disability in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternative 1		
		Number	Percent	Number	Percent	
City of San Luis	11%	76	4%	76	4%	0%
City of Somerton	14%	252	24%	520	50%	+26%
Town of Wellton	25%	2	0%	19	4%	+4%
City of Yuma	18%	4,735	35%	7,424	55%	+20%
Cocopah Indian Tribe	25%	18	7%	37	14%	+7%
Fortuna Foothills CDP	25%	504	10%	474	9%	-1%
Gadsden CDP	11%	11	10%	11	10%	0%
Yuma County	18%	7,239	25%	11,194	38%	+14%
Analysis based on 2000 U.S. Census data						

Yuma Regional Transit Study

Service Alternatives and Recommendations



Population Age 60 or Over

Table 59 presents the number and percentage of seniors living within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternative 1.

In Service Alternative 1, the number of seniors located in the vicinity of bus service is higher or identical to existing in most jurisdictions. 41% of the County's senior population would live in the close vicinity of transit service. This represents an 12% increase compared to existing service. This number is particularly higher in some communities such as the Town of Wellton and the Cocopah Indian Tribe. In these communities, where the percentage of senior residents is much higher than in the rest of the County, the deviated fixed-route service will reduce the demand for costly DAR service.

Table 59: Seniors Within ¼ Mile of a Fixed-Route – Service Alternative 1

Jurisdiction	Percent of Seniors in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternative 1		
		Number	Percent Seniors	Number	Percent Seniors	
City of San Luis	8%	507	24%	507	24%	0%
City of Somerton	9%	642	48%	1,301	97%	+49%
Town of Wellton	45%	181	14%	1,257	97%	+83%
City of Yuma	17%	5,891	37%	8,600	55%	+17%
Cocopah Indian Tribe	33%	54	20%	257	95%	+75%
Quechan Indian Tribe CA-AZ	17%	0	0%	0	0%	0%
Avenue B and C CDP	19%	135	17%	508	65%	+48%
Donovan Estates CDP	13%	100	50%	100	50%	0%
El Prado Estates CDP	12%	0	0%	37	61%	+61%
Fortuna Foothills CDP	49%	2,591	20%	1,797	14%	-6%
Gadsden CDP	15%	85	84%	97	96%	+12%
Rancho Mesa Verde CDP	9%	54	96%	56	100%	+4%
Orange Grove Mobile Manor CDP	20%	118	100%	118	100%	0%
Yuma County	20%	11,661	29%	16,273	41%	+12%
Analysis based on 2010 U.S. Census data						

Population Age 10 to 19

Table 60 details the number of residents aged 10 to 19 living within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternative 1.

In Service Alternative 1, the number of youths located in the vicinity of bus service is higher or identical to existing in all jurisdictions, except in Fortuna Foothills. 47% of the County's residents aged 10 to 19 would live in the close vicinity of transit service. This represents a 17% increase compared to existing service.

El Prado Estates, which has the highest percentage of young residents, compared to the rest of the County, would be served by a fixed-route in Service Alternative 1.

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 60: Youths Within ¼ Mile of a Fixed-Route – Service Alternative 1

Jurisdiction	Percent of Youths in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternative 1		
		Number	Percent Youth	Number	Percent Youth	
City of San Luis	22%	579	10%	579	10%	0%
City of Somerton	20%	742	27%	2,705	97%	+70%
Town of Wellton	17%	129	41%	303	96%	+55%
City of Yuma	16%	6,211	41%	8,715	58%	+17%
Cocopah Indian Tribe	14%	102	87%	110	94%	+7%
Quechan Indian Tribe CA-AZ	18%	0	0%	0	0%	0%
Avenue B and C CDP	17%	148	20%	501	69%	+49%
Donovan Estates CDP	18%	131	47%	131	47%	0%
El Prado Estates CDP	24%	0	0%	40	33%	+33%
Fortuna Foothills CDP	8%	276	14%	189	9%	-4%
Gadsden CDP	21%	118	83%	140	99%	+15%
Rancho Mesa Verde CDP	23%	136	94%	144	100%	+6%
Orange Grove Mobile Manor CDP	16%	93	100%	93	100%	0%
Yuma County	16%	9,530	30%	14,938	47%	+17%
Analysis based on 2010 U.S. Census data						

Activities and Points of Interest

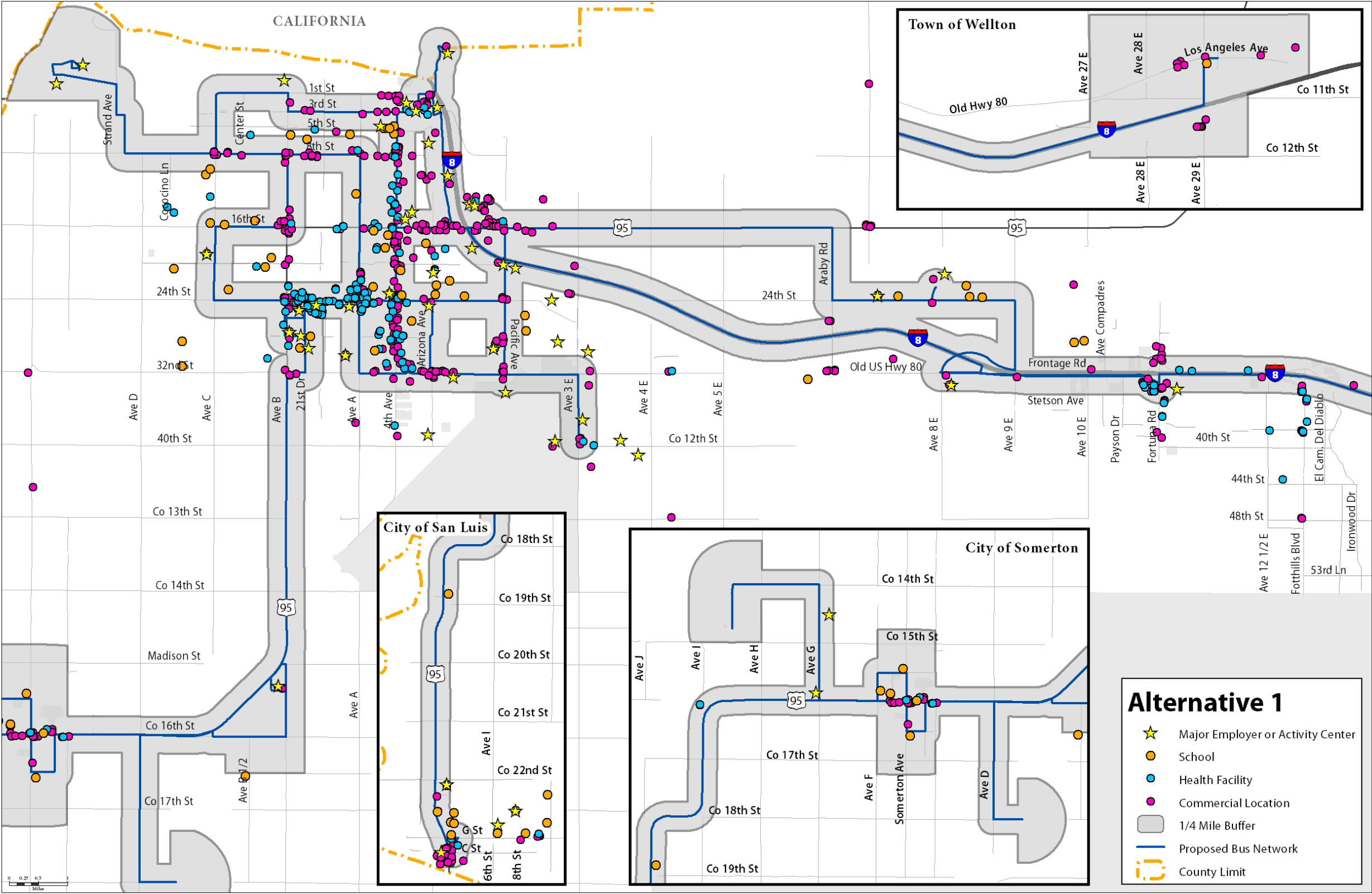
Table 61 and Figure 27 show how many schools, health facilities, commercial location, major employers and other points of interest are located within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternative 1.

The network proposed in Service Alternative 1 serves more destinations than the existing network. More than an additional 26% of commercial locations and health facilities would be served in Service Alternative 1. This increase is mainly due to the transit service provided on 4th Avenue.

Table 61: Points of Interest Within ¼ Mile of a Fixed-Route – Service Alternative 1

Point of Interest	Total in Study Area	Within ¼ Mile of a Fixed-Route		Percent Change
		Current Network	Alternative 1	
Major Employers or Activity Centers	57	35	38	+9%
Schools	72	40	48	+20%
Health Facilities	219	154	194	+26%
Commercial Locations	401	268	340	+27%
Source: YMPO 2011				

Figure 27: Points of Interest within ¼ mile of a bus route – Service Alternative 1



6.2.2 Service Alternatives 2 and 3

Population Density

Table 62 shows the percentage of the total population that lives within ¼ mile of a bus route or within a deviated fixed-route service area for Service Alternatives 2 and 3. For comparison, the same figures are shown for the existing network.

With the network proposed in Service Alternatives 2 and 3, 55% of the County's population would be located within ¼ mile of a fixed-route or within the coverage area of a deviated fixed-route service. This represents a 26% increase compared to the existing network coverage and a 10% increase compared to Service Alternative 1.

All jurisdictions would have better or identical transit service coverage with Service Alternative 2 or 3. In areas such as the City of Somerton, the Town of Wellton, or the Cocopah Indian Reservation, more than 95% of the population would live in the vicinity of transit service. In the City of Yuma, 56% of the population would live within ¼ mile of a bus route, which represents a 17% increase compared to existing service.

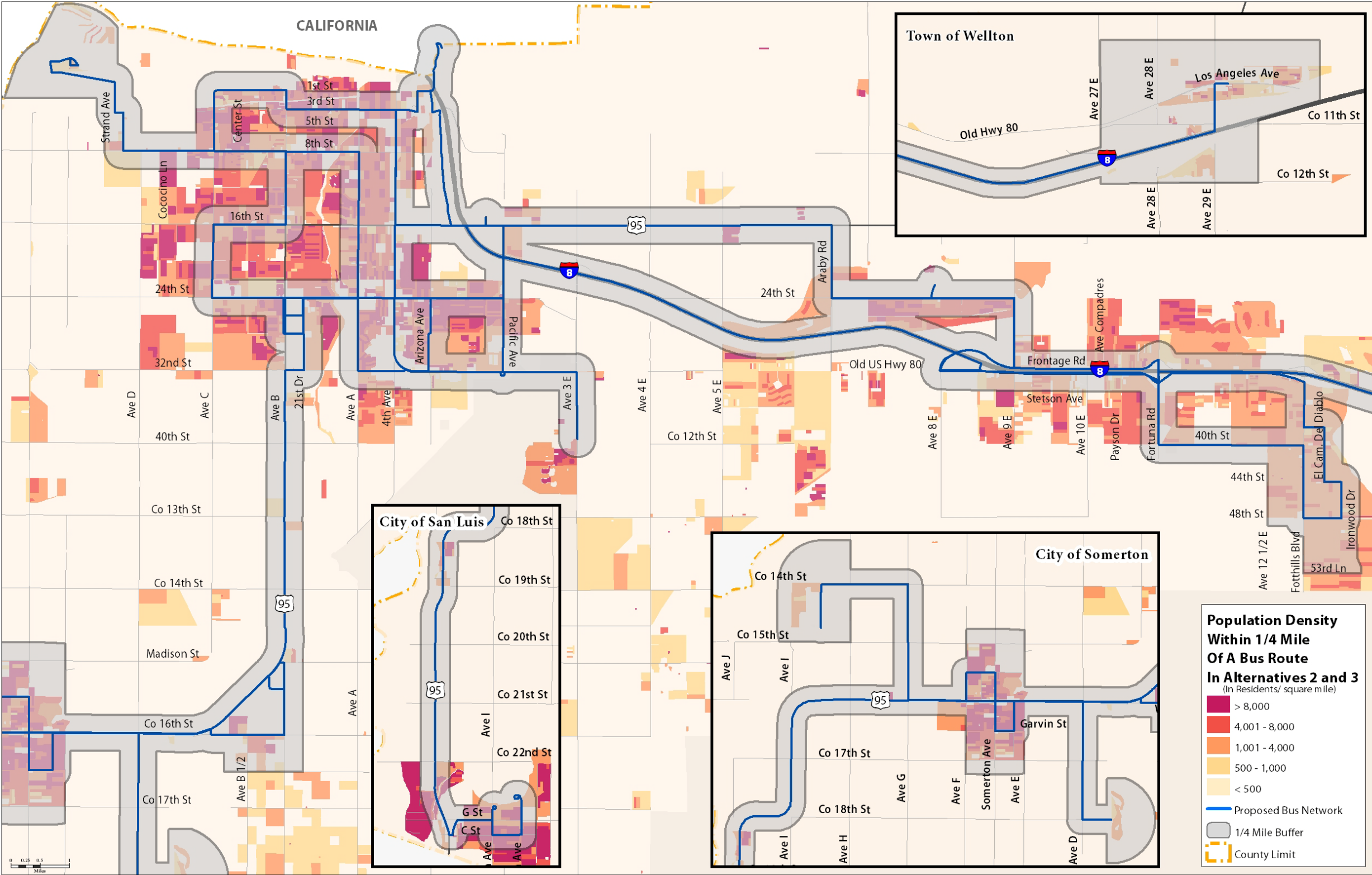
Although no resident of the Fort Yuma Quechan Indian Reservation would live within ¼ mile of a fixed-route, Service Alternatives 2 and 3 (similarly to Service Alternative 1), would provide service on the reservation and offer a potential transfer point for Imperial Valley Transit and tribal transit services.

Compared to Service Alternative 1, the City of San Luis and Fortuna Foothills would be better served, with bus routes going further east into residential areas. In Fortuna Foothills, 49% of the residents would live within ¼ mile of a bus route or within a deviated fixed-route service area. This represents a 38% increase compared to Service Alternative 1. The local service in downtown San Luis allows 40.3% of the population of the city to live within ¼ mile of a bus route. This improvement represents a 28% increase compared to existing service or Alternative 1.

Figure 28 illustrates the population density within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternatives 2 and 3.



Figure 28: Population Density within ¼ mile of a bus route – Service Alternatives 2 and 3



Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 62: Population Within ¼ Mile of a Fixed-Route – Service Alternatives 2 and 3

Jurisdiction	Total Population	Population Within ¼ Mile of a Fixed-Route				Change From Existing
		Current Network		Alternatives 2 and 3		
City of San Luis	25,505	3,078	12%	10,269	40%	+28%
City of Somerton	14,287	7,608	53%	13,879	97%	+44%
Town of Wellton	2,882	989	34%	2,750	95%	+61%
City of Yuma	93,064	36,011	39%	52,191	56%	+17%
Cocopah Indian Tribe	817	244	30%	777	95%	+65%
Quechan Indian Tribe CA-AZ	2,197	0	0%	0	0%	0%
Avenue B and C CDP	4,176	840	20%	2,834	68%	+48%
Donovan Estates CDP	1,508	723	48%	723	48%	0%
El Prado Estates CDP	504	0	0%	191	38%	+38%
Fortuna Foothills CDP	26,265	4,464	17%	13,072	50%	+33%
Gadsden CDP	678	665	98%	665	98%	0%
Rancho Mesa Verde CDP	625	592	95%	625	100%	+5%
Orange Grove Mobile Manor CDP	594	594	100%	594	100%	0%
Yuma County	195,751	60,939	31%	107,908	55%	+24%
Analysis based on 2010 U.S. Census data						

Population with a Disability

Table 63 presents the number and percentage of residents with one or several disabilities (aged 5 or over) living within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternatives 2 and 3. In these alternatives the number of residents with a disability that are located in the vicinity of bus service is higher in all jurisdictions. In Yuma County, 41% of this population would live in the close vicinity of transit service. This represents a 16% increase compared to existing service. In Fortuna Foothills, the Town of Wellton, the Cocopah Indian Reservation where the percentage of residents with a disability is higher than in the rest of County, the flexible demand responsive service will reduce the demand for costly DAR service.

Table 63: Residents With a Disability Within ¼ Mile of a Fixed-Route – Service Alternatives 2 and 3

Jurisdiction	Percent of Residents With a Disability in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternatives 2 and 3		
		Number	Percent	Number	Percent	
City of San Luis	11%	76	4%	76	4%	0%
City of Somerton	14%	252	24%	520	50%	+26%
Town of Wellton	25%	2	0%	19	4%	+4%
City of Yuma	18%	4,735	35%	7,424	55%	+20%
Cocopah Indian Tribe	25%	18	7%	37	14%	+7%
Fortuna Foothills CDP	25%	504	10%	474	9%	-1%
Gadsden CDP	11%	11	10%	11	10%	0%
Yuma County	18%	7,239	25%	11,194	38%	+14%
Analysis based on 2000 U.S. Census data						

Yuma Regional Transit Study

Service Alternatives and Recommendations



Population Age 60 or Over

Table 64 presents the number and percentage of seniors living within ¼ mile of a fixed-route or within a deviated fixed-route service area for Service Alternatives 2 and 3.

Compared to the existing network or Service Alternative 1, the number of seniors that would be located in the vicinity of bus service is higher or identical in all jurisdictions. 57% of the County's senior population would live in the close vicinity of transit service. This represents a 27% increase compared to existing service and a 16% increase compared to Service Alternative 1.

This number is particularly higher in some communities such as the Town of Wellton and the Cocopah Indian Tribe. In Fortuna Foothills, where the percentage of seniors is the highest in the County, 55% of those seniors would live in the close vicinity of a bus route. In communities, where the percentage of senior residents is much higher than in the rest of the County, the proximity to fixed-route transit and the deviated fixed-route service will reduce the demand for DAR service.

Table 64: Seniors Within ¼ Mile of a Fixed-Route – Service Alternatives 2 and 3

Jurisdiction	Percent of Seniors in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternatives 2 and 3		
		Number	Percent Seniors	Number	Percent Seniors	
City of San Luis	8%	507	24%	1,145	53%	+30%
City of Somerton	9%	782	58%	1,301	97%	+39%
Town of Wellton	45%	181	14%	1,257	97%	+83%
City of Yuma	17%	5,891	37%	8,600	55%	+17%
Cocopah Indian Tribe	33%	115	43%	257	95%	+53%
Quechan Indian Tribe CA-AZ	17%	0	0%	0	0%	0%
Avenue B and C CDP	19%	135	17%	508	65%	+48%
Donovan Estates CDP	13%	100	50%	100	50%	0%
El Prado Estates CDP	12%	0	0%	37	61%	+61%
Fortuna Foothills CDP	49%	2,591	20%	7,124	55%	+35%
Gadsden CDP	15%	85	84%	97	96%	+12%
Rancho Mesa Verde CDP	9%	54	96%	56	100%	+4%
Orange Grove Mobile Manor CDP	20%	118	100%	118	100%	0%
Yuma County	20%	11,931	30%	22,684	57%	+27%
Analysis based on 2010 U.S. Census data						

Population Age 10 to 19

Table 65 details the number of residents aged 10 to 19 living within ¼ mile of a fixed-route or within a flexible demand responsive service area for Service Alternatives 2 and 3.

Compared to the existing network and to Service Alternative 1, the number of youths located in the vicinity of bus service is higher or identical in all jurisdictions. 56% of the County's residents aged 10 to 19 would live in the close vicinity of transit service. This represents a 24% increase compared to existing service and an 8% increase compared to Service Alternative 1.

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Table 65: Youths Within ¼ Mile of a Fixed-Route – Service Alternatives 2 and 3

Jurisdiction	Percent of Youths in the Jurisdiction	Population Within ¼ Mile of a Fixed-Route				Percent Change
		Current Network		Alternatives 2 and 3		
		Number	Percent Youth	Number	Percent Youth	
City of San Luis	22%	579	10%	2,286	40%	+30%
City of Somerton	20%	1,276	46%	2,705	97%	+51%
Town of Wellton	17%	129	41%	303	96%	+55%
City of Yuma	16%	6,211	41%	8,715	58%	+17%
Cocopah Indian Tribe	14%	30	26%	110	94%	+68%
Quechan Indian Tribe CA-AZ	18%	0	0%	0	0%	0%
Avenue B and C CDP	17%	148	20%	501	69%	+49%
Donovan Estates CDP	18%	131	47%	131	47%	0%
El Prado Estates CDP	24%	0	0%	40	33%	+33%
Fortuna Foothills CDP	8%	276	14%	189	9%	-4%
Gadsden CDP	21%	118	83%	140	99%	+15%
Rancho Mesa Verde CDP	23%	136	94%	144	100%	+6%
Orange Grove Mobile Manor CDP	16%	93	100%	93	100%	0%
Yuma County	16%	10,160	32%	17,623	56%	+24%
Analysis based on 2010 U.S. Census data						

Activities and Points of Interest

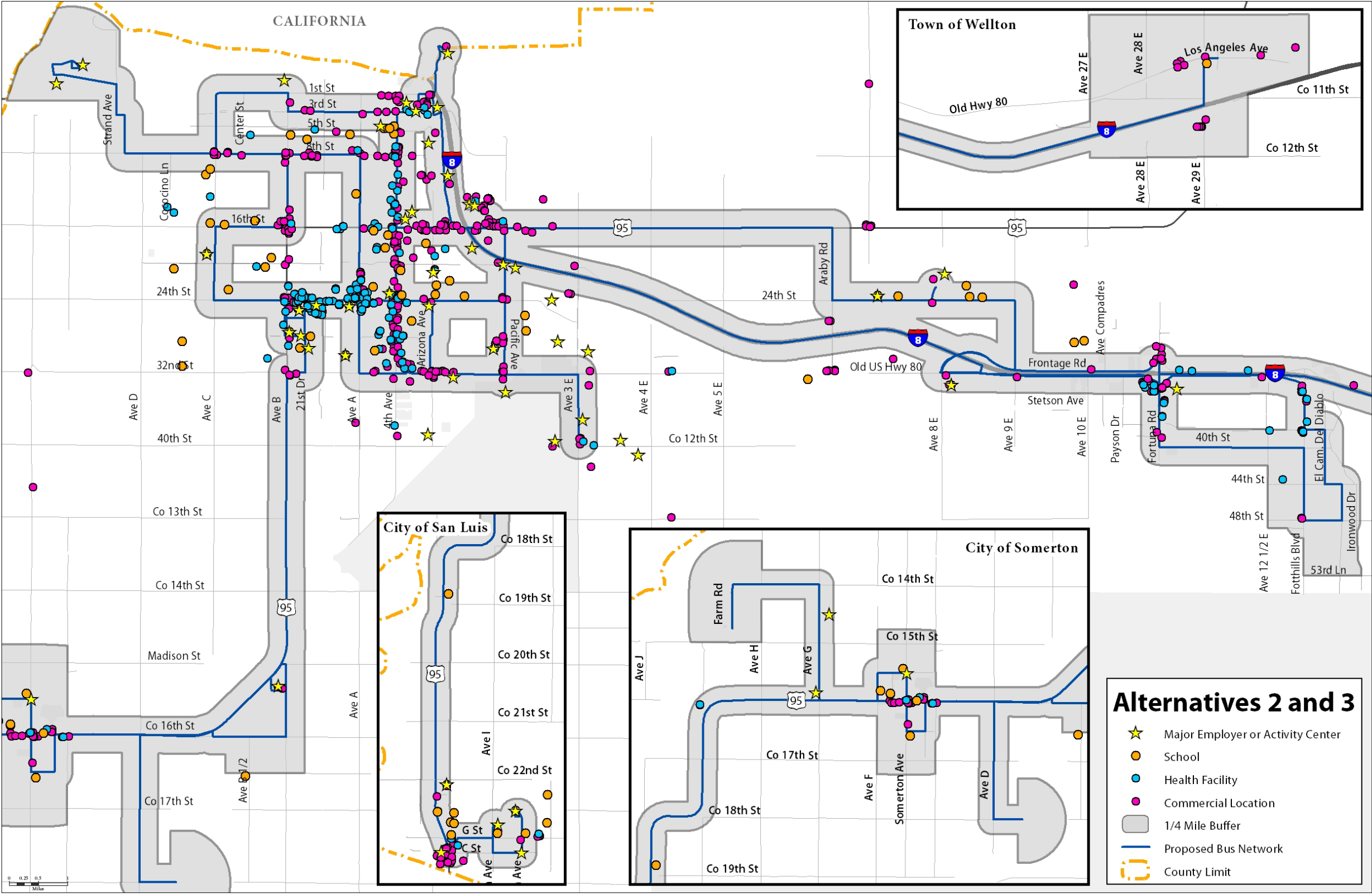
Table 66 and Figure 29 show how many schools, health facilities, commercial locations, major employers and other points of interest are located within ¼ mile of a fixed-route or within a deviated fixed-route service area for alternatives 2 and 3.

The proposed network would serve more destinations than the existing network and than Service Alternative 1. 27% more commercial locations and 31% more health facilities would be served by Service Alternatives 2 and 3. 20% more schools would be located within ¼ mile of a transit route under Service Alternatives 2 and 3.

Table 66: Points of Interest Within ¼ Mile of a Fixed-Route – Service Alternatives 2 and 3

Point of Interest	Total in Study Area	Within ¼ Mile of a Fixed-Route		Percent Change
		Existing	Alternatives 2 and 3	
Major Employers or Activity Centers	57	35	40	+149%
Schools	72	40	50	+25%
Health Facilities	219	154	202	+31%
Commercial Locations	401	268	340	+27%
Source: YMPO 2011				

Figure 29: Points of Interest within ¼ mile of a bus route – Service Alternatives 2 and 3



6.2.3 Service Alternatives Comparison

The three service alternatives provide two different route networks and three different levels of service. While Service Alternative 1 has the lowest annual cost, it reaches fewer potential transit riders and operates during reduced hours. Service Alternative 3 reaches the greatest audience and provides the most convenient service.

Table 67 compares key characteristics of the three alternatives.

Table 67: Summary of Service Alternatives

	2010 Transit System*	Alternative 1	Alternative 2	Alternative 3
Number of routes	8	7	8	8
Number of annual service hours	36,159	25,367	61,948	97,305
Total annual operating cost	\$2,447,194	\$1,712,028	\$4,179,730	\$6,566,027
Percent of Yuma County Population within ¼ mile	32%	45%	55%	
*2010 NTD Data – includes suspended Red and Blue Routes				

6.3. Complementary Paratransit Service

The ADA requires that complementary paratransit service be provided within a ¾ mile radius of all fixed-route transit service to serve riders who are physically or mentally unable to use the fixed-route system.

Under all service alternatives, the ADA complementary service will be operated the same way. Because the current DAR system faces very high operating costs and low ridership in remote areas of the County, the DAR service area will be limited to a ¾ mile radius of fixed-routes in southwestern Yuma County. In other areas, as well as in the deviated fixed-route service areas, no DAR service will be provided. Agreement to operate DAR in California should be established with Imperial Valley Transit prior to implementation of the fixed route to Quechan Paradise Casino.

Under Service Alternative 1, DAR services will be limited only to those certified as having ADA-eligible disabilities. Service Alternative 2 and 3 will provide a more flexible service available to customers having ADA-eligible disabilities, persons aged 65 or over, medically required travel assistants accompanying ADA-certified disabled riders, and travel companions of an eligible rider. Other passengers accompanying DAR-eligible riders would travel according to seat availability.

The DAR service would have hours of operation identical to YCAT. In Service Alternative 1 the DAR service would be available Monday through Friday, from 6:30am to 7:30pm; on Saturdays, from 9:00am to 5:00pm. In Service Alternatives 2 and 3 the DAR service would be available Monday through Friday from 6:00am to 9:00pm; as well as on Saturdays and Sundays, from 8:00am to 7:00pm. No DAR service would be provided on holidays, since fixed-route service would not run.

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Table 68 and Table 69 summarize characteristics of the DAR service in Service Alternatives 1, 2, and 3. In Service Alternative 1, the budget to operate the DAR service is estimated to \$632,700, for 9,500 service hours per year. In Service Alternatives 2 and 3, the budget to operate the DAR service is estimated to \$799,200, for 12,000 service hours per year.

Table 68: DAR Service – Service Alternative 1

DAR Service - Service Alternative 1		
Service Area	¾ mile of a fixed-route, no service in flexible demand responsive service areas	
Annual Service Hours	9,500	
Percent of Total Transit Service	37.5%	
Annual Operating Cost	\$632,700	
Schedule	Monday through Friday 6:30am to 8:34pm	Saturday 8:40am to 5:34pm

Table 69: DAR Service – Service Alternatives 2 and 3

DAR Service –Service Alternatives 2 and 3		
Service Area	¾ mile of a fixed-route, no service in flexible demand responsive service areas	
Annual Service Hours	12,000	
Percent of Total Transit Service	19.4% for Alternative 2; 12.5% for Alternative 3	
Annual Operating Cost	\$799,200	
Schedule	Monday through Friday 6:00am to 10:17pm	Saturday and Sunday 8:00am to 10:17pm

Figure 30 and Figure 31 illustrate the DAR service area for Service Alternative 1 and Service Alternatives 2 and 3, respectively.

Figure 30: Dial-a-Ride Service Area –Service Alternative 1

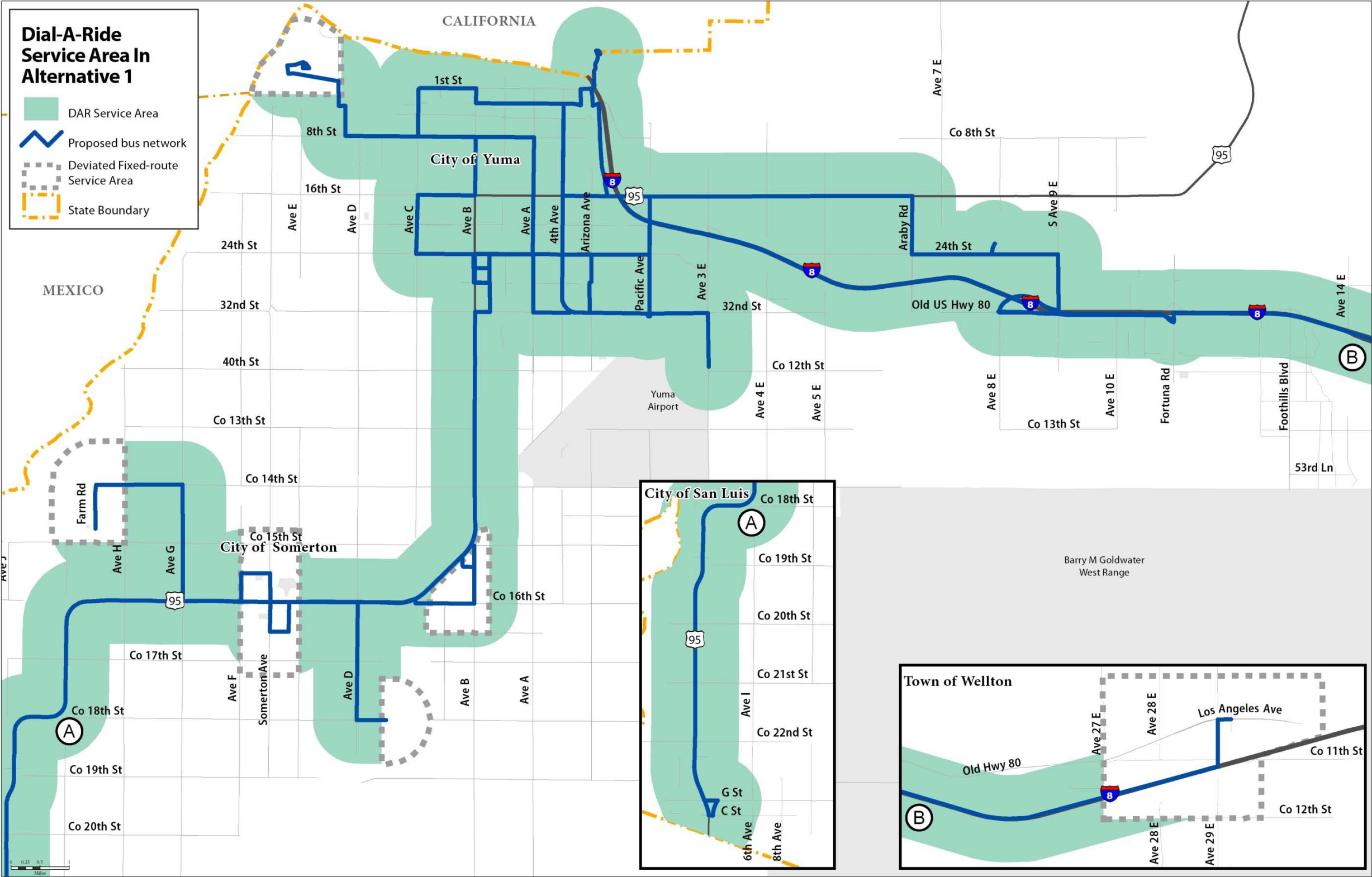
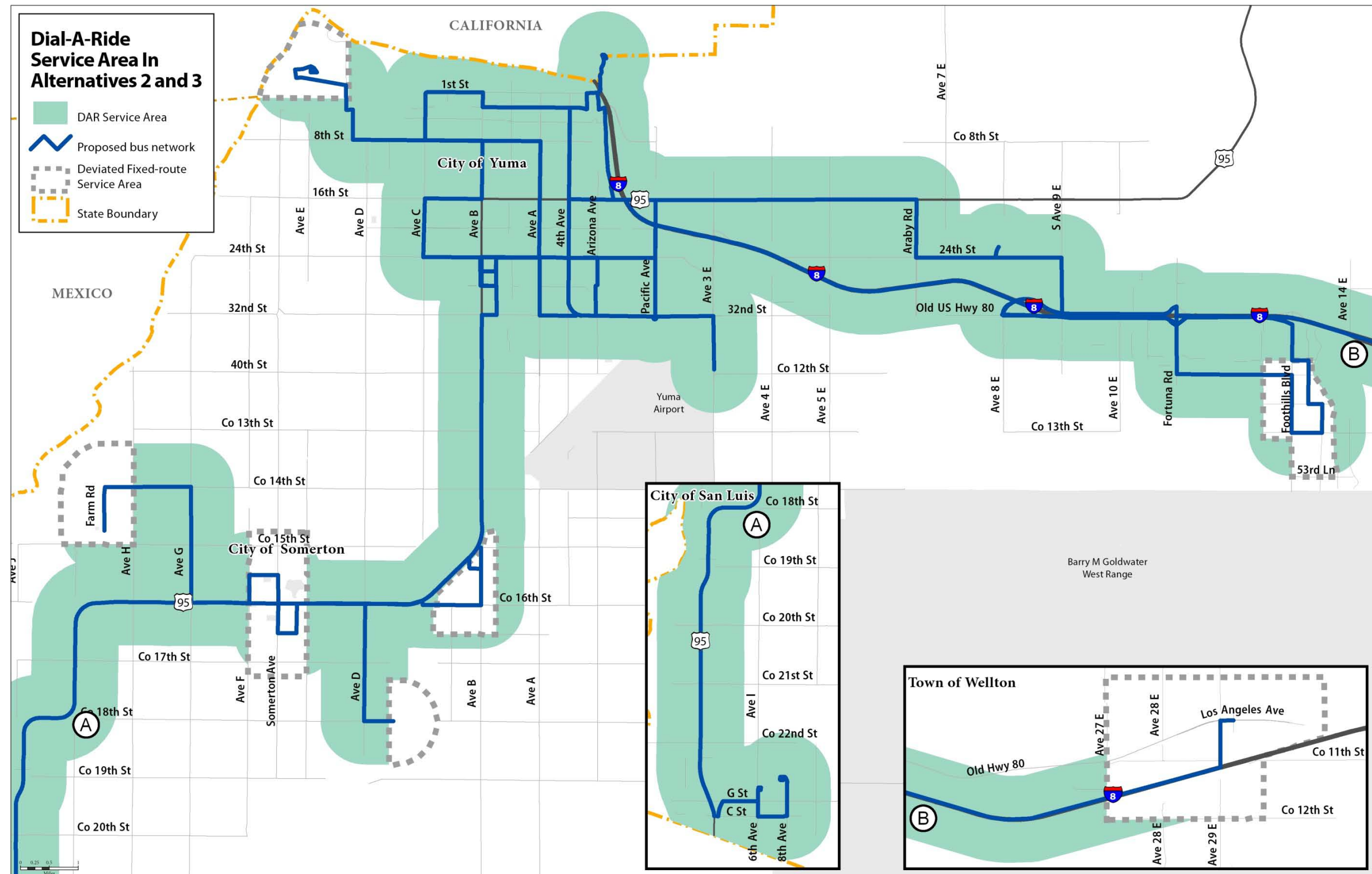


Figure 31: Dial-a-Ride Service Area –Service Alternatives 2 and 3



6.4. Fare Policy

In order to make the southwestern Yuma County transit system more appealing and easy to use, a simplified fare system that allows for the extensive use of smart cards is recommended.

The main modification in the fare system is the establishment of a flat fare, independent of the distance traveled. Discounted travel passes are maintained but adapted to the new fare scheme.

6.4.1 YCAT Fare System

As detailed in Table 70, on YCAT buses, the basic one-way fare is \$2.00. The basic fare decreases according to the number of passes bought at one time or if the rider uses a Smart Card. 10-ride passes and 31-day passes will only be available through a Smart Card.

Discounted fares equal to half of basic fares are available to eligible riders including:

- Seniors aged 65 or over,
- Persons with disabilities,
- Medicare card holders, and
- Students aged 5 to 18.

To pay discounted fares, these riders must show proof of their age, disability status, or studentship.

In accordance with partnerships between the transit agency and certain institutions, some specific commuters would be able to ride the YCAT system for free, after showing proof of their eligibility. Those riders include:

- Cocopah Indian Tribe members,
- AWC and NAU students and employees,
- YPIC Charter High School, Aztec High School and Vista High School students and employees.

Children under 5 years of age can ride for free if they do not travel in a group of more than 4 children.

Table 70: YCAT Fare System

YCAT Fare System	Basic Fare	Discounted Fare
One Way	\$2.00	\$1.00
One Way - with Smart Card	\$1.75	75 cents
Day Pass	\$5.00	\$2.50
Day Pass - with Smart Card	\$3.50	\$1.75
10-Ride Pass - Smart Card	\$17.50	\$7.50
31-Day Pass - Smart Card	\$60.00	\$30.00
Source: YCIPTA, October 2011		

No transfers are possible with a one way ticket or 10-ride pass. Riders with day passes or 31-day passes can transfer for free.

6.4.2 Greater Yuma Area Dial-A-Ride Fare System

Similarly to the YCAT fare system, the DAR service will propose a flat fare independent of the distance traveled. A one-way DAR trip would cost \$4.00. Fares are reduced according to the number of passes bought at once. Passengers accompanying DAR eligible riders would pay the corresponding YCAT fare plus \$2.00. Smart cards are not accepted on DAR Buses. Table 71 details the DAR fare structure.

Table 71: DAR Fare system

Description	Fare
One Way	\$4.00
10-Ride Pass	\$35.00
Upgrade From YCAT Pass to DAR Pass or DAR Eligible Rider's Companion	YCAT fare + \$2.00
5 Or More Passengers Traveling From/To The Same Location	\$2.00 per person
Source: YCIPTA, October 2011	

6.5. Transit-Related Infrastructure and Communication Programs

Transit-related infrastructure and communication programs should be developed in southwestern Yuma County in order to make the system more comfortable, safe, easy to use, and visible to potential riders.

6.5.1 Transit Infrastructure

With the restructuring of the bus network, bus stops should be installed at all fixed-route pick-up and drop-off locations. The minimum features these bus stops should include are a bus flag indicating the names of the routes stopping at this location and ADA compliant seating. At locations with higher transit demand, enhanced bus facilities should be installed. They should include a shelter, a system map and schedules of the routes stopping at the location. Trash cans should also be placed at high volume stops.

All bus stops should be located and constructed to meet ADA requirements. Stops are to be on street adjacent to points of interests. In areas where a buses need to enter parking lots, these situations should be evaluated for safety prior to implementation and coordinated with retail facility operations. Additionally, neighborhoods adjacent to transit routes should have pedestrian facilities to improve connectivity and safety.

In addition to the bicycle parking currently located in San Luis, additional bicycle facilities should be developed throughout southwestern Yuma County to provide access to transit facilities, as well as safe storage of bicycles. Bicycle lanes should be considered in the development of the transportation network. Additionally, bicycle racks should be made available at high-volume stops and where there is demonstrated demand, based upon field review or requests.

Bus bays should be built at locations where layover may occur, such as at transfer points or in deviated fixed-route service areas. Bus pullouts should also be provided at high-volume stops to ensure safety and facilitate roadway traffic. Examples of locations that may require bus bays include:

- North Cocopah Indian Reservation,

- Walmart at Avenue B,
- Avenue A and 24th Street near YRMC,
- The area near the City Hall,
- Schools,
- Downtown Somerton, and
- US 95 and County 22nd Street near the Walmart in the City of San Luis.

A bus bay study is recommended to identify and prioritize specific locations where these infrastructures are needed, based on traffic flow, transit levels of service, and safety. Bus bay projects should be bundled with roadway improvement projects when possible, to reduce overall cost.

6.5.2 Transit-related Communication

Additional communication to the public regarding transit will promote an understanding of the services offered and result in improving ridership. Suggested improvements include:

- Enhance image of YCAT as the ‘go-to’ place for all transit related information in southwestern Yuma County
- All key information should be located on the YCAT website, although information can also be provided on YCIPTA, YMPO and other municipality websites
- Post detailed route maps and schedules online
- Post route map and schedules at high-volume bus stops
- Develop an online ‘trip planner’
- Develop simple instructional materials for the public and promote both online and in print
 - “How to ride the bus”
 - “How to purchase a bus pass”
- Develop rider education program to educate riders and make them comfortable traveling by bus
 - Specific campaigns should be developed to help seniors, riders with disabilities, and students better use the fixed-route transit system.
 - Partner with schools, home owners associations, senior centers and health facilities to develop targeted rider travel training.

6.6. Financial Plan

The financial plan for the transit system in southwestern Yuma County has operating and capital components supported by various funding sources to meet the operating, capital and administrative requirements of the transit agency.

Operating funds are used for fuel, maintenance, insurance, liabilities, operator administration and salaries, and benefits. Capital funds are used to purchase vehicles and improve transit facilities.

The analysis of deficiencies in the transit system highlighted the lack of reliable and dedicated transit sources. Therefore, two of the three financial scenarios proposed are based on a dedicated sales tax that would be used to support transit operations in the region.

6.6.1 Revenue Sources

The transit system in southwestern Yuma County relies on several funding sources as described in the following section. They include local and Federal funding sources, passenger fares, as well as other special funding sources.

Local Funding

As detailed in Table 72, funding from local jurisdictions in southwestern Yuma County is anticipated to provide over \$500,000 in fy11/12. If a transit tax is implemented, as assumed for Service Alternatives 2 and 3, local jurisdiction funding would not continue.

Table 72: Local Funding Sources

Funding Source	Total
Yuma County	\$154,960
City of Yuma	\$200,000
City of Somerton	\$29,919
City of San Luis	\$70,572
Cocopah Indian Tribe	\$41,196
Town of Wellton	\$14,499
Total	\$511,146
Source: YCIPTA, October 2011	

Federal Revenue Sources

In southwestern Yuma County, current Federal funds come from the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA), and could include the following grants.

- The FTA Urbanized Area Formula Program (Section 5307): this formula grant provides transit capital and operating assistance in urbanized areas¹³ and for transportation-related planning.

¹³ The U.S. Census Bureau defines an “Urbanized Area” as an area that has a population of at least 50,000 and includes the surrounded closely settled area. Transportation services which operate exclusively within Urbanized Areas are not eligible for Section 5311 funding. However, Section 5311 projects may service “NonUrbanized” portions of Maricopa, Pima, Yuma, Yavapai, and Coconino Counties (areas within the metropolitan area but not located in the Census-defined Urbanized Area).

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For areas with a population of 50,000 to 199,999, the formula is based on both population and population density.¹⁴ These funds would be used for routes operating in the more urban areas, such as the City of Yuma.

- The FTA Formula Grants for Other than Urbanized Areas (Section 5311): This program, often referred to as the Rural Public Transit Program, provides public transportation funding for rural areas with population under 50,000. This funding may be used for capital, operating, and administrative expenses.¹³ Funds can be used a) within small urban and rural communities, b) among small urban and rural communities, and c) between small urban and rural communities and Urbanized Areas (cities of 50,000 or more). In the YCAT service area, these funds would be used for routes operating outside of the urbanized portion of the service area.
- Surface Transportation Program (STP) Flex Funding: This is STP funding transferred from highway use to transit use by the State Transportation Board. This is an annual apportionment to the YMPO and can only be used for capital expenses.¹⁵
- The FTA Public Transportation on Indian Reservations Program (Section 5311 (c)): the Tribal Transit Grant Program is funded under the Section 5311 program. FTA conducts a national competitive selection process on an annual basis. The program is only available to Federally-recognized tribes for capital, operating, planning, and administrative expenses to support tribal public transportation in rural areas.¹³ The Cocopah Indian Tribe funds the Purple Route in entirety and it allows the Cocopah Indian Tribe members to ride any YCAT route for free. May consider funding additional routes in the future.

Table 73 through Table 75 detail the route service hours for Service Alternatives 1, 2, and 3 that could be considered for 5307, 5311 and 5311 (c) funding programs as defined by FTA.

Table 73: RSH Federal Funding Eligibility - Service Alternative 1

Route	Annual RSH				Percentage of Service		
	Eligible for 5307	Eligible for 5311	Eligible for 5311 (c)	Total	Urban Areas	Rural Areas	Tribal Areas
Blue Route	1,731	1,712	0	3,443	50.3%	49.7%	0.0%
Green Route	2,978	459	0	3,437	86.7%	13.3%	0.0%
Grey Route	519	1,625	746	2,890	18.0%	56.2%	25.8%
Night CAT	760	0	0	760	100.0%	0.0%	0.0%
Orange Route	158	551	0	709	22.2%	77.8%	0.0%
Purple Route	2,104	803	449	3,357	62.7%	23.9%	13.4%
Red Route	3,360	90	0	3,450	97.4%	2.6%	0.0%
Yellow Route	2,789	4,469	0	7,258	38.4%	61.6%	0.0%
DAR	4,750	4,750	0	9,500	50.0%	50.0%	0.0%
Total	19,150	14,459	1,195	34,804	55.0%	41.5%	3.4%

¹⁴ Source: Federal Transit Administration website

¹⁵ Source: Arizona Department of Transportation

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Table 74: RSH Federal Funding Eligibility - Service Alternative 2

Route	Annual RSH				Percentage of Service		
	Eligible for 5307	Eligible for 5311	Eligible for 5311 (c)	Total	Urban Areas	Rural Areas	Tribal Areas
Blue Route	2,119	2,096	0	4,215	50.3%	49.7%	0.0%
Green Route	8,536	1,314	0	9,850	86.7%	13.3%	0.0%
Grey Route	1,048	3,278	1,505	5,831	18.0%	56.2%	25.8%
Night CAT	760	0	0	760	100.0%	0.0%	0.0%
Orange Route	158	551	0	709	22.2%	77.8%	0.0%
Pink Route	1,639	498	0	2,137	76.7%	23.3%	0.0%
Purple Route	2,525	964	539	4,028	62.7%	23.9%	13.4%
Red Route	9,626	256	0	9,882	97.4%	2.6%	0.0%
Yellow Route	10,545	13,930	0	24,475	43.1%	56.9%	0.0%
DAR	6,000	6,000	0	12,000	50.0%	50.0%	0.0%
Total	42,954	28,889	2,044	73,887	58.1%	39.1%	2.8%

Table 75: RSH Federal Funding Eligibility - Service Alternative 3

Route	Annual RSH				Percentage of Service		
	Eligible for 5307	Eligible for 5311	Eligible for 5311 (c)	Total	Urban Areas	Rural Areas	Tribal Areas
Blue Route	3,492	3,454	0	6,946	50.3%	49.7%	0.0%
Green Route	14,478	2,229	0	16,707	86.7%	13.3%	0.0%
Grey Route	1,048	3,278	1,505	5,831	18.0%	56.2%	25.8%
Night CAT	760	0	0	760	100.0%	0.0%	0.0%
Orange Route	158	551	0	709	22.2%	77.8%	0.0%
Pink Route	1,639	498	0	2,137	76.7%	23.3%	0.0%
Purple Route	2,525	964	539	4,028	62.7%	23.9%	13.4%
Red Route	16,326	435	0	16,761	97.4%	2.6%	0.0%
Yellow Route	18,033	23,821	0	41,854	43.1%	56.9%	0.0%
DAR	6,000	6,000	0	12,000	50.0%	50.0%	0.0%
Total	64,457	41,231	2,044	107,733	59.8%	38.3%	1.9%

Table 76 summarizes the previous federal funding that has been received by the region, which is estimated to be available for FY11/12.

Table 76: Federal Funding Sources

Funding Source	Total
Urbanized Area Formula Program - Section 5307	\$1,599,419
Cocopah Indian Tribal Transit Grant – Section 5311(c)	\$227,292
Surface Transportation Program - STP Flex	\$97,111
Total	\$1,923,822
Source: YCIPTA, October 2011	

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Passenger Fares

In order to estimate passenger farebox recovery, a review of transit systems with similar fare structure, including day passes and monthly passes, was conducted to determine average fare per passenger. The detail of this review is presented in Appendix N. The average cost per passenger was calculated to be \$0.88, or 56% of the Full Fare Base Fare.

Table 77 presents anticipated of fare revenues for each Service Alternative, for FY14/15, based upon estimated ridership.

Table 77: Estimated Fixed-Route Fare Revenue¹⁶

	Alternative 1	Alternative 2	Alternative 3
Ridership	413,195	1,504,371	2,824,055
Fare Revenue	\$363,611	\$1,353,934	\$2,485,169

Other Funding Sources

In order to face the worsening economy and the decline in revenues, the transit agency continuously tries to identify new funding sources. These other funding sources are detailed in Table 78. They especially include agreements with educational institutions such as AWC, NAU, and Aztec High School, which provide transit-dedicated funding to allow their students to ride the bus free.

Table 78: Other Funding Sources

Other Funding Source	Total
AWC	\$100,000
Aztec HS	\$47,920
SMILE - DAR	\$2,640
WACOG	\$88,717
Advertising	\$5,000
NAU	\$7,050
In-Kind	\$40,188
Interest Income	\$45,000
Misc Revenue	\$1,500
Greyhound	\$30,000
YPIC	\$15,300
Total	\$383,315
Source: YCIPTA, October 2011	

Potential transit-dedicated transaction privilege tax

A potential reliable funding source for the transit system is the establishment of a transit-dedicated sales tax which would be applied to certain transactions within the County, applied similarly to current county-wide sale taxes for the Health District. Such a tax collection would be submitted to voters for approval.

For this study, sales taxes of 1/10 of a percent sales tax (0.10%) and 1/5 of a percent sales tax (0.20%) were considered and included in the financial scenarios developed. As shown in Table 79, revenues

¹⁶ Estimate shown for FY14/15, which is the first year Alternatives 2 and 3 could be implemented following a county-wide tax.

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collected from such sales taxes are estimated to \$2.240 million with 1/10 of a percent sales tax and \$4.480 million with 1/5 of a percent sales tax.

For the purposes of this study it is anticipated that the transit-dedicated tax would be implemented at the beginning of FY14/15.

Table 79: Transit-dedicated Sales Tax Revenues

Fiscal Year	Health District 1/10 cent Sales Tax	Projected Transit-Dedicated 1/10 cent Sales Tax Revenues	Projected Transit-Dedicated 1/5 cent Sales Tax Revenues
FY06-07	\$2,169,675		
FY07-08	\$2,481,331		
FY08-09	\$2,351,261		
FY09-10	\$2,059,420		
FY10-11	\$2,138,596		
Average	\$2,240,057	\$2,240,057	\$4,480,113
Sources: Yuma County, Citizens Annual Financial Report, 2006 to 2010 Arizona Department of Revenue Annual Reports, 2011			

6.6.2 Financial Plan

This section identifies the operating and capital costs required to implement Service Alternatives 1, 2, and 3. A 2% annual growth in population is assumed for the region. A 1% escalation is assumed for some funding, although STP Flex funds are assumed to remain constant. Tables 80 through 91 present operating and capital costs and revenues for the three alternatives, as well as summarize key performance indicators.

For each service alternative, the capital plan assumes the following expenses:

- Facilities
 - Transit Stops: benches, shelters, signs, and/or other enhancements,
 - Transit Stations/Park-and-Ride Facilities : transit centers and transit-supportive infrastructures,
 - Bus Bays: bus bay installation,
 - Bus Maintenance Facility : Upgrade building facility, doors, security cameras, bus wash facility, or other maintenance amenities,
 - ITS: Implementation and maintenance of Nextbus system,
 - Transit Assessments/Studies: bus bay prioritization study, rider origin-destination study, or other transit-related studies,
 - Other Equipment: shop equipment, office furniture,...
- Vehicles and Accessories
 - Fixed Route Vehicles,
 - DAR Vehicles,
 - Vehicle Accessories: Electronic fareboxe and smartcard system,
 - Transit Support Vehicles: sedans and trucks for support of transit system,
- Computers: Hardware and Software purchase and maintenance, and

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- Transit Enhancements: supplement streets department with sidewalk, bicycle and other multimodal improvements to improve safety, access and mobility for transit riders.

Ridership is estimated based upon a peer city ridership regression analysis and has been normalized based on population and density. Detailed ridership data collection and analysis is recommended to develop a customized ridership estimation tool for the Yuma region. Fare revenue is also estimated based upon the review of peer cities with similar fare systems.

Service Alternative 1 could potentially be implemented during the fiscal year 2012-2013 as it is based on current funding levels with the addition of partnerships with several institutions.

Service Alternatives 2 and 3 require higher capital and operating funding, and are based on the establishment of a transit-dedicated sales tax. Such a tax is subject to voters' approval and would not be in place before a couple of fiscal years.

Given the route descriptions provided for each service alternative, the transit agency could sequentially implement the routes or combine solutions from the three service alternatives, to provide the service that is appropriate given transit demand and available funding.

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Table 80: Service Alternative 1 – Operating Financial Plan

FIXED ROUTE – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	397,150	405,093	413,195	421,459	429,888
Revenue Hours	25,305	25,305	25,305	25,305	25,305
Revenue Miles	606,798	606,798	606,798	606,798	606,798
Fare Revenue	\$349,492	\$356,482	\$363,611	\$370,884	\$378,301
Operating Costs	\$1,756,926	\$1,814,369	\$1,858,905	\$1,913,817	\$1,990,370

DAR – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	30,000	30,600	31,212	31,836	32,473
Revenue Hours	9,500	9,500	9,500	9,500	9,500
Revenue Miles	333,000	333,000	333,000	333,000	333,000
Fare Revenue	\$39,143	\$39,926	\$40,724	\$41,539	\$42,370
Operating Costs	\$650,845	\$669,180	\$688,370	\$708,700	\$737,048

Total Fixed Route and DAR Operating Costs	\$2,407,771	\$2,483,549	\$2,547,275	\$2,622,517	\$2,727,418
Total Administrative Costs	\$391,000	\$394,910	\$398,859	\$402,848	\$406,876
TOTAL OPERATING COSTS	\$2,798,771	\$2,878,459	\$2,946,134	\$3,025,365	\$3,134,294

Operations Funding	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Fare Revenue	\$388,635	\$396,408	\$404,336	\$412,423	\$420,671
Local Funding	\$511,146	\$516,257	\$521,420	\$526,634	\$531,901
Local Sales Tax	-	-	-	-	-
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$383,315	\$387,148	\$391,020	\$394,930	\$398,879
TOTAL FUNDING	\$3,109,807	\$3,144,792	\$3,180,204	\$3,216,049	\$3,252,334

NET OPERATING INCOME/(LOSS)	\$311,036	\$266,333	\$234,069	\$190,684	\$118,040
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Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 81: Service Alternative 1 – Performance Indicators

FIXED ROUTE - Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	15.7	16.0	16.3	16.7	17.0
Passengers/mile	0.65	0.67	0.68	0.69	0.71
Cost/hour	\$69.43	\$71.70	\$73.46	\$75.63	\$78.66
Farebox Recovery	19.9%	19.6%	19.6%	19.4%	19.0%
Cost/passenger	\$4.42	\$4.48	\$4.50	\$4.54	\$4.63
Subsidy/passenger	\$3.54	\$3.60	\$3.62	\$3.66	\$3.75

DAR – Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	3.2	3.2	3.3	3.4	3.4
Passengers/mile	0.09	0.09	0.09	0.10	0.10
Cost/hour	\$68.51	\$70.44	\$72.46	\$74.60	\$77.58
Farebox Recovery	6.0%	6.2%	6.3%	6.4%	6.4%
Cost/passenger	\$21.69	\$21.87	\$22.05	\$22.26	\$22.70
Subsidy/passenger	\$20.39	\$20.56	\$20.75	\$20.96	\$21.39

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 82: Service Alternative 1 – Capital Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
FACILITIES					
Transit Stops	\$15,000	\$15,000	\$20,000	\$20,000	\$25,000
Transit Stations/Park-and-Ride Facilities	\$50,000	-	-	-	\$3,000,000
Bus Bays	-	-	-	-	-
Bus Maintenance Facility	\$15,000	-	\$80,000	-	-
ITS	\$180,000	\$5,000	\$3,000	\$3,000	\$3,000
Transit Assessments/Studies	-	-	-	-	-
Other Equipment (Shop equipment, other)	\$25,000	-	\$2,000	-	-
Total Facilities and Related Improvements	\$285,000	\$20,000	\$105,000	\$23,000	\$3,028,000
VEHICLES AND ACCESSORIES					
Fixed Route Vehicles	-	-	-	-	\$1,500,000
DAR Vehicles	\$165,000	-	-	\$180,000	-
Vehicle Accessories	-	\$525,000	-	-	-
Transit Support Vehicles	-	-	\$50,000	\$75,000	-
Total Vehicles and Accessories	\$165,000	\$525,000	\$50,000	\$255,000	\$1,500,000
COMPUTERS					
Computer Hardware	\$5,000	-	-	-	-
Computer Software	\$5,000	-	-	-	-
Total Computers	\$10,000	\$0	\$0	\$0	\$0
TRANSIT ENHANCEMENTS					
Transit Enhancements	-	-	-	-	-
Total Transit Enhancements	\$0	\$0	\$0	\$0	\$0
TOTAL CAPITAL COSTS	\$460,000	\$545,000	\$155,000	\$278,000	\$4,528,000

Yuma Regional Transit Study

Service Alternatives and Recommendations



CAPITAL FUNDING	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	-	-	4,200,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	97,111	97,111	97,111	97,111	97,111
Carry Over from Previous Years	\$281,566	(\$81,323)	(\$218,176)	(\$9,732)	\$43,448
Carry Over from Operating Income	-	\$311,036	\$266,333	\$234,069	\$190,684
Total Capital Funding	\$378,677	\$326,824	\$145,268	\$321,448	\$4,531,243
NET CAPITAL INCOME/(LOSS)	(\$81,323)	(\$218,176)	(\$9,732)	\$43,448	\$3,243
* Pending grant request and approval					

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 83: Service Alternative 1 – 5 Year Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES					
Capital	\$460,000	\$545,000	\$155,000	\$278,000	\$4,528,000
Operations	\$2,407,771	\$2,483,549	\$2,547,275	\$2,622,517	\$2,727,418
Administrative Costs	\$391,000	\$394,910	\$398,859	\$402,848	\$406,876
TOTAL EXPENSES	\$3,258,771	\$3,423,459	\$3,101,134	\$3,303,365	\$7,662,294
REVENUE					
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	-	-	\$4,200,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	\$97,111	\$97,111	\$97,111	\$97,111	\$97,111
Carry Over from Previous Year Capital	\$281,566	(\$81,323)	(\$218,176)	(\$9,732)	\$43,448
Carry Over from Previous Year Operating	\$0	\$311,036	\$266,333	\$234,069	\$190,684
Total Capital Plan Funding	\$378,677	\$326,824	\$145,268	\$321,448	\$4,531,243
Fare Revenue	\$388,635	\$396,408	\$404,336	\$412,423	\$420,671
Local Funding	\$511,146	\$516,257	\$521,420	\$526,634	\$531,901
Local Sales Tax	-	-	-	-	-
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$383,315	\$387,148	\$391,020	\$394,930	\$398,879
Total Operating Plan Funding	\$3,109,807	\$3,144,792	\$3,180,204	\$3,216,049	\$3,252,334
TOTAL REVENUES	\$3,488,484	\$3,471,615	\$3,325,471	\$3,537,497	\$7,783,577
Net Surplus/(Deficit)	\$229,713	\$48,157	\$224,337	\$234,132	\$121,283

*FTA 5309 revenue is a projection only

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 84: Service Alternative 2 – Operating Financial Plan

FIXED ROUTE – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	428,571	436,586	1,504,371	1,532,503	1,561,161
Revenue Hours	25,305	25,305	61,886	61,886	61,886
Revenue Miles	606,798	606,798	1,032,308	1,032,308	1,032,308
Fare Revenue	\$381,428	\$388,561	\$1,353,934	\$1,379,253	\$1,405,045
Operating Costs	\$1,647,609	\$1,694,423	\$4,264,564	\$4,392,049	\$4,567,731
DAR – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	30,000	30,600	39,426	40,214	41,018
Revenue Hours	9,500	9,500	12,000	12,000	12,000
Revenue Miles	333,000	333,000	420,632	420,632	420,632
Fare Revenue	\$42,720	\$43,519	\$50,350	\$50,749	\$51,149
Operating Costs	\$632,700	\$632,700	\$799,200	\$799,200	\$799,200
Total Fixed Route and DAR Operating Costs	\$2,280,309	\$2,327,123	\$5,063,764	\$5,191,249	\$5,366,931
Total Administrative Costs	\$391,000	\$394,910	\$678,554	\$685,339	\$692,193
TOTAL OPERATING COSTS	\$2,671,309	\$2,722,033	\$5,742,318	\$5,876,589	\$6,059,124
Operations Funding	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Fare Revenue	\$424,148	\$432,080	\$1,404,284	\$1,430,002	\$1,456,193
Local Funding	\$511,146	\$516,257		-	-
Local Sales Tax (50% operations)	-	-	\$2,285,082	\$2,307,933	\$2,331,012
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$383,315	\$387,148	\$391,020	\$394,930	\$398,879
TOTAL FUNDING	\$3,145,320	\$3,180,464	\$5,943,813	\$6,014,927	\$6,086,968
NET OPERATING INCOME/(LOSS)	\$474,012	\$458,431	\$201,495	\$138,338	\$27,844

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 85: Service Alternative 2 – Performance Indicators

FIXED ROUTE - Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	16.9	17.3	24.3	24.8	25.2
Passengers/mile	0.71	0.72	1.46	1.48	1.51
Cost/hour	\$65.60	\$67.47	\$69.44	\$71.51	\$74.37
Farebox Recovery	23.2%	22.9%	31.7%	31.4%	30.8%
Cost/passenger	\$3.84	\$3.88	\$2.83	\$2.87	\$2.93
Subsidy/passenger	\$2.95	\$2.99	\$1.93	\$1.97	\$2.03

DAR – Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	3.2	3.2	3.3	3.4	3.4
Passengers/mile	0.09	0.09	0.09	0.10	0.10
Cost/hour	\$65.11	\$66.96	\$68.91	\$70.97	\$73.81
Farebox Recovery	6.8%	6.2%	6.3%	6.4%	6.4%
Cost/passenger	\$21.09	\$20.68	\$20.27	\$19.87	\$19.48
Subsidy/passenger	\$19.67	\$19.25	\$18.99	\$18.61	\$18.24

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 86: Service Alternative 2 – Capital Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
FACILITIES					
Transit Stops	\$10,000	\$15,000	-	-	\$15,000
Transit Stations/Park-and-Ride Facilities	\$50,000	-	-	\$45,000	\$3,055,000
Bus Bays	-	-	-	-	-
Bus Maintenance Facility	\$15,000	\$81,000	-	-	\$58,000
ITS	\$50,000	\$5,000	\$3,000	\$3,000	\$3,000
Transit Assessments/Studies	-	-	-	-	-
Other Equipment (Shop equipment, other)	\$25,000	-	\$2,000	-	-
Total Facilities and Related Improvements	\$150,000	\$101,000	\$5,000	\$48,000	\$3,131,000
VEHICLES AND ACCESSORIES					
Fixed Route Vehicles	-	-	\$1,650,000	\$1,100,000	\$1,500,000
DAR Vehicles	\$165,000	-	-	\$180,000	-
Vehicle Accessories	-	\$345,000	\$30,000	-	-
Transit Support Vehicles	-	-	\$50,000	\$50,000	-
Total Vehicles and Accessories	\$165,000	\$345,000	\$1,730,000	\$1,330,000	\$1,500,000
COMPUTERS					
Computer Hardware	\$5,000	-	\$3,500	-	-
Computer Software	\$5,000	-	\$3,500	-	-
Total Computers	\$10,000	\$0	\$7,000	\$0	\$0
TRANSIT ENHANCEMENTS					
Transit Enhancements	-	-	-	-	-
Total Transit Enhancements	\$0	\$0	\$0	\$0	\$0
TOTAL CAPITAL COSTS	\$325,000	\$446,000	\$1,742,000	\$1,378,000	\$4,631,000

Yuma Regional Transit Study

Service Alternatives and Recommendations



CAPITAL FUNDING	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	960,000	640,000	4,200,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	97,111	97,111	97,111	97,111	97,111
Carry Over from Previous Years	281,566	(81,323)	(274,366)	(220,455)	(295,682)
Carry Over from Operating Income	-	385,846	416,800	235,662	299,234
Total Capital Funding	\$378,677	\$624,800	\$2,054,342	\$1,490,948	\$4,603,397
NET CAPITAL INCOME/(LOSS)	\$53,677	\$178,800	\$312,342	\$112,948	(\$27,603)
* Pending grant request and approval					

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 87: Service Alternative 2 – 5 Year Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES					
Capital	\$325,000	\$446,000	\$1,742,000	\$1,378,000	\$4,631,000
Operations	\$2,280,309	\$2,327,123	\$5,063,764	\$5,191,249	\$5,366,931
Administrative Costs	\$391,000	\$394,910	\$678,554	\$685,339	\$692,193
TOTAL EXPENSES	\$2,996,309	\$3,168,033	\$7,484,318	\$7,254,589	\$10,690,124
REVENUE					
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	\$1,320,000	\$880,000	\$4,255,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	\$97,111	\$97,111	\$97,111	\$97,111	\$97,111
Carry Over from Previous Year Capital	\$281,566	\$53,677	\$178,800	\$312,342	\$112,948
Carry Over from Previous Year Operating	\$0	\$474,012	\$458,431	\$201,495	\$138,338
Total Capital Plan Funding	\$378,677	\$624,800	\$2,054,342	\$1,490,948	\$4,603,397
Fare Revenue	\$424,148	\$432,080	\$1,404,284	\$1,430,002	\$1,456,193
Local Funding	\$511,146	\$516,257	\$0	-	-
Local Sales Tax	-	-	\$2,285,082	\$2,307,933	\$2,331,012
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$383,315	\$387,148	\$391,020	\$394,930	\$398,879
Total Operating Plan Funding	\$3,145,320	\$3,180,464	\$5,943,813	\$6,014,927	\$6,086,968
TOTAL REVENUES	\$3,523,997	\$3,805,264	\$7,998,155	\$7,505,875	\$10,690,365
Net Surplus/(Deficit)	\$527,689	\$637,231	\$513,837	\$251,286	\$241

*FTA 5309 revenue is a projection only

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 88: Service Alternative 3 – Operating Financial Plan

FIXED ROUTE – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	428,571	436,586	2,824,055	2,876,865	2,930,663
Revenue Hours	25,305	25,305	95,731	95,731	95,731
Revenue Miles	606,798	606,798	1,656,310	1,656,310	1,656,310
Fare Revenue	\$377,143	\$384,195	\$2,485,169	\$2,531,641	\$2,578,983
Operating Costs	\$1,660,008	\$1,707,328	\$6,647,561	\$6,845,724	\$7,119,553

DAR – Operating Data	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers	30,000	30,600	39,426	40,214	41,018
Revenue Hours	9,500	9,500	12,000	12,000	12,000
Revenue Miles	333,000	333,000	420,632	420,632	420,632
Fare Revenue	\$42,240	\$43,030	\$50,350	\$50,749	\$51,149
Operating Costs	\$632,700	\$632,700	\$799,200	\$799,200	\$799,200

Total Fixed Route and DAR Operating Costs	\$2,292,708	\$2,340,028	\$7,446,761	\$7,644,924	\$7,918,753
Total Administrative Costs	\$391,000	\$394,910	\$1,088,721	\$1,099,608	\$1,110,605
TOTAL OPERATING COSTS	\$2,683,708	\$2,734,938	\$8,535,482	\$8,744,532	\$9,029,357

Operations Funding	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Fare Revenue	\$419,383	\$427,225	\$2,535,518	\$2,582,391	\$2,630,132
Local Funding	\$511,146	\$516,257	-	-	-
Local Sales Tax (50% operations)	-	-	\$4,570,163	\$4,615,865	\$4,662,024
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$364,325	\$367,968	\$371,648	\$375,364	\$379,118
TOTAL FUNDING	\$3,121,565	\$3,156,429	\$9,340,757	\$9,455,682	\$9,572,156

NET OPERATING INCOME/(LOSS)	\$437,857	\$421,491	\$805,276	\$711,150	\$542,799
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Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 89: Service Alternative 3 – Performance Indicators

FIXED ROUTE - Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	16.9	17.3	29.5	30.1	30.6
Passengers/mile	0.71	0.72	1.71	1.74	1.77
Cost/hour	\$65.60	\$67.47	\$69.44	\$71.51	\$74.37
Farebox Recovery	22.7%	22.5%	37.4%	37.0%	36.2%
Cost/passenger	\$3.87	\$3.91	\$2.35	\$2.38	\$2.43
Subsidy/passenger	\$2.99	\$3.03	\$1.47	\$1.50	\$1.55

DAR – Performance Indicators	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Passengers/hour	3.2	3.2	3.3	3.4	3.4
Passengers/mile	0.09	0.09	0.09	0.10	0.10
Cost/hour	\$65.11	\$66.96	\$68.91	\$70.97	\$73.81
Farebox Recovery	6.7%	6.2%	6.3%	6.4%	6.4%
Cost/passenger	\$21.09	\$20.68	\$20.27	\$19.87	\$19.48
Subsidy/passenger	\$19.68	\$19.27	\$18.99	\$18.61	\$18.24

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 90: Service Alternative 3 – Capital Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
FACILITIES					
Transit Stops	\$20,000	\$20,000	-	\$20,000	\$10,000
Transit Stations/Park-and-Ride Facilities	\$50,000	-	-	\$50,000	\$3,050,000
Bus Bays	-	-	-	\$30,000	\$30,000
Bus Maintenance Facility	\$15,000	\$81,000	-	-	\$100,000
ITS	\$50,000	\$5,000	\$3,000	\$3,000	\$3,000
Transit Assessments/Studies	\$50,000	-	-	-	\$100,000
Other Equipment (Shop equipment, other)	\$25,000	-	\$2,000	-	-
Total Facilities and Related Improvements	\$210,000	\$106,000	\$5,000	\$103,000	\$3,293,000
VEHICLES AND ACCESSORIES					
Replacement Fixed Route Vehicles	-	-	\$4,400,000	\$2,750,000	\$1,500,000
Replacement DAR Vehicles	\$165,000	-	-	\$180,000	-
Vehicle Accessories	-	\$525,000	\$70,000	\$80,000	-
Transit Support Vehicles	-	-	\$50,000	\$100,000	\$50,000
Total Vehicles and Accessories	\$165,000	\$525,000	\$4,520,000	\$3,110,000	\$1,550,000
COMPUTERS					
Computer Hardware	\$5,000	-	\$3,500	-	-
Computer Software	\$5,000	-	\$3,500	-	-
Total Computers	\$10,000	\$0	\$7,000	\$0	\$0
TRANSIT ENHANCEMENTS					
Transit Enhancements	-	-	-	-	\$50,000
Total Transit Enhancements	\$0	\$0	\$0	\$0	\$50,000
TOTAL CAPITAL COSTS	\$385,000	\$631,000	\$4,532,000	\$3,213,000	\$4,893,000

Yuma Regional Transit Study

Service Alternatives and Recommendations



CAPITAL FUNDING	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	3,520,000	2,200,000	4,250,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	97,111	97,111	97,111	97,111	97,111
Carry Over from Previous Years	281,566	(6,323)	(102,355)	(595,754)	(706,367)
Carry Over from Operating Income		437,857	421,491	805,276	711,150
Total Capital Funding	378,677	528,645	3,936,246	2,506,633	4,351,894
NET CAPITAL INCOME/(LOSS)	(6,323)	(102,355)	(595,754)	(706,367)	(541,106)
* Pending grant request and approval					

Yuma Regional Transit Study

Service Alternatives and Recommendations



Table 91: Service Alternative 3 – 5 Year Financial Plan

	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17
EXPENSES					
Capital	\$385,000	\$631,000	\$4,532,000	\$3,213,000	\$4,893,000
Operations	\$2,292,708	\$2,340,028	\$7,446,761	\$7,644,924	\$7,918,753
Administrative Costs	\$391,000	\$394,910	\$1,088,721	\$1,099,608	\$1,110,605
TOTAL EXPENSES	\$3,068,708	\$3,365,938	\$13,067,482	\$11,957,532	\$13,922,357
REVENUE					
Local Funding	-	-	-	-	-
Local Sales Tax	-	-	-	-	-
FTA Section 5307	-	-	-	-	-
FTA Section 5309*	-	-	\$3,520,000	\$2,200,000	\$4,250,000
FTA Section 5311 (c)	-	-	-	-	-
STP Flex	\$97,111	\$97,111	\$97,111	\$97,111	\$97,111
Carry Over from Previous Year Capital	\$281,566	(\$6,323)	(\$102,355)	(\$595,754)	(\$706,367)
Carry Over from Previous Year Operating	\$0	\$437,857	\$421,491	\$805,276	\$711,150
Total Capital Plan Funding	\$378,677	\$528,645	\$3,936,246	\$2,506,633	\$4,351,894
Fare Revenue	\$419,383	\$427,225	\$2,535,518	\$2,582,391	\$2,630,132
Local Funding	\$511,146	\$516,257	\$0	-	-
Local Sales Tax	-	-	\$4,570,163	\$4,615,865	\$4,662,024
FTA Section 5307	\$1,599,419	\$1,615,413	\$1,631,567	\$1,647,883	\$1,664,362
FTA Section 5311 (c)	\$227,292	\$229,565	\$231,861	\$234,179	\$236,521
STP Flex	-	-	-	-	-
Other Funding Sources	\$364,325	\$367,968	\$371,648	\$375,364	\$379,118
Total Operating Plan Funding	\$3,121,565	\$3,156,429	\$9,340,757	\$9,455,682	\$9,572,156
TOTAL REVENUES	\$3,500,242	\$3,685,074	\$13,277,004	\$11,962,315	\$13,924,050
Net Surplus/(Deficit)	\$431,534	\$319,135	\$209,522	\$4,783	\$1,693

*FTA 5309 revenue is a projection only

Appendices