

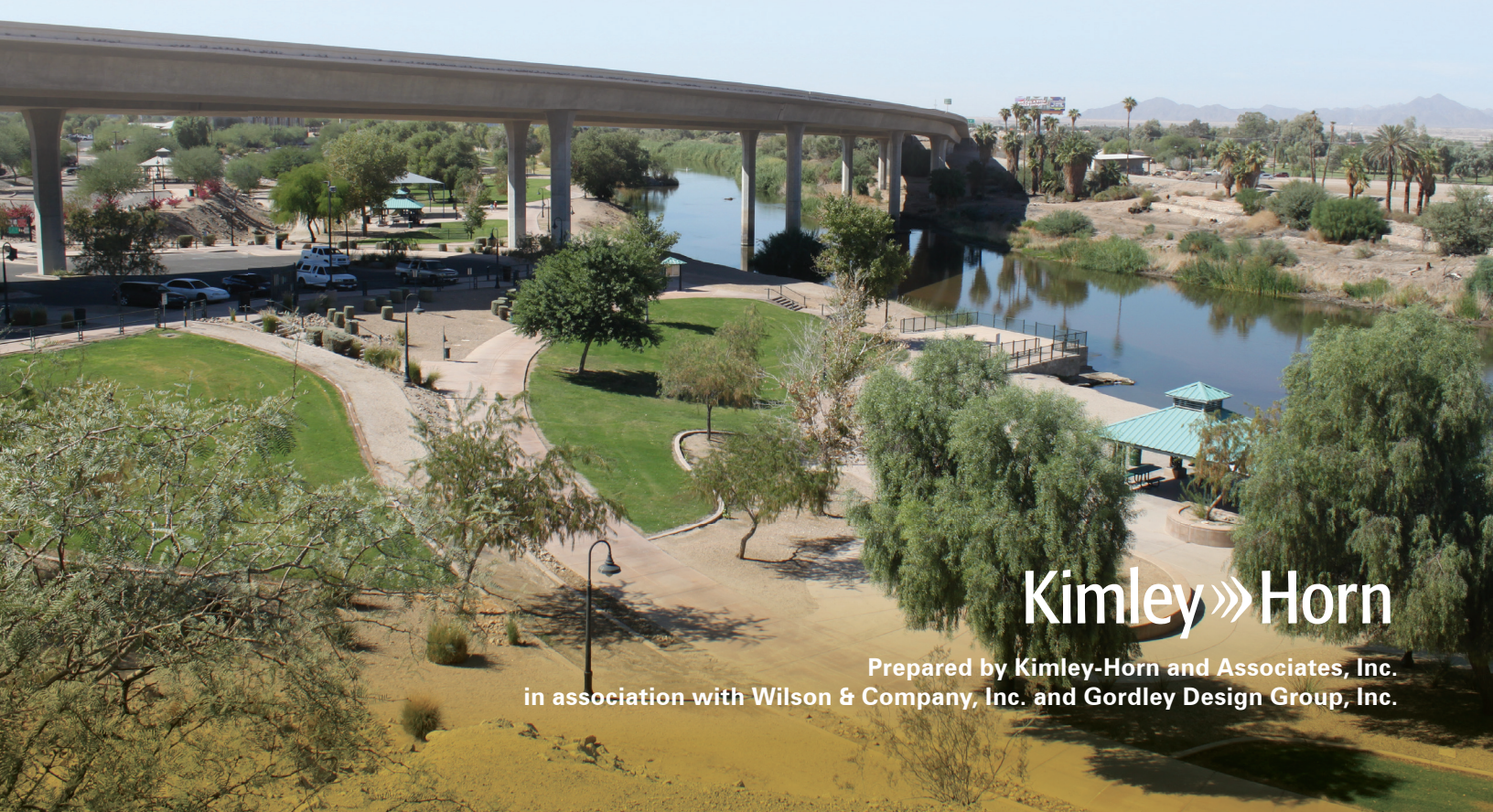


DRAFT REPORT – April 2017

YMPO
2018-2041

Regional Transportation Plan

MOVING THE YUMA REGION FORWARD



Kimley»Horn

Prepared by Kimley-Horn and Associates, Inc.
in association with Wilson & Company, Inc. and Gordley Design Group, Inc.

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Letter from the YMPO Executive Director

I am proud to present the Yuma Metropolitan Planning Organization (YMPO) 2018-2041 Regional Transportation Plan (RTP), which truly embodies our motto of “Local Governments and Citizens Working Together.” This RTP reflects an unprecedented amount of public involvement that was gathered using a new interactive online tool, which garnered over 600 site visits, as well as input generated through surveys, presentations, and news articles.

The RTP is a coordinated system of the region’s roadway, bus, pedestrian, bicycle, aviation, freight and rail facilities needed over the next 23 years. This plan identifies an investment plan to guide how federal funds are spent on transportation improvements within the region, and is fiscally constrained. The plan provides for enough capacity and transportation choices to ensure the region’s economy continues to grow, and exemplifies the theme of “Moving Yuma Forward.” Performance measures are included in the plan to monitor and assess how we are meeting goals to improve the transportation system in the region.

I look forward to partnering with citizens and governments in the region to implement the Regional Transportation Plan.

– PAUL WARD, P.E., Executive Director YMPO

Letter from the Chairman of the Regional Transportation Plan Technical Advisory Committee

The Yuma Metropolitan Planning Organization has worked hard to develop the 2018-2041 Regional Transportation Plan that reflects the priorities of all the member jurisdictions. The Regional Transportation Plan is a guide to maintaining and enhancing the regional transportation system for urbanized Yuma County.

The YMPO region continues to be a transportation hub for both national and international trade. The projects in this RTP will support trade and economic growth through investments in the roadway system, freight network, and aviation infrastructure.

The Regional Transportation Plan also encourages the use of alternate modes through investments in bicycle and pedestrian facilities, and transit.

As Chairperson of the Regional Transportation Plan Technical Advisory Committee, I would like to thank the Committee members as well as members of the public for their work in developing the plan. We received valuable input during the plan preparation to guide the plan development.

– SAMUEL PALACIOS, Public Works Director, City of Somerton

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DISCLAIMER

This report has been prepared in cooperation with, and financed in part by, the U.S. Department of Transportation – Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), and the Arizona Department of Transportation (ADOT). The contents of this report do not necessarily reflect the views of ADOT, FTA, or FHWA. This report does not constitute a standard, specification, or regulation.

This is not a legal document. Although much care was taken to ensure the accuracy of information presented in this document, YMPO does not guarantee the accuracy of this information.

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LIST OF ACRONYMS

A

ACIP ... Airport Capital Improvement Program
 ACS American Community Surveys
 ADA.....Americans with Disabilities Act
 ADEM.....Arizona Division of Emergency Management
 ADOTArizona Department of Transportation
 AMPO...Association of Metropolitan Planning Organizations
 APMS ..Airport Pavement Management System
 ASASPArizona State Airports System Plan
 AZ.....Arizona

C

Caltrans..... California Department of Transportation
 CBP.....(U.S.) Customs and Border Protection
 CCTV Closed-Circuit Televisions
 CIPCapitol Improvement Program
 CMP..... Congestion Management Process
 CFC..... Customer Facility Charge

D

DCC Defense Contractors Complex
 DMS Dynamic Message Signs
 DPS (Arizona) Department of Public Safety

E

EPA... (U.S.) Environmental Protection Agency
 EVElectric Vehicle

F

FAAFederal Aviation Administration
 FAST-ACT Fixing America's Surface Transportation
 FHWAFederal Highway Administration
 FMSFreeway Management System
 FTA..... Federal Transit Administration
 FTZ..... Foreign Trade Zone

G

GAGeneral Aviation
 GIS Geographic Information Systems
 GSA..... General Services Administration
 GYEDC Greater Yuma Economic Development Corporation

H

HCM Highway Capacity Manual
 HSIPHighway Safety Improvement Program
 HURF Highway User Revenue Fund

I

IMC... Implementation Monitoring Committee
 ITS Intelligent Transportation Systems

J

JSF Joint Strike Fighter

K

Kimley-Horn Kimley-Horn and Associates, Inc.

L

LOSLevel of Service

M

MAP-21 Moving Ahead for Progress in the 21st Century
 MCAS-Yuma Marine Corps Air Station Yuma

N

NAFTA..... North American Free Trade Agreement
 NASA National Aeronautics and Space Administration
 NHSNational Highway System
 NPIAS..... National Plan of Integrated Airport Systems

P

PFC Passenger Facility Charge
 POE Port of Entry
 PM₁₀..... Particulate matter < 10 microns in diameter

LIST OF ACRONYMS

R

RSA Road Safety Assessments
RSR Regionally Significant Routes
RTP.....Regional Transportation Plan

S

SEA Systems Engineering Analysis
SOV Single-Occupant Vehicle
SR.....State Route
STBG..... Surface Transportation Block Grant
STRAHNET Strategic Highway Network

T

TAC.....Technical Advisory Committee
TAP.....Transportation Alternatives Program
TDM Travel Demand Model
TIP Transportation Improvement Plan
TMA Transportation Management Area
TOC Traffic Operations Center

U

UAS Unmanned Aerial System
UPRR..... Union Pacific Railroad
USDOTU.S. Department of Transportation

V

VLT Vehicle License Tax

Y

YCAAYuma County Airport Authority
YCAT Yuma County Area Transit
YCIPTA Yuma County Intergovernmental
Public Transportation Authority
YIA.....Yuma International Airport
YMPO..... Yuma Metropolitan Planning
Organization
YPG Yuma Proving Grounds

YMPO Executive Board

Russell "Russ" Clark - *CHAIRMAN*
Board of Supervisors, Yuma County

Cecilia McCollough - *TREASURER*
Mayor, Town of Wellton

Jacob Miller - *MEMBER*
Council Member, City of Yuma

Greg Ferguson - *MEMBER*
Supervisor, Yuma County

Maria Ramos - *MEMBER*
Council Member, City of San Luis

Gary Knight - *VICE CHAIRMAN*
Council Member, City of Yuma

J. Deal Begay, Jr. - *MEMBER*
Vice Chairman, Cocopah Indian Tribe

Jose Yopez - *MEMBER*
Council Member, City of Somerton

Paul Patane - *MEMBER*
Yuma District Engineer, ADOT

William "Bill" Craft - *MEMBER*
Deputy Mayor, City of Yuma

YMPO Technical Advisory Committee (TAC) and Regional Transportation Plan TAC

Samuel Palacios - *CHAIRMAN*
Public Works Director, City of Somerton

Roger Patterson - *MEMBER*
County Engineer, Yuma County

Maggie Castro - *MEMBER*
Planning Section Manager,
Yuma County

Joshua Scott - *MEMBER*
City Engineer, City of Yuma

Omar Heredia - *MEMBER*
Planner, Cocopah Indian Tribe

Jennifer Albers - *MEMBER*
Principal Planner, City of Yuma

Mark Hoffman - *MEMBER*
Senior Planner, ADOT

Joel Olea - *MEMBER*
Director of Public Works, City of Yuma

John Starkey - *MEMBER*
Zoning Administrator, City of San Luis

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Melissa Ramos
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Chapter 1

Introduction

INTRODUCTION

YMPO Region

The Yuma Metropolitan Planning Organization (YMPO) is a nonprofit metropolitan planning organization (MPO) for the Yuma region, located in southwestern Arizona. YMPO is designated as a bi-state MPO because the region includes the community of Winterhaven in Imperial County, California and all of Yuma County, Arizona. The focus area of the YMPO region is shown in *Figure 1.1*. Yuma's geography and location make it the best spot for crossing the Colorado River and promote the YMPO region as a natural, historical, and current transportation hub. Connections to Arizona and California are provided by I-8 and US 95. State Route (SR) 195 is a limited access state highway that enhances the movement of goods and freight between the San Luis Port of Entry (POE) for commercial vehicles (San Luis POE II) and I-8.



Ocean-to-Ocean Bridge and Union Pacific Railroad Bridge over the Colorado River (Source: Kimley-Horn)

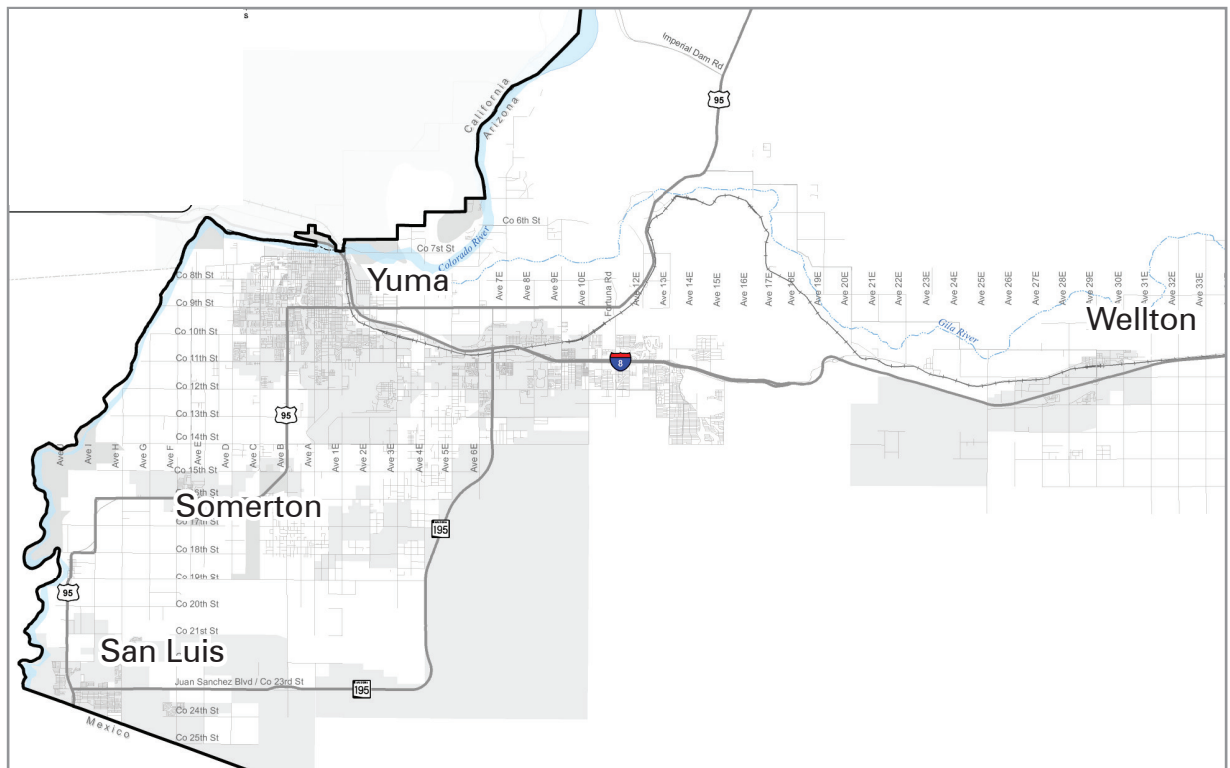


Figure 1.1 – YMPO Region (Source: Kimley-Horn)



Figure 1.2 – YMPO’s Location in Relation to International Trade Routes
(Source: YMPO)

An International Hub

The YMPO region is an important hub internationally. *Figure 1.2* shows the relationship of national and international trade routes to the YMPO region. International trade connections between the United States, Mexico, and Canada present significant opportunities for the YMPO region with the passage of the North American Free Trade Agreement (NAFTA) and the development of international transportation and trade corridors. The City of San Luis Rio Colorado, in Mexico, immediately south of the YMPO region, shares strong binational, cultural, and historical ties with the region. YMPO actively participates in trade corridor planning and supporting freight initiatives.



San Luis II Port of Entry
(Source: Google)

YMPO's Members

YMPO member jurisdictions include the City of Yuma, Yuma County, the Cocopah Indian Tribe, the Town of Wellton, the cities of Somerton and San Luis, and the Arizona Department of Transportation (ADOT). These member jurisdictions constitute the voting members of YMPO. There are also a number of ex officio representatives of different public agencies that work with the YMPO Executive Board and Technical Advisory Committee (TAC). The current ex officio agencies are the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Environmental Protection Agency (EPA), California Department of Transportation (Caltrans), Yuma County Intergovernmental Public Transportation Authority (YCIPTA), Quechan Indian Tribe, the community of Winterhaven, and Imperial County.

YMPO's Focus

YMPO's focus is "Local Governments and Citizens Working Together." This focus informs all of YMPO's work efforts, as well as its concept of service, responding to all requests by local jurisdictions and citizens.

YMPO's Mission

YMPO's mission is to strive to attain and balance multimodal transportation-related needs with finite resources in the YMPO region, while promoting a safe environment and enhancing the quality of life in the community.

*YMPO's Focus:
Local Governments
and Citizens
Working Together*



YMPO office
(Source: Kimley-Horn)

YMPO Regional Transportation Plan

The YMPO 2018-2041 Regional Transportation Plan (RTP) is a 23-year, multimodal plan developed by YMPO in conjunction with YMPO member jurisdictions. It addresses the regional transportation system and is updated every four years to meet federal planning requirements and address changing community needs.

The Planning Process

The YMPO RTP represents a collaborative effort to establish a vision for the region’s transportation system. The RTP was developed based on direction from the TAC, public, and stakeholder input. The RTP planning process provides answers to four key questions, as illustrated in *Figure 1.3*.

1. Where are we now? The RTP summarizes current transportation system conditions.
2. Where do we want to go? The RTP establishes transportation system goals and objectives.
3. What will it take to get us there? The RTP provides recommendations for each mode of transportation.
4. How do we allocate our resources? The RTP presents an investment strategy for how limited resources will be expended for transportation improvements.



Figure 1.3 – The Regional Transportation Planning Process
(Source: Kimley-Horn)

Fixing America’s Surface Transportation Act (FAST-ACT)

On December 4, 2015, President Obama signed into law the Fixing America’s Surface Transportation Act, or “FAST Act.” This law provides long-term funding for surface transportation and increases federal funding by 11 percent over five years. The law makes changes and reforms to many programs including streamlining the approval process for new transportation projects, providing new safety tools, and establishing new programs to advance freight projects.

This RTP is prepared in accordance with the FAST Act requirements.

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Chapter 2

Performance-Based Planning:
A Cornerstone of the YMPO Regional Plan

PERFORMANCE-BASED PLANNING: A CORNERSTONE OF THE YMPO REGIONAL PLAN

What is Performance-Based Planning?

Performance-based planning helps translate a long-range vision into a set of goals, objectives, and performance criteria that can be used to guide investment decisions.

Performance-based planning involves the following steps:

1. **Developing goals and objectives** – Goals are broad statements that describe what will be achieved. Objectives are specific and measurable statements to achieve the goals. Goals and objectives were determined in collaboration with the RTP TAC.
2. **Identifying performance measures** – Performance measures are metrics used to assess progress towards meeting an objective.
3. **Establishing performance targets** – Targets are measures of performance.
4. **Allocating resources** – This step involves determining the specific approaches that will be used to achieve the targets.
5. **Measuring and reporting results** – This step involves measuring progress on a regular basis.



Why is Performance-Based Planning Important?

The region sets goals and specific targets for tracking progress to provide a way to define success and measure achievements.

Nationwide Significance of Performance-Based Planning

Moving Ahead for Progress in the 21st Century (MAP-21), the federal highway funding authorization signed into law on July 6, 2012, promotes a performance-based, multimodal transportation program to address the many challenges facing the U.S. transportation system.

These challenges include improving safety, maintaining infrastructure conditions, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. The FAST Act, signed into law on December 4, 2015, maintained this performance-based approach to transportation planning.

MAP-21 and the subsequent FAST Act outline funding and procedural requirements for multi-modal transportation planning in metropolitan areas and states. They require MPOs and states to develop transportation plans and transportation improvement programs through a performance-driven, outcome-based approach to planning.

Goals, Objectives, Performance Measures, and Targets

Building on the goals that were developed in the previous 2037 YMPO RTP, the YMPO has developed goals, objectives, performance measures, and targets in 10 areas. These goal areas are:

1. Road and Bridge Condition – Maintain the highway infrastructure (e.g., pavement and bridges) in good repair.
2. Roadway Safety – Reduce the number of fatality and serious injury crashes on all public roads.
3. Vehicle Mobility – Improve efficiency and reduce travel time and congestion in the region by providing new roadway connections, widening existing roads, or implementing new technologies to improve traffic flow.
4. Bicycle Mobility – Provide more bicycle infrastructure region-wide (e.g. bicycle lanes, striped shoulders, and shared use paths).
5. Transit Mobility – Provide more transit options and service regionwide, particularly to transit-dependent populations.
6. Freight Movement and Economic Vitality – Improve the region’s freight networks and strengthen the ability of the region to access national and international trade markets.
7. Environmental Sustainability – Protect and enhance the natural environment through improving air quality, levels of ozone, and levels of particulates.
8. Aviation - Increase air traffic operations, a major economic force in the region.
9. Border Crossings – Improve cross-border travel in the region.
10. Tourism – Enhance the economy of the region by increasing tourism.

Some performance measures refer to roads on the National Highway System (NHS), which consists of roadways important to the nation's economy, defense, and mobility. NHS routes in the region are:

- ❖ Interstate 8
- ❖ I-8 Business (south 4th Avenue from I-8 to 32nd Street and 32nd Street from 4th Avenue to Avenue 5E)
- ❖ US 95
- ❖ SR 195
- ❖ Route 280 (Avenue 3E from US95 to Yuma Marine Corps Air Station)

A map of these routes is provided in *Figure 2.1*.

For each goal area, a description of the objectives, performance measures, and current conditions is provided. In future RTPs reporting will be shown for each measure to show clear progress on each goal.

National Highway System: Yuma, AZ--CA

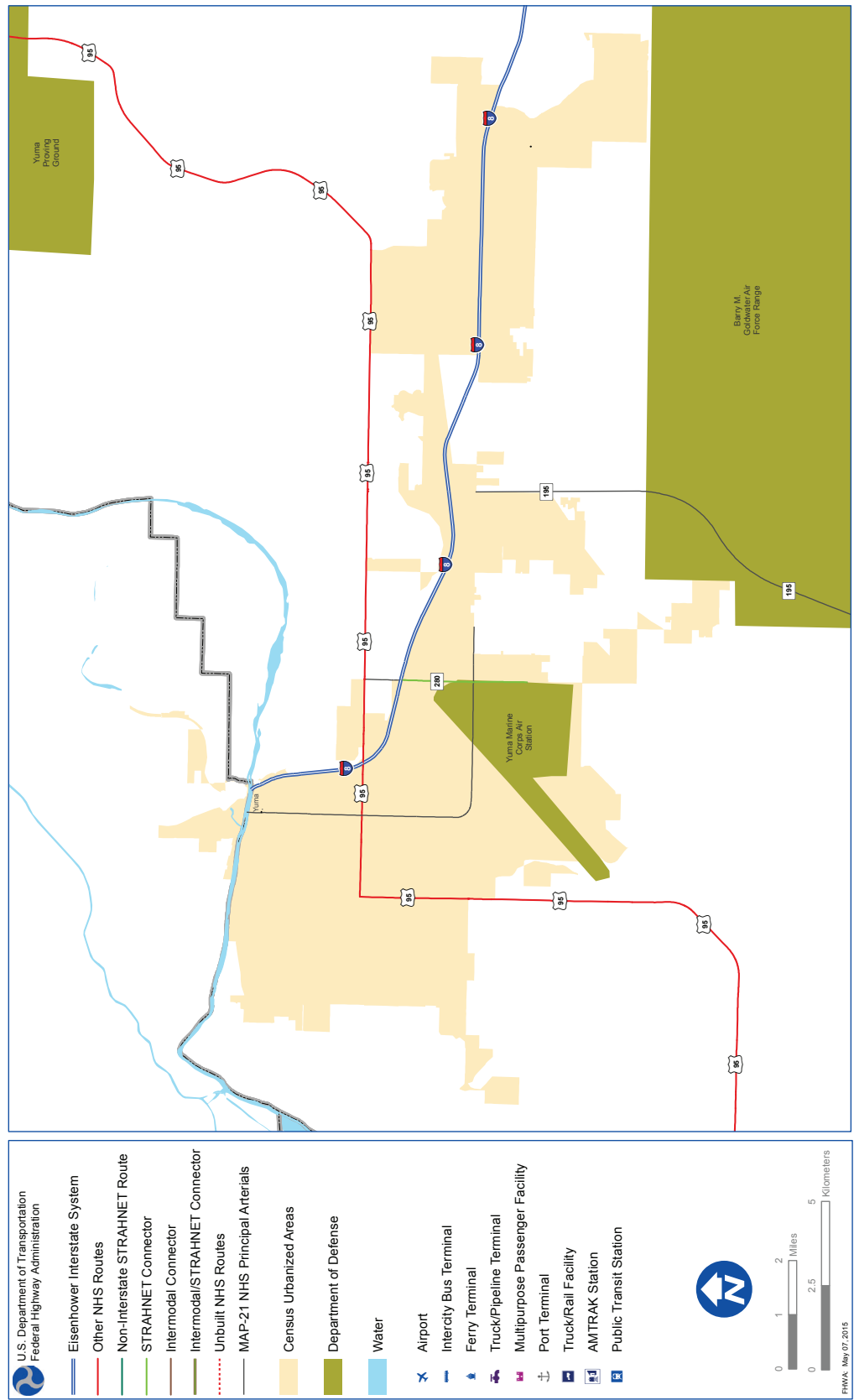


Figure 2.1 – National Highway System Routes (Source: USDOT)



Roadway and Bridge Condition Goal

The roadway and bridge condition goal is to maintain the roadway system in good repair. The goal for roadways is to increase the percentage of roads in good condition on the NHS, Yuma County, and City of Yuma arterial roadways. The objective for bridges is to increase the percentage of bridges in good condition. To reach the goals, maintenance projects will be required. The majority of recent past Federal Aid projects utilizing YMPO's allocation are roadway maintenance projects.

Objectives	Performance Measures	Current Condition
Increase the percentage of roads in good condition.	❖ Percentage of pavements on the NHS in good condition	❖ 71.1%
	❖ Yuma County arterial roadways in good condition	❖ 23.4 mi or 49%
	❖ City of Yuma arterial roadways in good or excellent condition	❖ 33.5 mi or 75.7%
Decrease the percentage of bridges classified as Structurally Deficient or Functionally Obsolete	❖ Percentage of ADOT Bridges classified as Structurally Deficient or Functionally Obsolete	❖ 21% (12 of 58 bridges)
	❖ Percentage of City of Yuma Bridges classified as Structurally Deficient or Functionally Obsolete	❖ 14% (3 of 22 bridges)
	❖ Percentage of Yuma County Bridges classified as Structurally Deficient or Functionally Obsolete	❖ 8% (8 of 96 bridges)

Table 2.1 – Roadway and Bridge Objectives, Performance Measures, and Current Conditions
 (Sources: Arizona State Highway System Bridge Record as of 10/27/2016 and Arizona Local Public Agency System Bridge Record as of 10/27/2016)

Note: Specific criteria for good and poor condition can vary by jurisdiction.

Roadway Safety Goal

The safety goal is to reduce the number of fatality and serious injury crashes on public roads in the region by 3% annually. This goal was developed during the YMPO Regional Strategic Transportation Safety Plan completed May 2016. It should be noted that motorist behaviors have a significant impact on crashes.

Objectives	Performance Measures	Current Condition
Reduce the number of fatalities and serious injuries on public roads in the region by 3% annually.	❖ Annual fatalities regionwide	❖ 25 fatalities
	❖ Annual serious injuries regionwide	❖ 85 serious injuries

Table 2.2 – Roadway Safety Objectives, Performance Measures, and Current Conditions
 (Source: ADOT Safety Datamart, 2013)

Vehicle Mobility Goal

The vehicle mobility goal is to reduce delays and congestion in the region through roadway improvements. One objective for this goal is to reduce the annual hours of delay on major collectors and arterials in the region. Another objective is to reduce vehicle miles of travel on major collector and arterial routes in the region. The third objective is to reduce roadway segment miles with unacceptable levels of service (LOS) in the region. Increasing the number of travel lanes will help achieve these goals. These data are obtained from the YMPO travel demand model (TDM).

Objectives	Performance Measures	Current Condition
Reduce annual hours of delay on major arterials and collectors.	❖ Annual hours of vehicle travel	❖ 33.2 million hours
Reduce vehicle miles of travel on major arterials and collectors.	❖ Annual vehicle miles of travel	❖ 1,448 million vehicle miles
Reduce roadway segment miles with unacceptable LOS (LOS E or F) on major arterials and collectors.	❖ Miles of roadway segments that perform at LOS E or LOS F during peak periods	❖ 0 segments

Table 2.3 – Vehicle Mobility Objectives, Performance Measures, and Current Conditions
 (Source: 2015 YMPO travel demand model data)

Bicycle Mobility Goal

The bicycle mobility goal is focused on providing more facilities for bicyclists regionwide. The objective of this goal is to increase the percentage of roads with bicycle lanes or paved striped shoulders to be used by bicyclists.

Objectives	Performance Measures	Current Condition
Increase percentage of roads with bicycle lanes or paved striped shoulders.	❖ City of Yuma miles of bike lanes	❖ 12.4 miles

Table 2.4 – Bicycle Mobility Objectives, Performance Measures, and Current Conditions
 (Source: City of Yuma)

Transit Mobility Goal

The focus of the transit mobility goal is to provide increased transit service for the general public, including seniors and individuals with disabilities. One objective is to increase annual transit ridership on the Yuma County Area Transit (YCAT) system. The other objectives were developed as part of the 2015 Yuma Regional Transportation Coordination Plan in consultation with community transit providers. These objectives included:

- ❖ Involving more groups in the YMPO Regional Mobility Committee
- ❖ Marketing the Enhanced Mobility of Seniors and Individuals with Disabilities (FTA 5310 Program) to the public, as measured by voluntary transit service provider reports.
- ❖ Working to meet unmet transportation needs within Yuma County, as measured by transportation funding in the region.

Objectives	Performance Measures	Current Condition
Increase annual transit ridership on YCAT system.	❖ Annual YCAT transit ridership	❖ 209,400 passenger trips (2014 fixed route service) ❖ 1,477 passenger trips (2014 demand response service)
Involve more groups in the YMPO Regional Mobility Committee.	❖ Number of participating agencies in the Regional Mobility Committee	❖ 16 agencies
Market the Enhanced Mobility of Seniors and Individuals with Disabilities (FTA 5310 Program) to the public.	❖ Number of trips provided	❖ 332,259 trips (reported by 3 agencies)
Work to meet unmet transportation needs within Yuma County.	❖ Transportation funding	❖ \$4,218,676 (2011)
Increase cost-effectiveness of transit	❖ Contract expense per revenue vehicle hour	❖ FY 2015-2016: \$64.67

Table 2.5 – Transit Mobility Objectives, Performance Measures, and Current Conditions
(Source: 2015 Yuma Regional Transportation Coordination Plan and the YCIPTA)

Freight Movement and Economic Vitality Goal

Yuma’s strategic location on state and interstate routes make improving the efficiency of the regional freight network vital in supporting Yuma’s economy. This objective is measured by decreasing the number of miles of key freight routes that operate poorly during peak periods.

Objectives	Performance Measures	Current Condition
Improve the efficiency and effectiveness of the regional freight network and facilities to take advantage of desirable market access conditions.	❖ Decrease the number of miles of I-8, SR 195, and US 95 that perform at LOS E or F during peak periods.	❖ 0 miles
Reduce at-grade crossings with truck routes and freight rail routes.	❖ Projects to reduce at-grade crossings on freight routes	❖ Project planned on Avenue 9E and Fortuna Road.

Table 2.6 – Freight Movement and Economic Vitality Objectives, Performance Measures, and Current Conditions
(Source: YMPO travel demand model, 2015)

Environmental Sustainability Goal

The objective of the environmental sustainability goal is to improve regional air quality, measured by levels of particulates 10 micrometers or less in diameter (PM₁₀), and ozone levels.

Objectives	Performance Measures	Current Condition
Improve regional air quality.	❖ Air quality reporting measures: Level of PM ₁₀ and ozone	❖ PM ₁₀ = 7805.19 tons/year (2014) ❖ Ozone = 0.077ppm (2012-2014 average)
The entire YMPO region will achieve attainment status for PM ₁₀ (particles less than 10 microns in diameter) air quality emissions standards.	❖ The entire YMPO region is designated as an attainment area for PM ₁₀ emission standards.	❖ A portion of the YMPO region is considered "non-attainment" for PM ₁₀

Table 2.7 – Environmental Sustainability Objectives, Performance Measures, and Current Conditions
(Source: YMPO 2014 Air Quality Conformity Analysis and ADEQ Annual Ambient Air Assessment Report)

Aviation Goal

Aviation activity is an important contributor to the local economy and should be increased. Activity is measured through reporting on annual aircraft operations for military aircraft operations, general aviation (GA), and commercial services.

Objectives	Performance Measures	Current Condition
Contribute to the economy of the region by increasing the level of aviation activity.	❖ Military aircraft operations	<ul style="list-style-type: none"> ❖ Rolle Field: 100 operations ❖ Somerton Airport: 0 operations ❖ Yuma Marine Corps Air Station / Yuma International: 109,158 operations
	<ul style="list-style-type: none"> ❖ GA local operations – Those operating in the local traffic pattern or within a 20-mile radius of the airport 	<ul style="list-style-type: none"> ❖ Rolle Field: 3000 operations ❖ Somerton Airport: 4000 operations ❖ Yuma Marine Corps Air Station / Yuma International: 45,981 operations
	<ul style="list-style-type: none"> ❖ GA itinerant operations - Those GA operations (excluding commuter or air taxi) not qualifying as local 	<ul style="list-style-type: none"> ❖ Rolle Field: 0 operations ❖ Somerton Airport: 50 operations ❖ Yuma Marine Corps Air Station / Yuma International: 13,546 operations
	<ul style="list-style-type: none"> ❖ Commercial services – scheduled operations by certified carriers or interstate carriers 	<ul style="list-style-type: none"> ❖ Rolle Field: 0 operations ❖ Somerton Airport: 0 operations ❖ Yuma Marine Corps Air Station / Yuma International: 18,814 operations

Note: Data on Yuma Proving Ground operations are not available.

Table 2.8 – Aviation Objectives, Performance Measures, and Current Conditions
 (Source: Federal Aviation Administration Airport Facilities Data)

Border Crossings Goal

The City of San Luis, within the YMPO region, shares a border with San Luis Rio Colorado, Sonora and California. San Luis is the second busiest border crossing point in Arizona and is served by the San Luis Port of Entry and San Luis II, a Commercial Port of Entry. This goal is to improve cross-border travel for all modes of transportation as measured by commercial truck crossings, personal vehicle crossings, and pedestrian crossings.

Objectives	Performance Measures	Current Condition
Improve the accessibility and efficiency of cross-border travel for all modes of travel.	❖ Number of commercial truck crossings	❖ 33,712 trucks
	❖ Number of personal vehicle crossings	❖ 3,106,744 vehicles
	❖ Number of pedestrian crossings	❖ 2,351,506 persons
Improve wait times at San Luis Ports of Entry	❖ The U.S. Customs and Border Protection has set the following goals: Ready Lanes: 50% of general traffic lane wait times - A "Ready Lane" is a dedicated lane for travelers entering the U.S. at land border ports of entry with identification that contains a Radio Frequency Identification (RFID) chip.	❖ Border wait times are available for commercial vehicles, passenger vehicles, and pedestrians at the U.S. Customs and Border Protection website, however average times are not computed and are dependent on the time of day, volumes, and number of open lanes.

Table 2.9 – Border Crossings Objectives, Performance Measures, and Current Conditions
(Source: Bureau of Transportation Statistics, 2015 Data)

Tourism Goals

The YMPO region is located at a crossroads where Arizona, California, and Mexico meet, making tourism an important industry in the region. This goal is to increase the level of tourism as measured by the estimated travel spending in Yuma County, reported by the Yuma Visitor’s Bureau.

Objectives	Performance Measures	Current Condition
Increase the level of tourism in the region, which will in turn increase tourism related jobs and spending.	❖ Annual travel spending in Yuma County	❖ \$664.7M

Table 2.10 – Tourism Objectives, Performance Measures, and Current Conditions
(Source: Yuma Visitors Bureau - 2014 Data)



Chapter 3

Public Involvement

PUBLIC INVOLVEMENT

Effective public involvement provides methods and tools for incorporating the public's values, interests, needs, and desires into decisions that affect them. It provides opportunities for dialogue to help establish priorities and further define and guide the development of the community. Public involvement also results in more sustainable and supported decision-making.

The public involvement plan was compliant with guidelines contained in the FAST-ACT and took into consideration the disproportionately high Title VI populations of Hispanic and elderly in the region.

The public involvement plan included the following goals and objectives:

- ❖ Ongoing communications with the RTP TAC who represented YMPO member jurisdictions, including the cities of San Luis, Somerton, and Yuma; the Town of Wellton; Yuma County; the Cocopah Indian Tribe; and ADOT
- ❖ Conversations with regional stakeholders on transportation needs
- ❖ Public information displayed in a variety of visually appealing formats, including more use of web-based tools
- ❖ Reasonable opportunities and timeframes for the public to consider information and provide comments

This RTP used innovative public engagement efforts to reach a broader audience and increase public participation.

Phase 1 – Gathering Input on RTP Priorities

The initial phase of public involvement focused on identifying transportation goals for the RTP.

This was accomplished in several ways:

- ❖ A booth was set up on Saturday, March 5th, 2016 adjacent to the YMPO office and a popular local restaurant. Staff explained the purpose of the RTP, provided maps for citizens to mark transportation needs, and distributed surveys. The outreach was advertised in the *Yuma Sun* and the *Bajo el Sol* newspapers.
- ❖ The survey was available online in English and Spanish. Persons were asked to compare the following goal areas:
 - ◆ Road and Bridge Conditions
 - ◆ Roadway Safety
 - ◆ Vehicle Mobility
 - ◆ Bicycle, Pedestrian, and Transit Mobility
 - ◆ Freight Movement and Economic Vitality
 - ◆ Environmental Sustainability
 - ◆ Border Crossings

YMPO Regional Transportation Plan 2018-2041

Input on Plan Goals and Priorities

The Yuma Metropolitan Planning Organization is updating their Regional Transportation Plan (RTP). The RTP defines the region's strategy for creating a regional transportation system that accommodates the current mobility needs of residents and looks to the future to anticipate where new needs may arise. The Regional Transportation Plan will also include a listing of the regional transportation facilities and services planned through 2041.

The YMPO Regional Transportation Plan will establish goals in seven goal areas. These are:

- Road and Bridge Conditions
- Roadway Safety
- Vehicle Mobility
- Bicycle, Pedestrian, and Transit Mobility
- Freight Movement and Economic Vitality
- Environmental Sustainability
- Border Crossings

Instructions: The YMPO Regional Transportation Plan may establish goals and objectives for the seven goal areas. For each comparison, imagine you have a total of \$20 to spend. How would you divide that money between the two goal areas? The total must equal 20 for each comparison.

Example: If you feel that Road Safety is more more important than Vehicle Mobility, then you would fill in the blanks as follows:

- Road Safety = 15
- Vehicle Mobility = 5

*** 1. Compare the following:**

Road and Bridge Conditions "To maintain highway infrastructure in good repair"

Roadway Safety "To reduce the number of fatalities and serious injury crashes on all public roads"

*** 2. Compare the following:**

Road and Bridge Conditions "To maintain highway infrastructure in good repair"

Vehicle Mobility "To improve efficiency and reduce travel time and congestion in the region by providing new roadway connections, widening existing roads, or implementing new technologies to improve traffic flow efficiency"

*** 3. Compare the following:**

*Excerpt from online survey on RTP goals (English Version)
(Source: Kimley-Horn)*

Goals were paired and for each comparison persons were asked to distribute a total of 20 points between the two goals, depending on how important each goal was to the survey respondent. The results show the relative importance of each goal area.

Survey respondents were asked their opinions about the most critical transportation needs in the region and specific transportation projects that should be constructed. The survey (in English and Spanish) was advertised through the YMPO website and links to the survey and paper copies of the survey were distributed by YMPO staff at meetings. There were 28 survey responses received through the internet survey.

Phase 1 Outreach Survey Findings

The Phase 1 survey involved rating the relative importance of transportation goals to develop project priorities. The relative importance of the goal areas were:

- ❖ Roadway Safety - 16.0%
- ❖ Roadway and Bridge Conditions - 15.3%
- ❖ Vehicle Mobility - 14.7%
- ❖ Bicycle, Pedestrian, and Transit Mobility - 14.5%
- ❖ Border Crossings - 14.2%
- ❖ Freight Movement & Economic Vitality - 14.0%
- ❖ Environmental Sustainability - 11.3%

These findings are shown in *Figure 3.1*.

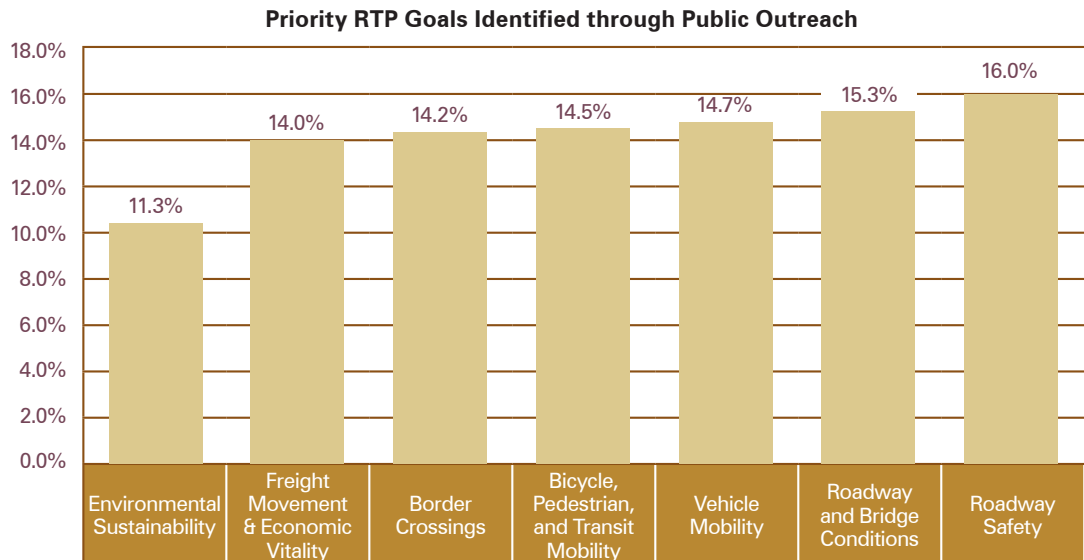


Figure 3.1 – Priority RTP Goals Identified through Public Outreach (Source: YMPO Public Outreach Survey conducted March and April, 2016)

**Yuma Metropolitan Planning Organization
Regional Transportation Plan 2018 - 2041**

YMPO WANTS TO HEAR FROM YOU!
YMPO is making it easy for you to participate by bringing outreach efforts to you.

WHERE: Midtown at the Oasis
YMPO
502 S. Orange Ave
Sweet parking lot next to
Mr. G Diner (Restaurant)

WHEN: Saturday, March 5
9 a.m. to noon

WHAT: Mobile Display
You'll be able to mark on maps to tell us about your current mobility needs and where you think new needs will arise in the next 25 years in the Yuma region.

LOOK FOR OUR BOOTH!

Quick Survey
Take a 5-minute survey to weigh in on the Plan's goals!
The survey is also available online at surveymonkey.com/lympo/rtp

MORE YMPO RTP INFO:

The YMPO is responsible for transportation planning in all of Yuma County plus Wickenburg, California, and including the Quechan Tribal Nation.

YMPO planning considers the region's proximity to California, Mexico and trade corridors.

Transportation planning includes travel by car, plane, rail, pedestrian and bicycle.

The Yuma Metropolitan Planning Organization (YMPO) is updating the Regional Transportation Plan (RTP) to reflect a horizon year of 2041. The Regional Transportation Plan defines the region's strategy for creating a regional transportation system that accommodates the current mobility needs of residents and looks to the future to anticipate where new needs may arise. The Regional Transportation Plan will include a listing of the regional transportation facilities and services planned through 2041.

For more info, please contact the YMPO offices at 928-783-8911.

Phase 1 outreach advertisement (Source: Gordley Group)

Transportation Needs Identified by Phase 1 Survey Respondents

In response to the survey question “What do you think are the most critical needs in the region?” survey respondents noted concerns such as improving safety, traffic flow, signal timings, road and bridge conditions, accessibility for the disabled, walkable and bikeable streets, and dust reduction. A complete list of comments is provided in *Table 3.1*.

- ❖ Environmental sustainability due to the high levels of dust and air pollution in this area.
- ❖ I think that traffic flow and efficiency, as well as, road and bridge conditions are the most important issues. Focusing on those, road safety will improve.
- ❖ Improving accessibility for the disabled, increasing public transportation.
- ❖ I think the repair of deteriorating residential streets is one of the most important needs for Yuma. Besides that, I would put safety and traffic accident concerns next. I know border traffic is essential but I am not familiar with those dynamics other than something I saw in a Consolidated Plan survey where the postal boxes in San Luis, AZ are inaccessible (P.O. Boxes are the only form of mail delivery) at certain hours due to the border traffic pattern.
- ❖ To reduce the number of fatalities and serious injury crashes on all public roads.
- ❖ Roadway maintenance and improvement.
- ❖ More options for pedestrians and bikers. Adopt and follow a Complete Streets strategy.
- ❖ The stoplight timings in this city are a disgrace.
- ❖ Walkable streets, pedestrian and bicycle connection.
- ❖ More lanes in certain areas in Yuma.
- ❖ Freight
- ❖ The most critical transportation needs are in the drivers. They need to leave with more time and not rush other drivers or cause road rage.
- ❖ Work on roads that are used less but important to low income neighborhoods.
- ❖ There needs to be more routes for picking up people and have more accommodations.
- ❖ Safety
- ❖ All road conditions. Safety

Table 3.1 – Responses to Phase 1 Survey Question, “What do you think are the most critical transportation needs in the region?”

(Source: YMPO Public Outreach Survey conducted March and April, 2016)

Responses regarding suggestions for transportation projects that should be constructed included more east-west access, better synchronization of traffic signals, additional turn lanes, 4th Avenue improvements to accommodate pedestrians, and improvements to 16th Street, 24th Street (between Avenue B and C), and Avenue B. Other improvements suggested included paving dirt roads and providing more bicycle lanes. A complete list of comments is provided in *Table 3.2*.

- ❖ Loop or loops going in an easterly/westerly direction through the City. Right turn lanes at all major intersections. Synchronized traffic lights. Better flow of traffic in the Palms Mall area off 16th Street.
- ❖ The roads need to be worked on.
- ❖ Sidewalk and street widening on 24th St between Avenues B & C. It is a very busy street that has no sidewalks and an extreme number of potholes.
- ❖ Continue to improve major intersections in Yuma.
- ❖ 4th Avenue reconstruction to make it more pedestrian-accessible.
- ❖ Widen and fix 24th St between Ave B and Ave C. 24th St and Ave B intersection.
- ❖ Walkable streets, narrow streets.
- ❖ More lanes down Avenue B and 16th Street.
- ❖ Dirt roads should be paved.
- ❖ More bike lanes.
- ❖ More transportation offices available in town.

Table 3.2 – Responses to Phase 1 Survey Question, “Are there specific transportation projects that you feel should be constructed?”

(Source: YMPO Public Outreach Survey conducted March and April, 2016)

Priority Goals as Identified by the TAC

At the February 11, 2016 TAC meeting, members completed an exercise to identify priority goals for the RTP. The results indicated that improving roadway safety and road and bridge conditions were the most important goals. The goals were ranked as follows:

- ❖ Roadway Safety – 14.3%
- ❖ Roadway and Bridge Conditions – 13.7%
- ❖ Bicycle, Pedestrian, and Transit Mobility – 12%
- ❖ Vehicle Mobility – 11.4%
- ❖ Freight Movement & Economic Vitality – 11.1%
- ❖ Security and Emergency Response – 10.9%
- ❖ Border Crossings – 9.2%
- ❖ Technology – 9.1%
- ❖ Environmental Sustainability – 8.3%

Figure 3.2 shows how the goal areas were ranked by TAC members. It should be noted that the goal areas of Technology and Security & Emergency Response were not included in the online survey.

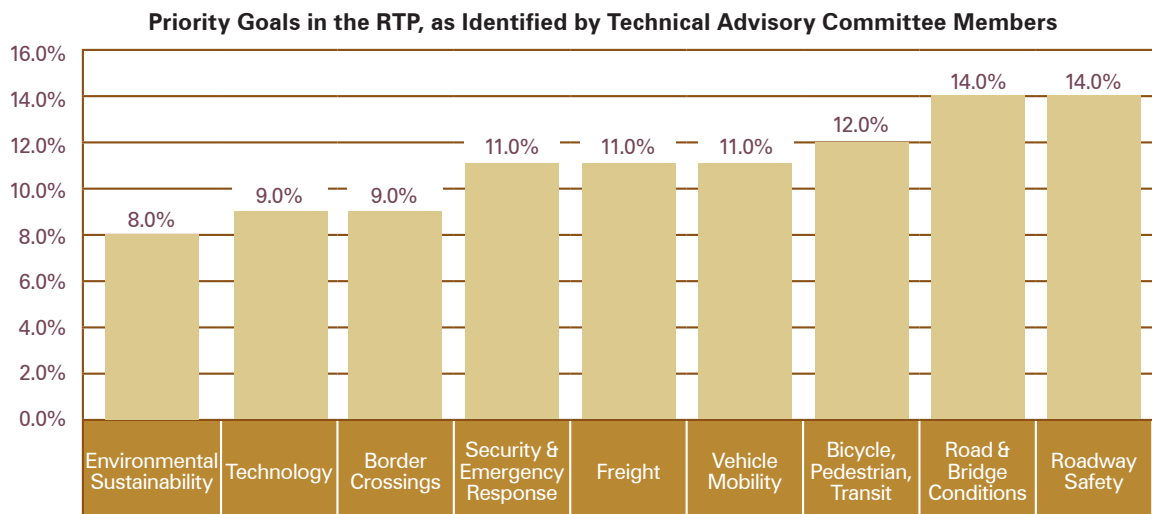


Figure 3.2 – Priority Goals in the RTP, as Identified by Technical Advisory Committee Members (Source: RTP-TAC Meeting February 11, 2016)

Phase 2 – Gathering Input on Proposed Transportation Improvement Projects

A web-based program called Social Pinpoint was used to obtain public input on proposed transportation improvement projects and make it easy for members of the public to use an intuitive “drag and drop” interface so persons can easily add comments to the projects shown and suggest new projects.

The website, which was active from September 16th to October 6th, 2016 was advertised in many ways:

- ❖ Fliers
- ❖ Radio interviews
- ❖ E-mails sent to organizations
- ❖ Announcements and presentations at meetings
- ❖ Press releases

A copy of the flier advertising the website is shown at right.

To address the concern that persons may want to comment but did not have internet access, maps were available to review at the YMPO office on September 19th and 20th.

The interactive website was a great success. As of October 10th there were:

- ❖ 630 total visits
- ❖ 594 unique visits
- ❖ 117 comments

The public responded favorably to the proposed RTP projects. There were 338 “likes” on projects and only 29 “dislikes.” It should be emphasized that the “likes” and “dislikes” are not considered as votes for a project, but can give an indication of public sentiment.

Projects on the plan that members of the public responded most favorably to were:

- ❖ Project SL-08: Ave. B Widening, County 15th Street to SR 195
- ❖ Project SL-02: Juan Sanchez Boulevard Widening, Main Street to 8th Avenue
- ❖ Project SL-06: County 24th Street Paving Dirt Road, Avenue H to Avenue F
- ❖ Project YU-04: Giss Parkway / 8th St. Safety Improvements
- ❖ Project FH-03: US 95 Widening, Gila River to Imperial Dam Rd.
- ❖ Project YU-35: I-8 Widening, SR 195 to Fortuna Road
- ❖ Project YU-29: 32nd Street Widening, Avenue B to 32nd Street Connection
- ❖ Project YU-14: 4th Avenue Safety Improvements, 1st Street to 32nd Street
- ❖ Project FH-02: US 95 Widening, Imperial Dam Road to Aberdeen Road
- ❖ Project YU-43: North I-8 Frontage Road, Avenues 10E to 11 E

YMPO Regional Transportation Plan 2018-2041

YMPO LAUNCHES SOCIAL PINPOINT SITE

GO TO SITE, HELP US PRIORITIZE TRANSPORTATION PROJECTS

YMPO has launched a Social Pinpoint site that enables the public to view a map of proposed transportation improvements and give feedback.

- 1 START** – Zoom in on an area of the map that’s important to you. You will see markers that represent projects.
- 2 CLICK** – on markers to:
 - a. Get a description of proposed projects
 - b. Like, dislike and/or comment on projects
- 3 READ** – other people’s comments by clicking on the “ACTIVITY” feed on the left side of your screen



gg.mysocialpinpoint.com/ympo
Sept. 16 – Oct. 6, 2016

**NO COMPUTER?
NO PROBLEM!**



Go to YMPO offices, **Monday, September 19 and Tuesday, September 20, between 8 a.m. and 5 p.m.**, to view project maps and access the social pinpoint website.

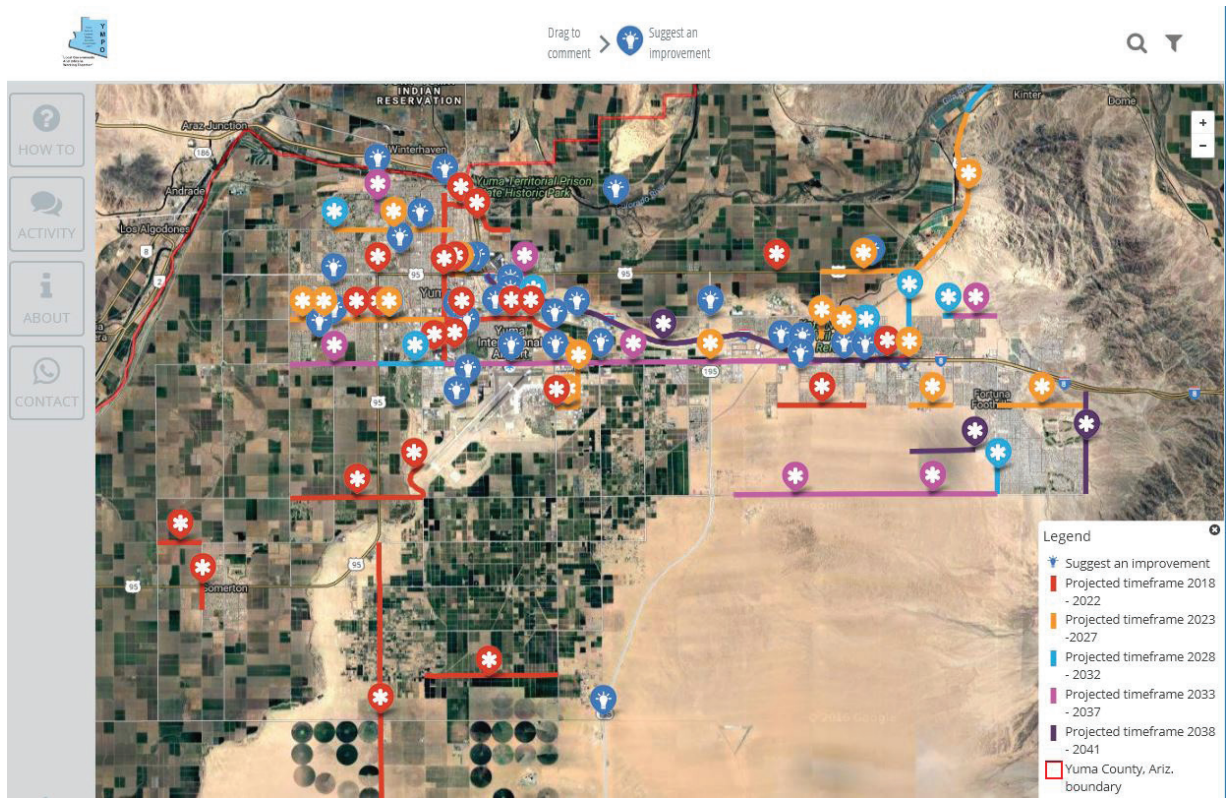
GIVE INPUT ON PROJECTS LIKE:

- Paving dirt roads
- Railroad underpasses
- Pedestrian/bicycle improvements
- Road widenings
- Safety improvements
- Traffic signals

WANT MORE INFO?
Visit ympo.org or call the YMPO offices at (928) 783-8911

The Yuma Metropolitan Planning Organization (YMPO) is updating the Regional Transportation Plan (RTP) to reflect a horizon year of 2041. The RTP defines the region’s strategy for creating a regional transportation system that accommodates the current mobility needs of residents and looks to the future to anticipate where new needs may arise. The RTP will include a listing of the regional transportation facilities and services planned through 2041.





Screenshot of Social Pinpoint site

Members of the public suggested the following improvements as summarized in *Table 3.3*. The RTP-TAC considered these suggested projects in developing the RTP. All public comments on transportation improvement projects are summarized in Appendix C.

Project Name	Project Limits	Comment
28th St	West of Avenue 10E	Completion of widening of 28th Street heavily used by school buses and local traffic. Wide in front of schools then narrows to two lanes. Speeding a problem here also. When Kofa Wildlife Refuge was built 28th Street should have been widened then to match up to the wide street in front of the schools.
Avenue 10E	North of I-8	Avenue 10E is in bad need of paving. Heavy use by school buses and parents of three schools and local citizens. Sooner rather than later as I have requested this before.
Arizona Avenue / Palo Verde St		This intersection is always scary and feels like one is taking their life in their hands. No one hardly ever obeys the rules of the road.
Avenue 10E	South of County 11th Street	Pave it

Table 3.3 – Transportation Improvements Suggested by Members of the Public on the Social PinPoint Website
(continued on next 2 pages)
 (Source: Social Pinpoint Public Outreach, <https://gg.mysocialpinpoint.com/ympo#>)

Project Name	Project Limits	Comment
General Comment regarding bike lanes		No improvement without a bike lane, there no safe passage without designated bike lanes. Most motorist just aren't aware how close they are and the effect it creates.
US 195 at 19th Street	US 195 / Co. 19th Street	On and off ramps to 195 at County 19th Street. Avenue 3E is heavily trafficked by trucks going to and from I-8. They travel south on Avenue 3E to County 19th Street and then west. This will greatly reduce the traffic on 3E. Avenue 3E always has a high volume of tractor trailers on it moving produce and farming equipment. It is a direct route to I-8, but the traffic volume is very high. This could greatly be reduced with on and off ramps at County 19th Street as many trucks would take it. US 195 is a great road, however after 32nd Street, there are only two exits, County 14th and then Avenue B at what would be County 23rd Street, at the state prison. Many tractor trailers don't have a way to get on 195 and hence use Avenue 3E.
Avenue B	Alignment with I-8	We need a valley access to the I-8. Using the existing interchange (north of this icon) would save a LOT of money.
Canal Bridge at 12th Street		Add another way to get out of the valley onto the mesa, add a bridge over the canal at 12 St. We only have 5 roadways that go over the canal. As the community grows it will be more congested. If there is only 5 ways for traffic to get from the valley up onto the mesa area, those roadways will become more congested over time. Plan now to add a bridge over the canal at 12 Street.
28th Street	Mesquite Elementary / east of 45th Avenue, to Avenue C	28th Street needs to be opened and paved from Mesquite Elementary School to Avenue C.
24th St / Araby Road		It's too dark here. Street lights would help. Dark streets are a hazard.
1st Avenue, south of 24th Street		This section of 1st Avenue has gotten so bad that the next good rainstorm will literally tear up the already beaten up asphalt.
40th Street	Arizona Avenue to 4th Avenue extension	Please remove/replace asphalt on 40th Ave between S. Arizona Avenue and 4th Avenue Extension. It is in horrible condition, alligator cracking, huge chunks of asphalt are missing due to high traffic semi activity. It is in horrible condition, alligator cracking, huge chunks of asphalt are missing due to high traffic semi activity.
Arizona Avenue, south of 32nd St	South of 32nd Street	Please remove/replace asphalt on South Arizona Ave. It is in horrible condition, alligator cracking, huge chunks of asphalt are missing due to high traffic semi activity.
I-8 Widening	I-8/Avenue 8 1/2 E Interchange	Make a right turn lane for southbound traffic. Demolish the median and make a left turn lane. Ave seen several accidents at 32nd Street. and frontage road from u-turners.

Table 3.3 – Transportation Improvements Suggested by Members of the Public on the Social PinPoint Website
(continued)

(Source: Social Pinpoint Public Outreach, <https://gg.mysocialpinpoint.com/ympo#/>)

Project Name	Project Limits	Comment
Desert Springs Road	Avenue 8 1/2 E to S. Desert Air Blvd	Finish paving Desert Springs Road. from S. Avenue 8 1/2 E to S Desert Air Blvd. It is almost too narrow for two cars to pass each other at the stop sign. I must back up to let school buses and garbage trucks go by if I am at the stop sign waiting to turn.
Paloverde Street	Avenue 3E/Pacific Avenue	Paloverde Street needs to be paved off of 3E and Pacific Avenue. Pot holes are filled and two weeks later they return.
16th St, Bridge west of I-8		How come this bridge shakes after the big construction was made several years back. This bridges integrity seems compromised by any and all trucks that pass next to a vehicle and it shakes the heck. THIS BRIDGE IS SHAKY NEEDS TO BE FIXED
Palo Verde Street	Avenue 3E/Pacific	Used as a major east west bike route by cyclists.
Avenue C at 18th Street		Crosswalks both ways here would be great.
Avenue B	Alignment with I-8	That would save so much time if there was another access point to I-8 here...
Avenue B	Alignment with I-8	It would be nice. That is in California, though.
Pacific Avenue Bridge		The Pacific Avenue bridge that goes over the RR heading north has no bike lane. Restriping might be able to solve this problem or at least signs for motorists to be aware "Bicycles may take the lane". There is a sidewalk on the west side but we do not want cyclists to ride against the traffic flow. There is a left turn lane on the bridge bu no place to turn left. Going north on Pacific eventually turns into a bike lane.
24th Street / Avenue 3E		<ul style="list-style-type: none"> Please evaluate from a bicyclist view point. This could be a "right hood" issue for bicyclists. <p>Think about the times when there is no traffic. Yield condition is perfect 23.5 hours of the day.</p> <p>This is no issue here. Cars are supposed to yield. if they pull out in front in front of you it is their fault. Cars need to practice yielding better should be your comment, not put in a stop sign.</p> <p>Make this yield sign a stop sign. It is too dangerous, as cars using this lane constantly pull out in front of traffic. Option-ally, create a merge lane to allow for zipper merging.</p> <p>Agree with the comments. Please keep the Yield Sign. Merge lane would be a good idea as an alternative in future when traffic flow increased.</p>
Avenue B	Alignment with I-8	Also, could be a bicycle exit off of I-8 onto the Wetlands bike path with directional signs.

Table 3.3 – Transportation Improvements Suggested by Members of the Public on the Social PinPoint Website (continued)

(Source: Social Pinpoint Public Outreach, <https://gg.mysocialpinpoint.com/ympo#>)

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Chapter 4

Growth Trends in the Region

GROWTH TRENDS IN THE REGION

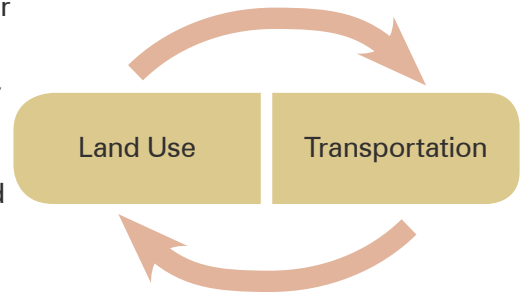
Overview

Many land use characteristics affect travel behavior. Where people live, work, attend school, go shopping, and travel affect transportation needs and choices. This chapter discusses growth trends in land use, population, and employment. It also discusses economic development initiatives that may influence travel in the region.

Regionally and nationally there is emphasis on providing integrated multimodal transportation systems with walkable, mixed use neighborhoods. For example, in 2015 an improvement project was completed in downtown San Luis to revitalize Main Street, improve the circulation of traffic, enhance pedestrian safety, and improve access to downtown businesses. This project made it easier for vehicle, pedestrian, and bicycle traffic to travel in the downtown area.

Using transportation to promote healthy and sustainable communities also promotes reduced motor vehicle use, air quality improvements, less highway congestion, and improved safety. The ability of YMPO member jurisdictions to work together to develop the 2018-2041 RTP advances the concept of a seamless regional mobility system, which is critical to regional and global competitiveness. This regional coordination is also a key way to leverage limited funds.

Land use and transportation have a reciprocal relationship and must be balanced to achieve vibrant communities.



Yuma Entry Sign (Source: Kimley-Horn)

Historic Population Growth

The YMPO region, like the rest of Arizona, has seen a large increase in population over the last 15 years. Overall, population within the limits of Yuma County has increased approximately two percent per year since the 2000 census. Although the annual percentage growth may seem small, over time this growth is compounded and can result in significant changes. *Table 4.1* shows population and housing data for jurisdictions within the YMPO region. San Luis, Somerton, and Wellton have experienced particularly high annual growth rates. The City of Yuma has also experienced significant population growth with over 20,000 new residents between 2000 and 2015.

Location	Population		
	2000 Census	2015 Population Estimate	Annual Growth Rate (percent)
City of San Luis	15,322	34,001	5.46
City of Somerton	7,266	15,759	5.30
Town of Wellton	1,829	3,101	3.58
City of Yuma	77,515	97,950	1.57
Cocopah Indian Tribe	1,025	859*	-1.17
Quechan Indian Tribe (AZ and CA)	2,412	TBD	TBD
Unincorporated Area	65,428	64,180	-0.13
Yuma County Overall	160,026	214,991	1.99

Table 4.1 – 2000-2015 Yuma County Population

(Source: 2000 U.S. Census, Arizona Department of Administration – Employment and Population Statistics, July 1, 2015 Population Estimate for Arizona's Counties, Incorporated Places, and Unincorporated Balance of Counties)

*Arizona Department of Administration – Employment and Population Statistics, 2016-2050 Sub-County Population Projections

Figure 4.1 shows the 2015 dwelling unit density, which gives an indication of where people are living in the YMPO region.

Projected Growth in Population and Housing

Future population and dwelling unit estimates were developed in coordination with YMPO member agencies and were consistent with population estimates developed by the Arizona State Demographers.

Population in Yuma County is anticipated to grow from 214,991 in 2015 to 311,477 in 2041.¹

A graphical representation of dwelling units density, which shows where this population growth is anticipated to occur, is shown in *Figure 4.2*.

¹ Arizona Department of Administration – Employment and Population Statistics, 2016-2050 Sub-County Population Projections

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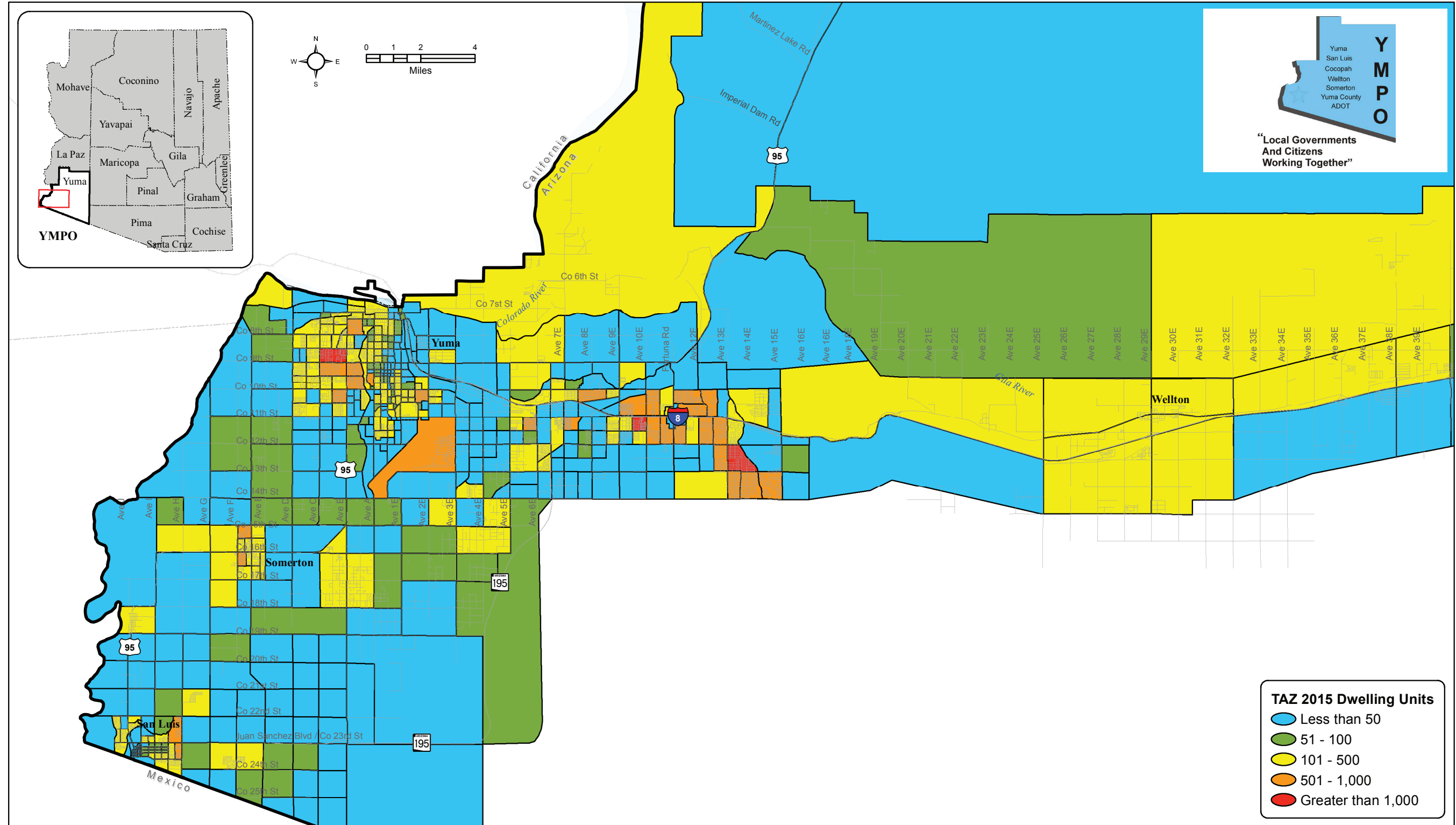


Figure 4.1 – 2015 Dwelling Unit Density
 (Sources: Arizona Department of Administration Employment and Population Statistics, 2015, Medium Series Population Projections 2010-2014 America Community Survey 5-Year Estimates, and 2014-2037 Regional Transportation Plan)

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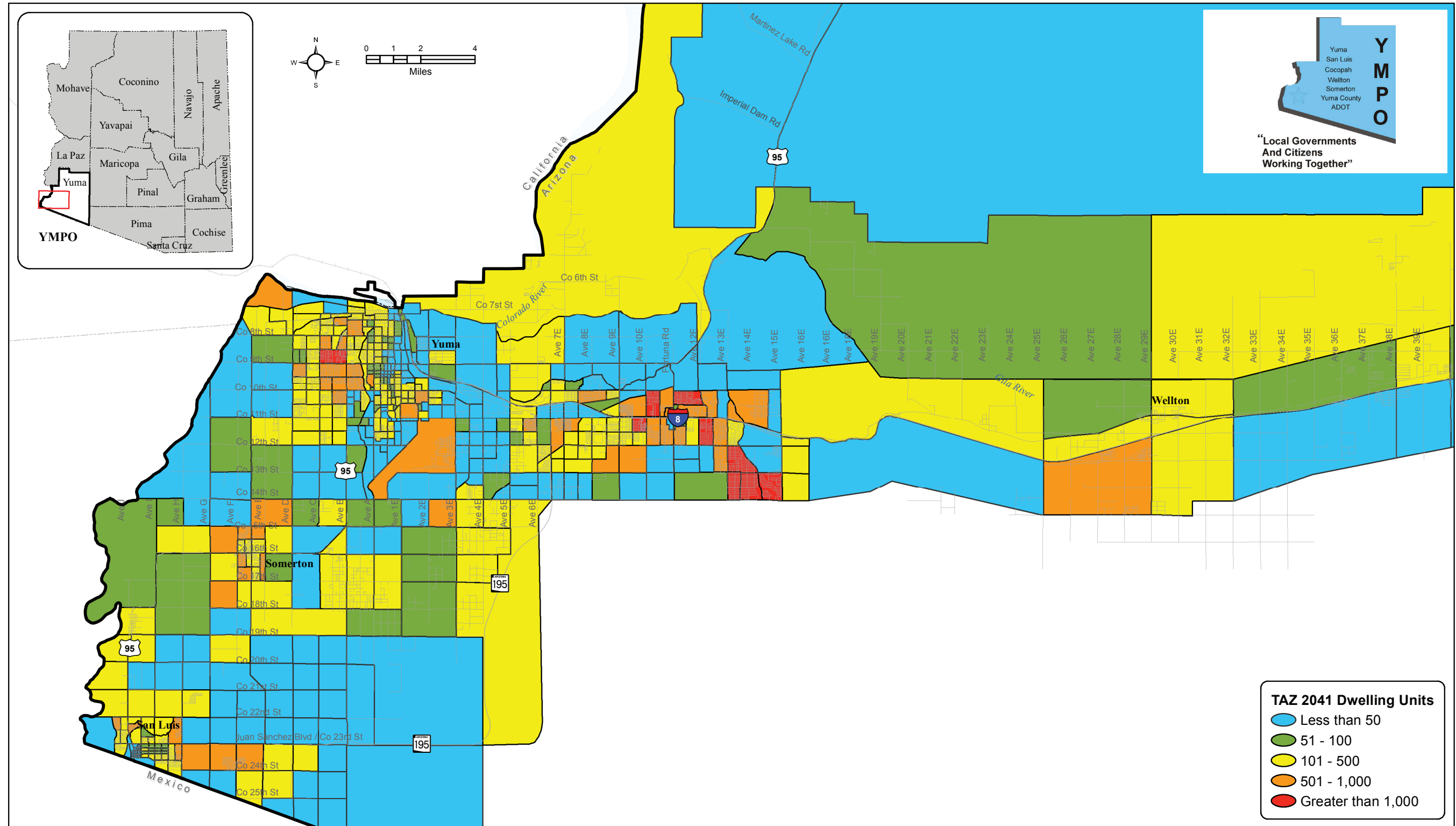


Figure 4.2 – 2041 Dwelling Unit Density
 (Sources: Arizona Department of Administration Employment and Population Statistics, 2015, Medium Series Population Projections 2010-2014 America Community Survey 5-Year Estimates, and 2014-2037 Regional Transportation Plan)

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Employment

The three main contributors to the region’s growth and economy are the agriculture, military/government, and tourism industries. Employment data from the 2015 census is shown in *Table 4.2*.

Area	2015 Employment
City of San Luis	6,367
City of Somerton	1,922
Town of Wellton	1,169
City of Yuma	43,955
Cocopah Indian Tribe	925
Other Unincorporated Areas	17,954
Yuma County Overall	72,292

Table 4.2 – Yuma County 2015 Employment

(Source: Arizona Department of Administration – Employment and Population Statistics and MAG AZ-SMART land use suballocation tool)

The regional economy has a diverse foundation with two major defense facilities, a regional/inter-state medical facility, a retail and hospitality sector that hosts more than 80,000 winter visitors annually (Yuma Sun, 2012), a \$3.2 billion high-tech agribusiness industry, and a growing industrial sector.



Agriculture is important to the Yuma economy (Source: Kimley-Horn)

Table 4.3 shows the top 10 employers in the YMPO region.

Employer	Activity	Employees
#1 Marine Air Corps Station Yuma	Government	4,723
#2 Yuma Proving Ground	Government	2,510
#3 Yuma Regional Medical Center	Health Care	1,991
#4 Yuma Elementary District Yuma #1	Education	1,400
#5 Yuma County	Government	1,336
#6 Date Pac, LLC	Manufacturing	1,275
#7 TRAX	Government	1,262
#8 City of Yuma	Government	1,200
#9 US Border Patrol	Government	1,000
#10 Yuma Union High School District #70	Education	1,000

Table 4.3 – Top Ten Employers in the YMPO Region

(Source: Yuma County Chamber of Commerce, <http://www.yumachamber.org/top-employers.html>, referenced 1/10/2017)

Figure 4.3 illustrates the 2015 distribution of employment in the YMPO TDM developed for use in preparing the 2018-2041 RTP.



Yuma City Hall (Source: Kimley-Horn)

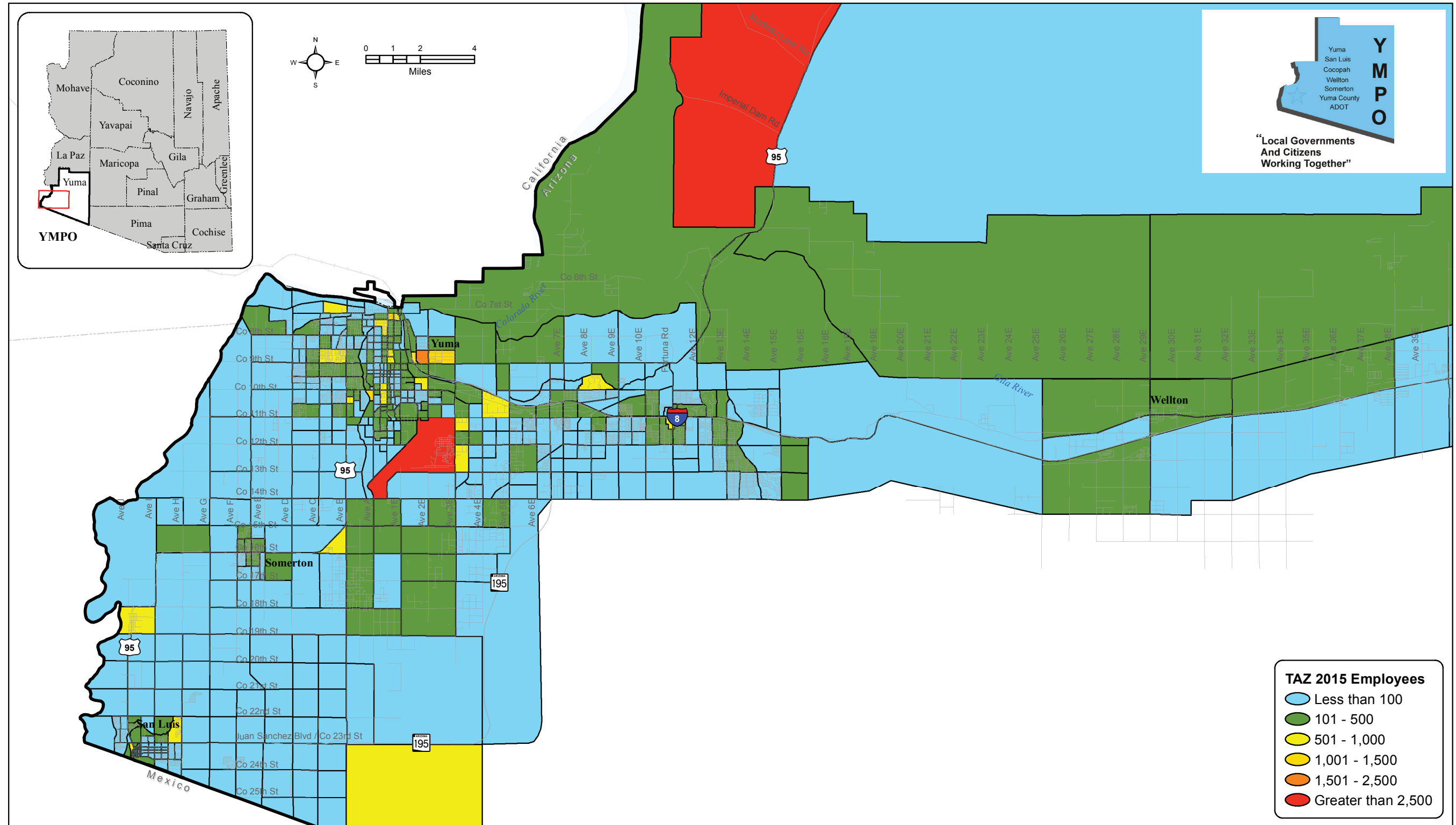


Figure 4.3 – 2015 Employment Density
 (Sources: Arizona Department of Administration Employment and Population Statistics, 2015, Medium Series Population Projections 2010-2014 America Community Survey 5-Year Estimates, and 2014-2037 Regional Transportation Plan)

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Future Employment

The total number of jobs in the region is estimated to grow from approximately 72,292 employees in 2015 to 113,187 in 2041. As additional jobs are created in the region, the need for new and improved roadways, bikeways, sidewalks, and additional transit services will increase. A comparison of current and projected future employment is shown in *Figure 4.4*.



Downtown Yuma – As jobs increase in the region, roadway improvement will be needed to support growth. (Source: Kimley-Horn)

Current and Future Employment (number of employees)

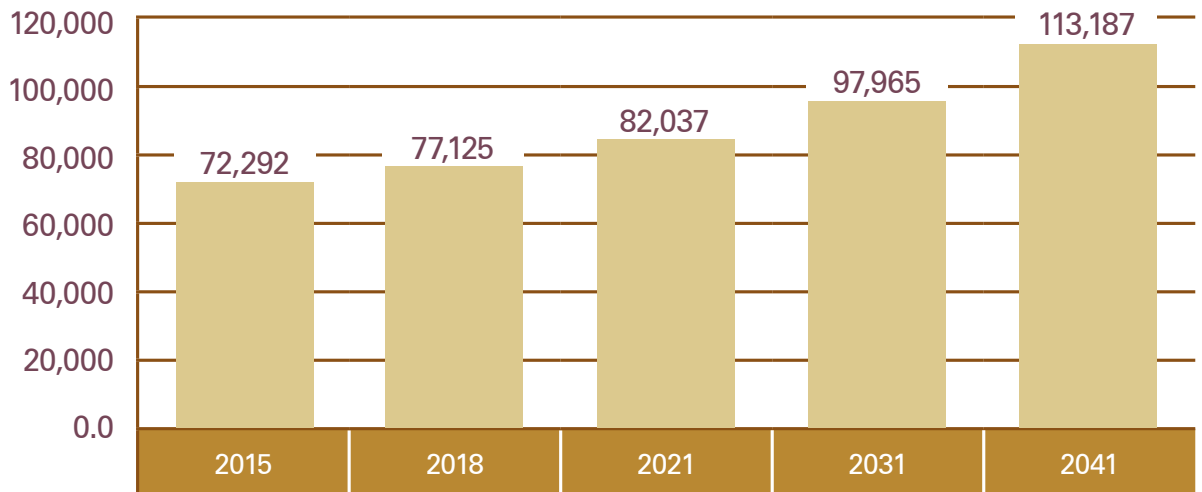


Figure 4.4 – Current and Future Employment (Source: Kimley-Horn)

A graphical representation of projected employment density in 2041 is provided in *Figure 4.5*.

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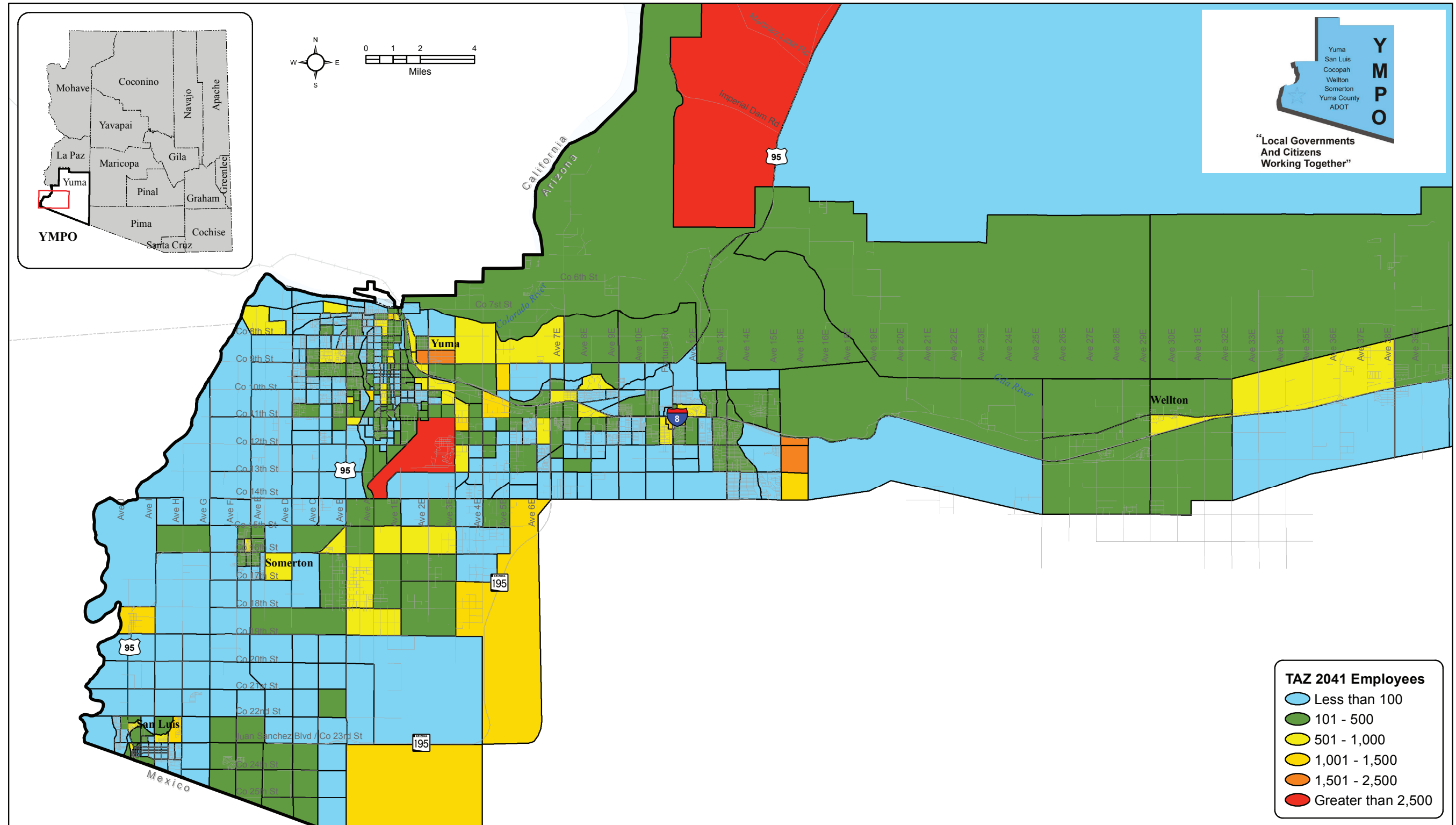


Figure 4.5 – 2041 Employment Density
 (Sources: Arizona Department of Administration Employment and Population Statistics, 2015, Medium Series Population Projections 2010-2014 America Community Survey 5-Year Estimates, and 2014-2037 Regional Transportation Plan)

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Economic Development Trends

Overview

Economic Development and Transportation Linkages

The full benefit of a region's investment in transportation goes well beyond improvements in transportation system performance and safety. Other benefits and costs must be given consideration, such as accessibility to markets, market area expansion, intermodal connectivity, system expansion and maintenance, and in the case of the YMPO region, enhancing cross-border trade opportunities. If people and goods cannot effectively be moved to and from population and employment centers or between markets, the regional economy may not meet its full potential. Thus, the economic stability and growth of the region are dependent on a dynamic, evolving transportation system capable of supporting the interactions of myriad supply and demand channels.

Vibrant Local Communities

Jurisdictions within the YMPO region, prominent stakeholders, and business organizations support plans for growth and development. There is an understanding that the regional transportation system is critical to the overall economic health of individual jurisdictions and the region as a whole. Regional leadership recognizes there is great value to the integration of multimodal transportation investments alongside efforts to increase labor market access and reduce congestion for all modes of travel. Recent and planned transportation improvements associated with economic development for the YMPO member jurisdictions are discussed below.



Yuma County – Yuma County experienced expansive growth in recent years, which required improvements to the regional roadway network. Growth of the Foothills area increased congestion on I-8 frontage roads, resulting in plans to accommodate travel in the area while protecting the functionality of this key regional freeway. Efforts to improve access to the Mexican border stimulated improvements to US 95 and resulted in the development of SR 195, which connects San Luis to I-8. Projected growth of residential, commercial, and mixed-use developments will require additional planning and evaluation of the regional roadway network.



City of Yuma – The City of Yuma will remain the central focus of regional economic growth, therefore, Yuma identified major growth areas and subareas of the City to be targeted for improvements and redevelopment. Transportation system improvements will be an integral part of the orchestration of new redevelopment and development actions. Development of a multimodal transportation center in the downtown area is key to support and enhance mobility and accessibility in the redevelopment areas. Additionally, new multimodal linkages will be established to accommodate the planned Estancia development and its integration with the City's transportation network.



City of San Luis – The City of San Luis, in response to rapid growth during the past decade, moved forward with improvements to US 95 (Main Street) and Juan Sanchez Boulevard to improve access to San Luis POE I in the downtown area. Activity also focused on improving the efficiency of cross-border movements, which are critical to the local and regional economy. Actions have included development of San Luis POE II five miles east of San Luis POE I. San Luis POE II improvements expedited both private and commercial crossings, reduced costs to shippers, and reduced time delays for workers. Residential growth and accompanying retail activity will require planning and evaluation of the City's transportation system linkages and modal options.



City of Somerton – The City of Somerton adopted a downtown redevelopment plan to accommodate a dynamic, mixed-use growth center that will be sufficiently flexible to support more robust social and economic interactions in response to regional growth. The recent narrowing of US 95 through downtown Somerton is reflective of the City's priority on promoting downtown development.



Town of Wellton – Although the Town of Wellton expects to retain its rural, agricultural character in the near future, the Town has identified a long-term transportation network that will support not only expanding residential development, but also additional commercial and industrial activity. Town plans anticipate available parcels adjacent to the Union Pacific Railroad (UPRR) freight corridor and major roadways, particularly I-8, to become prominent attractions for economic growth.



Cocopah Indian Tribe – The Cocopah Indian Tribe has three reservation areas: the North Reservation, the East Reservation, and the West Reservation. The Cocopah Reservation comprises approximately 6,500 acres. The Cocopah Indian Tribe has developed a 20-Year Long-Range Transportation Plan for all three reservation areas and completed a more detailed transportation plan for the East Reservation area under a grant from the ADOT. These plans identify transportation improvements that will support planned economic development. Current key economic activities include the Cocopah Casino, Cocopah Resort and Conference Center, Cocopah Rio Colorado Golf Course, Cocopah Recreation Vehicle and Golf Resort, Cocopah Museum, Cocopah Speedway, and the Wild River Family Entertainment Center.

Trade and Tourism

A Strategic Commercial Trade Crossroads – As shown in *Figure 4.6*, the YMPO region is strategically located at a crossroads where Arizona, California, and Mexico meet. Major urban markets including San Diego, Los Angeles, Phoenix, Las Vegas, and Tucson are within a five-hour drive. The region is served by intercontinental freight, rail, and highway routes including the UPRR Sunset Route connecting Los Angeles and El Paso and I-8 to I-10 near Casa Grande. Commercial vehicles crossing at the San Luis POE II international commercial inspection facility and the original San Luis POE I have direct access to the intercontinental highway facilities via SR 195 – a four-lane, limited-access highway – facilitating the import and export of goods. Although the region does not have seaport access, the Mexican government has plans for major investments in deep water ports in Baja California and associated rail lines that would cross the Baja Peninsula and enter the U.S.



Figure 4.6 – YMPO's Location in Relation to International Trade Routes
(Source: YMPO)

Foreign Trade Zones (FTZs) – Due to the unique crossroads location of the YMPO region, four sites in the region have been granted designation as FTZs, as shown in *Figure 4.7*. The FTZs permit U.S.-based companies to be competitive in the global marketplace through deferral, reduction, or elimination of customs duties for merchandise and material brought in to the FTZ. Merchandise can be admitted to the sites duty-free for storage, repacking, displaying, or assembly as part of a larger product, or introduced into a manufacturing process.

San Luis POE II and International Trade – A significant contributor to promoting regional trade is the San Luis POE II, constructed in 2010. This port provides efficient processing of commercial vehicles only and improvements to SR 195 (Juan Sanchez Boulevard/Araby Road), which have increased access between the border crossing and I-8. Moving the bulk of commercial vehicle crossings to San Luis POE II has reduced congestion at San Luis POE I, however, congestion continues to be an issue for cross-border traffic, especially during produce harvest seasons.

What is a Foreign Trade Zone?

A Foreign Trade Zone (FTZ) is a designated geographic area considered to be officially outside of U.S. Customs territory.

Source: Yuma County Foreign Trade Zone #219
<http://www.yumafzt.com/index.html>

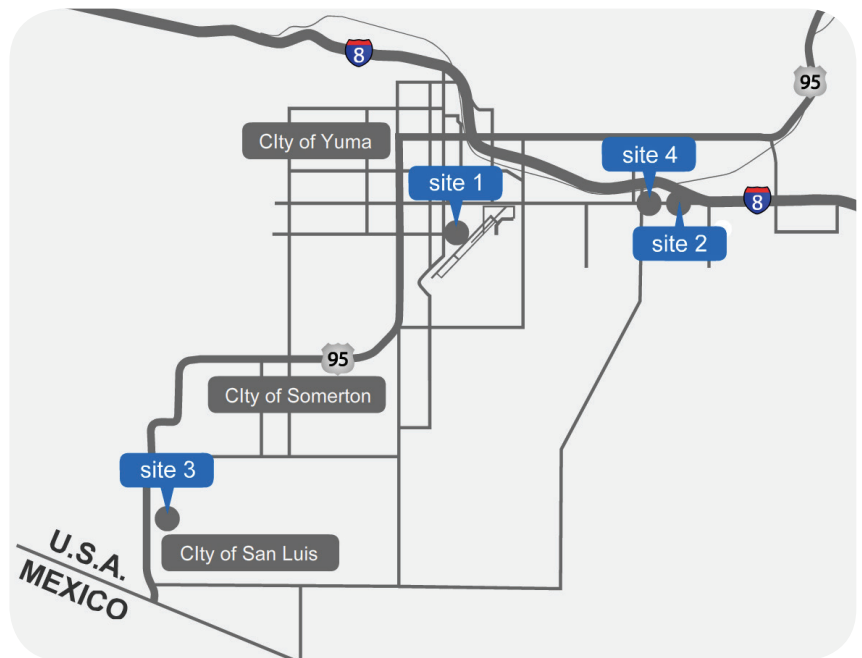


Figure 4.7 – Foreign Trade Zones
 (Source: www.yumafzt.com/ftz219sites.html)

Other Emerging Trade Opportunities – Anticipating the need for industrial and commercial space, the Greater Yuma Economic Development Corp (GYEDC) has created an interactive web-site for information about available commercial space and buildings: www.greateryumapropector.com, shown in Figure 4.8.

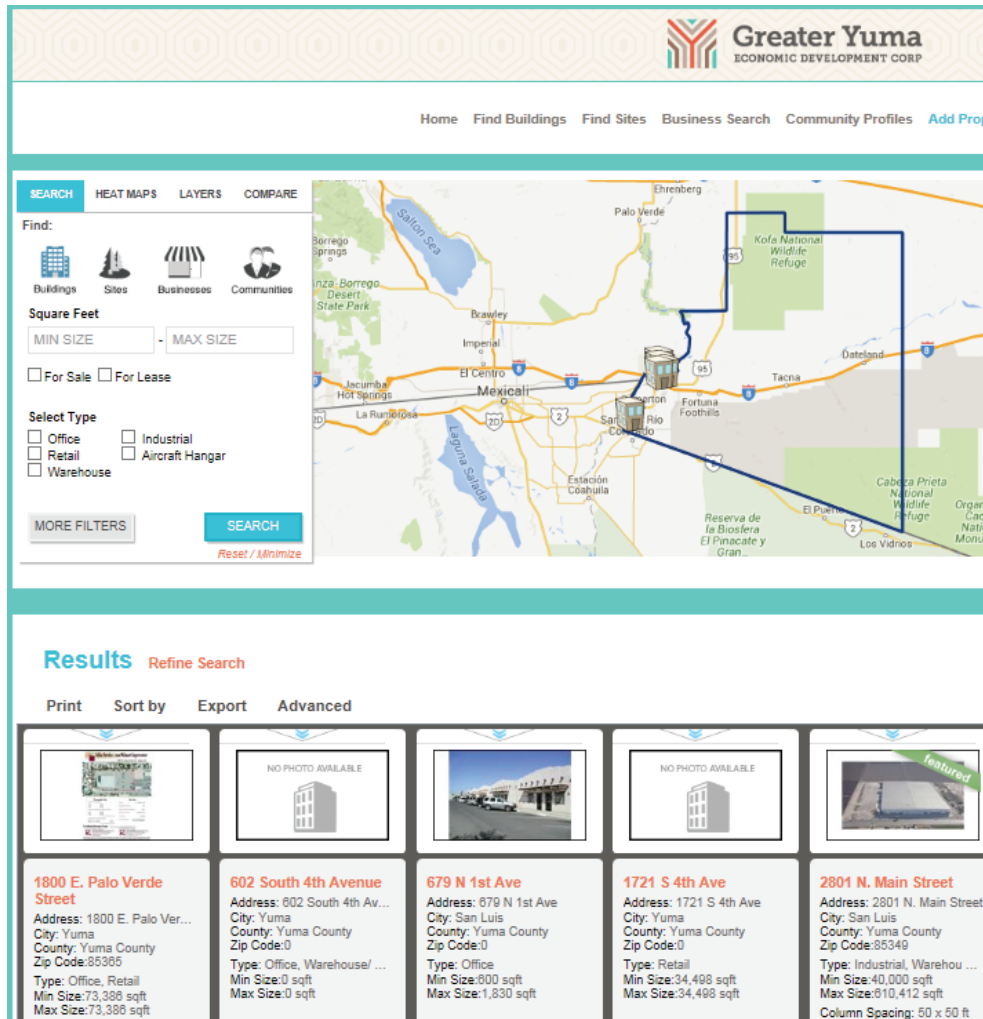


Figure 4.8 – Greater Yuma Economic Development Website
(Source: Excerpt from Greater Yuma Economic Development Corporation Interactive website, <http://www.greateryumapropector.com/>)

San Luis POE I Improvements – San Luis POE I is a primary crossing for day workers who are employed throughout the YMPO region. The General Services Administration (GSA), which operates the international POEs, is planning improvements at San Luis POE I to improve and enhance the crossing experience for private vehicles, pedestrians, bicycles, and transit. These improvements will also aid in making the San Luis POE I crossing more attractive for tourists as the congested conditions and resulting delays will be improved.

Winter Climate Attracts Tourism – The tourism dynamic of the region relies heavily on the exceptional winter climate, although attractions in the region are not strictly limited to the winter season. In response to tourist activity, the region has developed more than 23,000 recreational vehicle (RV) spaces and nearly 4,000 hotel rooms. Thus, at the height of the winter visitor season, the region’s population swells by more than 80,000 people (*Yuma Sun*, 2012). These individuals join the “locals” in dining, golfing, shopping, and taking trips to Algodones and other cities in Mexico. Tourists may also indulge in hiking, tubing, balloon rides, bird watching, water sports, the Dove Hunt, and recreational riding in the Imperial Sand Dunes Recreation Area. To take advantage of the influx of winter visitors and other tourists, the region has developed several tourism venues such as Historic Downtown Yuma, Pivot Point Interpretative Plaza (commemorating the first crossing of the Colorado River by a train), Yuma Territorial Prison, and the Yuma Quartermaster Depot.

Agritourism – Agriculture supports an important aspect of the region’s tourist trade by providing the foundation for annual events such as Field to Feast, Lettuce Days, and the Dove Hunt. The region has been able to capitalize on these events and increase regional tourism.

Bicycle Tourism on the Rise – Arizona is recognized as a place that is conducive for bicycling. The League of American Bicyclists ranks Arizona as No.

19 in its annual state rankings (May 2015). While communities in the YMPO region have not yet achieved designation as a Bicycle Friendly Community, several of the communities support and sponsor bicycling events. These events encourage participation by winter visitors and provide incentives to improve the bicycling environment. Bicycling events also draw vendors from inside and outside the YMPO region. The events highlight the best qualities and characteristics of the region, particularly the favorable winter climate.

Weather Averages			
	Low	High	Rain
Jan	41°F	68°F	.45"
Apr	52°F	86°F	.15"
Jul	76°F	106°F	.31"
Oct	58°F	89°F	.31"

(Source: www.visityma.com/climate.html)



Yuma Territorial Prison State Historic Park (Source: azstateparks.com)

An aerial photograph of a commercial area. The top half shows a multi-lane road with a median, lined with various businesses, including a gas station and a truck stop. The bottom half shows a roundabout with a central island decorated with red and white stripes. The entire image is framed with a decorative border of overlapping squares.

Chapter 5

Roadway System

ROADWAY SYSTEM

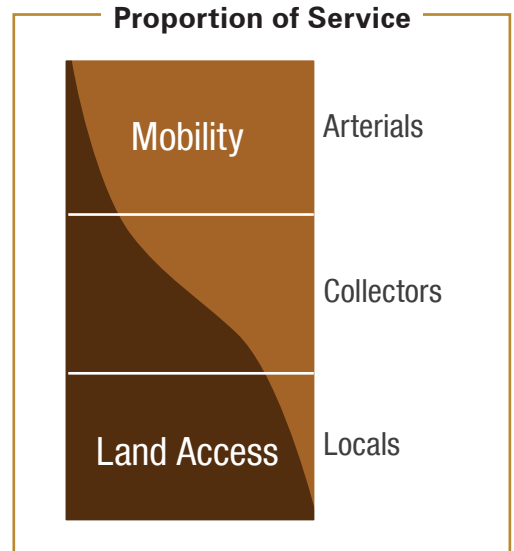
Roadways

Overview

Roadways are a central focus of the 2018-2041 RTP. The condition of the roadway system is critical to the economic wellbeing of the region.

Functional Roadway Classification

The YMPO regional roadway network is based on a mile grid arterial system of roadways with differing functional classifications. Roadways are functionally classified or grouped according to the character of traffic service (mobility versus access) they are intended to provide. These classifications are used in transportation system planning, roadway design, and determining eligibility for federal roadway improvement funds. The current federal functional classification of roads in the YMPO region is shown in *Figure 5.1*. To access federal funding, roads have to be federally functionally classified as major collector or higher. Local streets are not eligible for federal funding.



Mobility vs. Access Relationship
(Source: FHWA)

Regionally Significant Routes (RSR)

Figure 5.2 shows RSRs including I-8, US 95, SR 195, and Business 8 (32nd Street and 4th Avenue). I-8 and Avenue 3E between I-8 and MCAS-Yuma are designated as a part of the Strategic Highway Network (STRAHNET), which is a system of roadways to accommodate military needs such as emergency mobilization or the movement of armor, ammunition, food, and other commodities.

Current Lanes and Traffic Volumes

Figure 5.3 shows the current number of through lanes on major roadways in the region. *Figure 5.4* shows 2015 average annual daily traffic volumes for select roadway segments derived from traffic volume data maintained by YMPO. YMPO staff conducts an extensive traffic counting program each year and monitors trends in traffic volumes. Traffic volumes vary between the winter and summer months because the agricultural season peaks during the winter and because the YMPO region is host to a large number of winter visitors. Higher percentage traffic volume increases occur in areas with these visitors, such as Wellton and the Foothills area east of the City of Yuma. YMPO staff is in the process of creating a Freight Corridor mapping system which will assist in assessing need and justification for improvements to the most important freight routes.

YMPO conducts bi-annual traffic counts at 198 count stations and conducts an additional 165 sites on a two-year rotation.

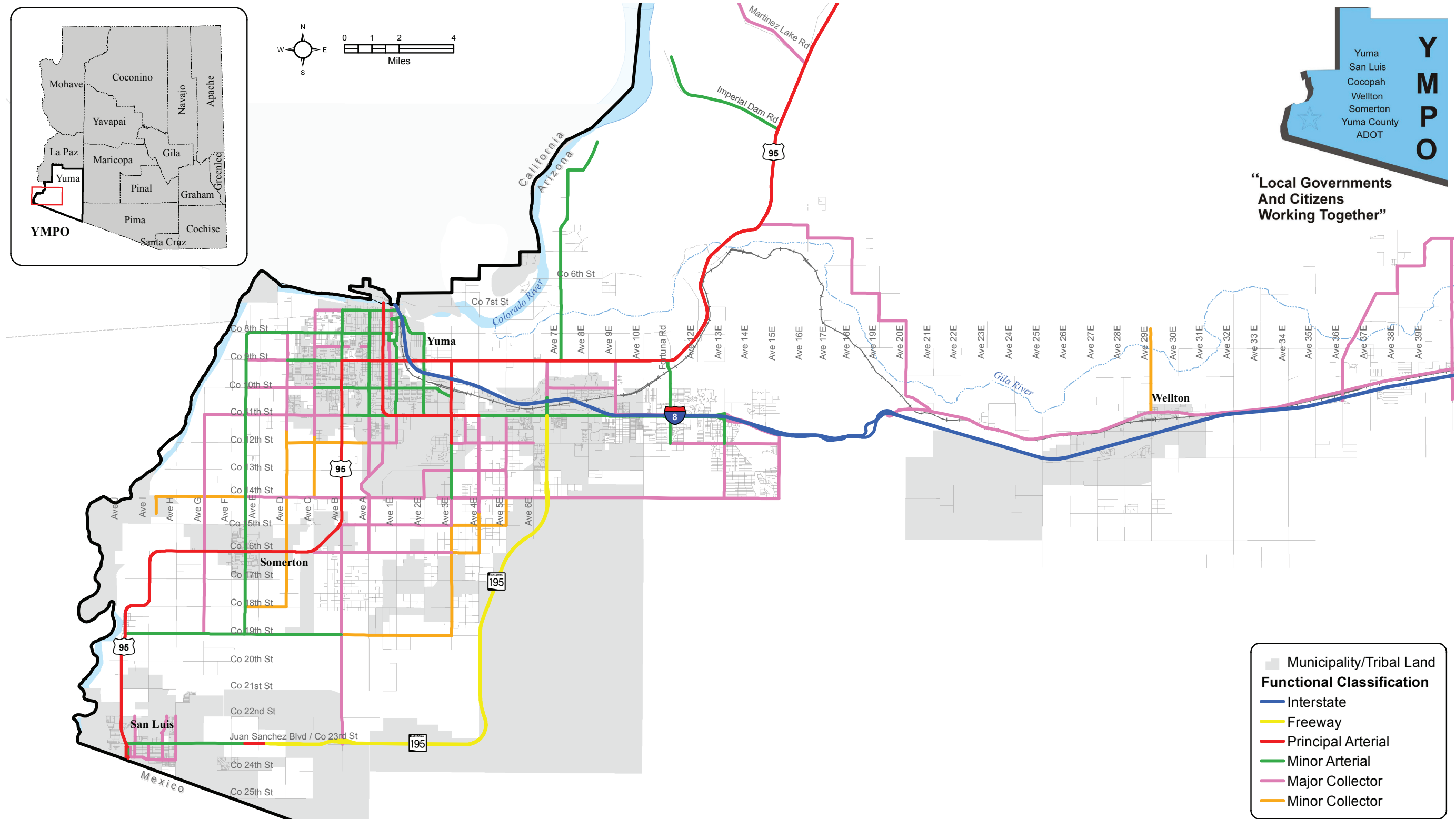


Figure 5.1 – Current Regional Roadway Network Functional Classifications (Source: ADOT, YMPO)

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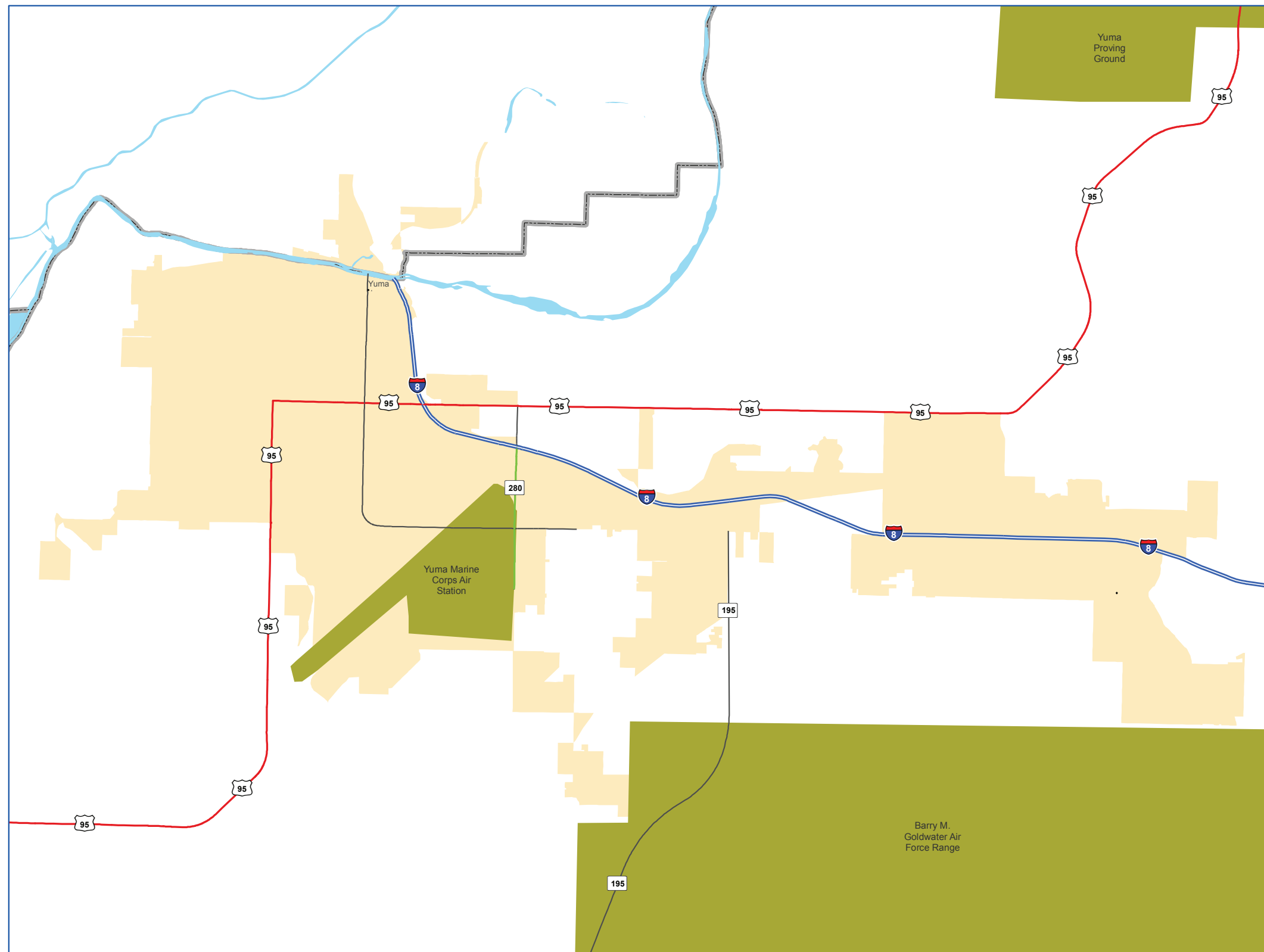
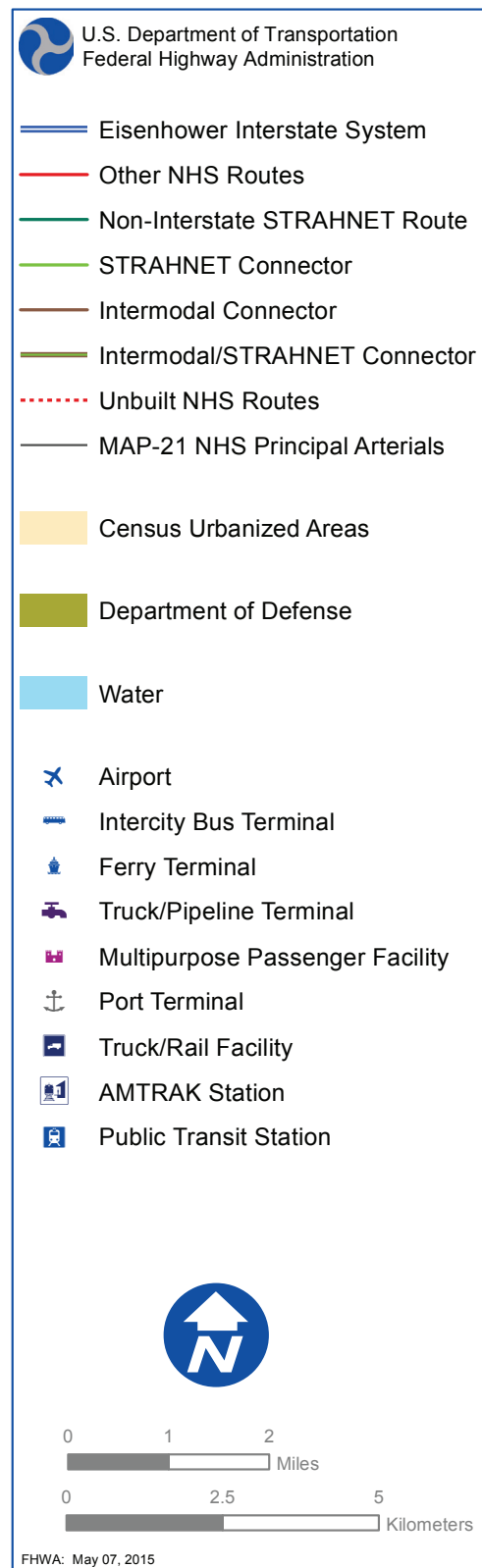


Figure 5.2 – Regionally Significant Routes
(Source: U.S. Department of Transportation)

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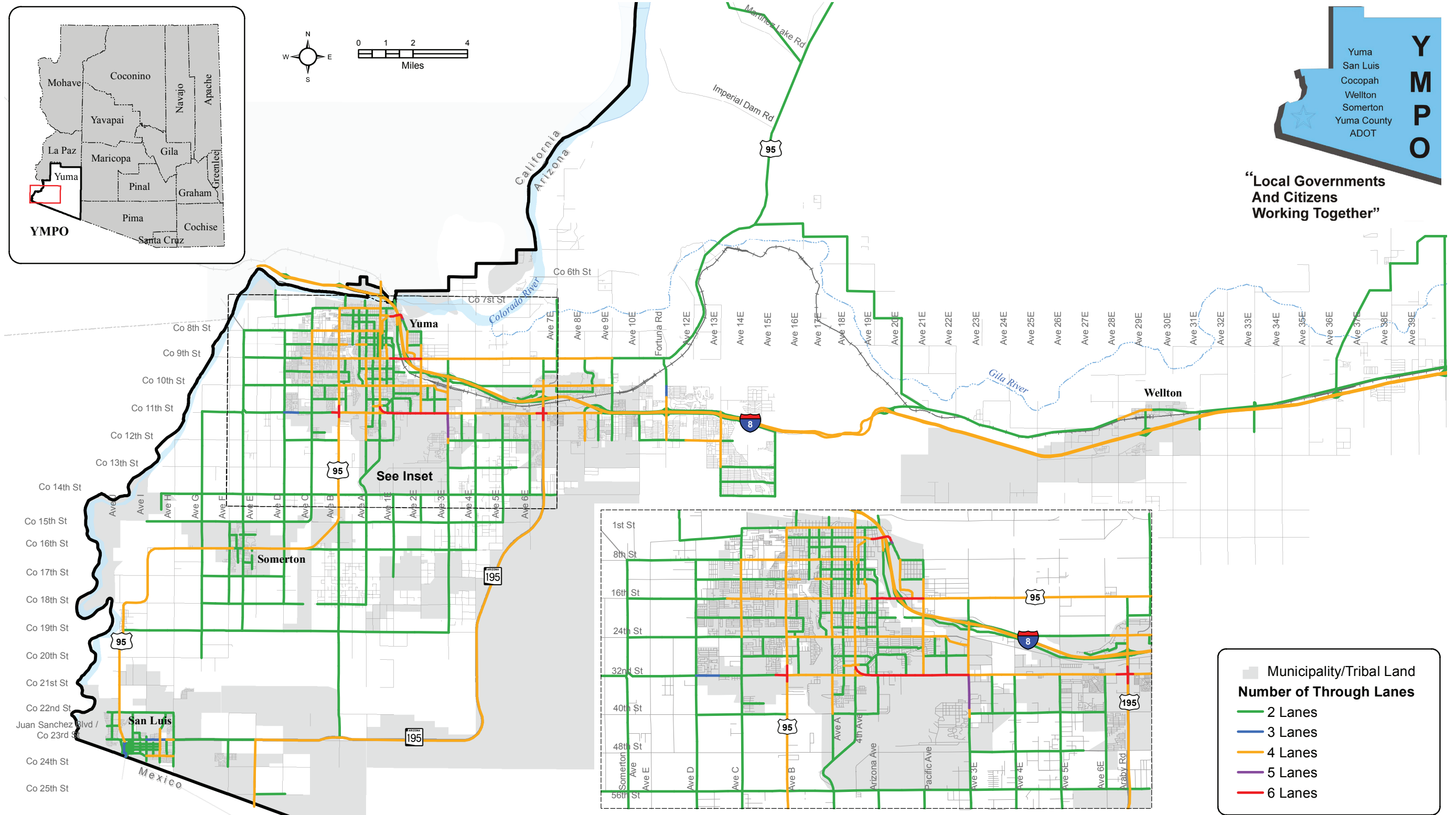


Figure 5.3 – 2015 Regional Roadway Network Number of Through Lanes
(Source: ADOT, YMPPO)

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Current Roadway Network Performance

LOS rates the performance of the roadway network in terms of the degree of congestion using letters A through F, similar to school report card grades as shown at right. LOS is defined by the Highway Capacity Manual (HCM) and is described below:

LOS A: Free flow. Traffic flows freely at the posted speed limit. Incidents or vehicle breakdowns have minimal impact on others. LOS A generally occurs late at night in urban areas and frequently in rural areas.

LOS B: Reasonably free flow. LOS A speeds are maintained, maneuverability within the traffic stream is slightly restricted. Motorists have a high level of physical and psychological comfort.

LOS C: Stable flow, at or near free flow. Motorists' ability to maneuver between lanes is noticeably restricted and requires more driver awareness. Roads remain uncongested but are approaching capacity. Minor incidents begin to lead to traffic delays behind the incident. This is the target LOS for most rural highways.

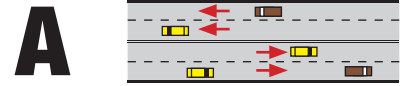
LOS D: Approaching unstable flow. Speeds are decreased and motorist freedom to maneuver is more limited. Examples are a busy shopping corridor in the middle of a weekday or a major arterial during commuting hours. This is the target LOS for most urban streets, as attaining LOS C would be cost-prohibitive.

LOS E: Unstable flow, operating at capacity. Flow becomes irregular and speed varies rapidly as ability to maneuver diminishes. Vehicles rarely reach the speed limit. Any incident or disruption to traffic flow, such as crashes or merging ramp traffic or lane changes, leads to congestion.

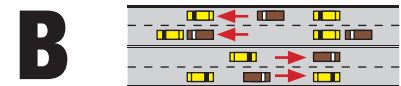
LOS F: Every vehicle moves in lockstep with the vehicle in front of it and slowing is required. Travel time cannot be predicted because demand is greater than capacity. LOS F is a traffic jam.

Currently there are no roadways in the YMPO region that operate at LOS E or LOS F (unacceptable levels) based on 2015 traffic volume data. Level of Service for 2015 is summarized in *Figure 5.5*.

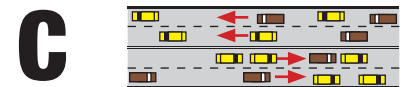
Level of Service - Highway



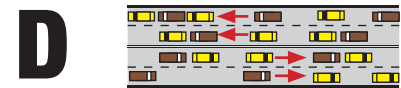
Free flow, low traffic density.



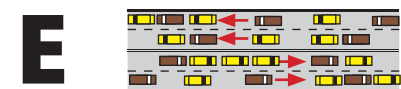
Minimum delay, stable traffic flow.



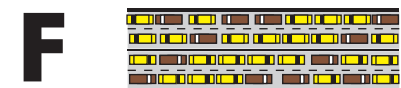
Stable condition, movements somewhat restricted due to higher volumes, but not objectionable for motorists.



Movements more restricted, queues and delays may occur during short peaks, but lower demands occur often enough to permit clearing, preventing backups.



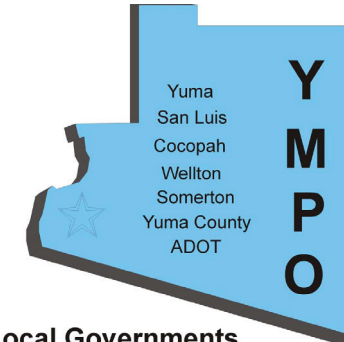
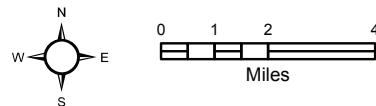
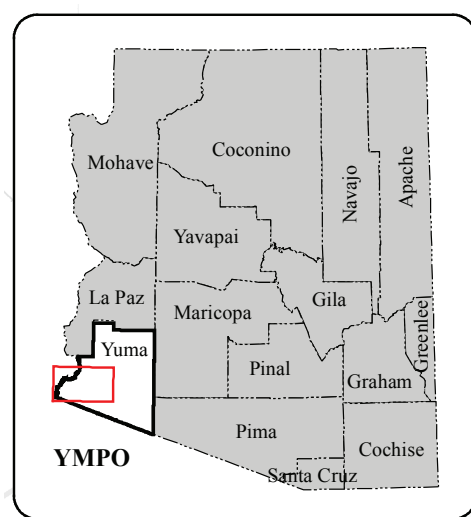
Actual capacity of the roadway involves delay to all motorists due to congestion.



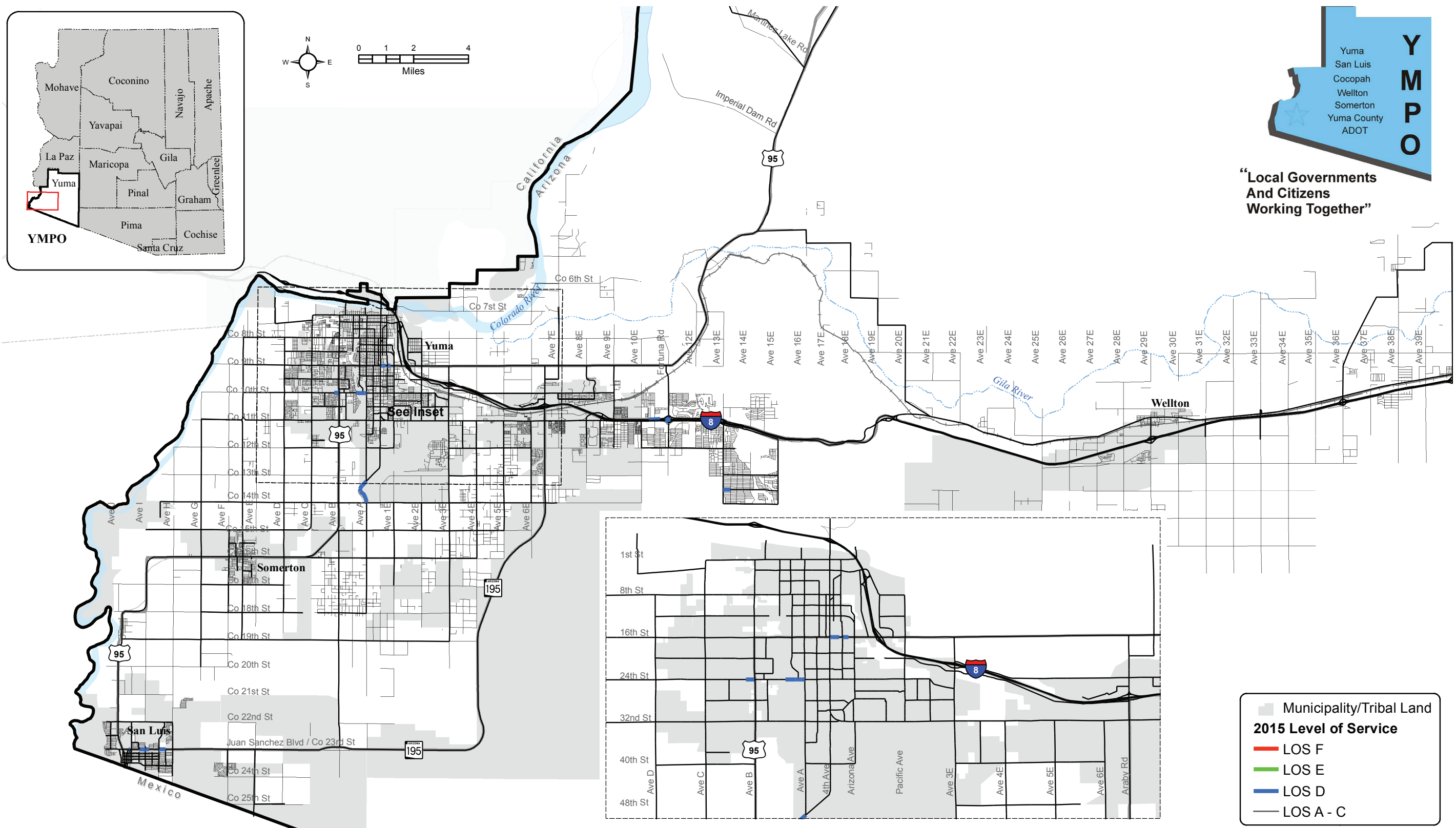
Forced flow with demand volumes greater than capacity resulting in congestion.

*Level of Service Definitions
(Source: Colorado Department of
Transportation, FHWA)*

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“Local Governments
And Citizens
Working Together”



Municipality/Tribal Land
2015 Level of Service
 LOS F
 LOS E
 LOS D
 LOS A - C

Figure 5.5 – 2015 Level of Service
(Source: Wilson & Company, YMOPO)



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Future Roadway Network Performance

YMPO's TDM was utilized to project future regional travel patterns through the year 2041. The number of dwelling units and number of employees in the year 2041 were projected based on anticipated land use changes. A 2041 baseline roadway network was developed by updating the current roadway network to account for improvements that are already programmed and funded for construction based on available project programming documents from the YMPO member agencies. The 2041 baseline network does not include improvements for which funding has not yet been committed and programmed. *Figure 5.6* shows the 2041 baseline roadway network in terms of the number of through lanes and *Figure 5.7* shows projected 2041 average annual daily traffic volumes per TDM outputs. *Figure 5.8* shows which roadways in the YMPO region operate at LOS E or LOS F based on the 2041 baseline traffic volume data.

Regional Needs and Projects

By 2041, if no improvements are made except those projects already programmed for construction, it is anticipated there will be approximately 28 miles of roadway segments not operating at an acceptable LOS. Based on input from YMPO member jurisdictions there are other roadway system needs in addition to reducing congestion, such as reclassification of roadways, addressing roadway network discontinuities, addressing pavement surface deterioration, and adding facilities and amenities for pedestrians, bicyclists, and transit riders. To improve the LOS of the regional roadway network and address other related priorities of the YMPO member jurisdictions, the following types of roadway network improvements are needed:

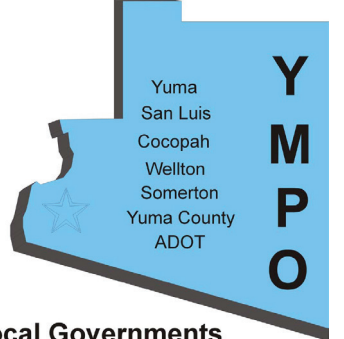
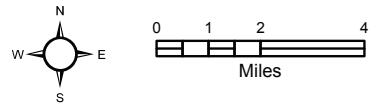
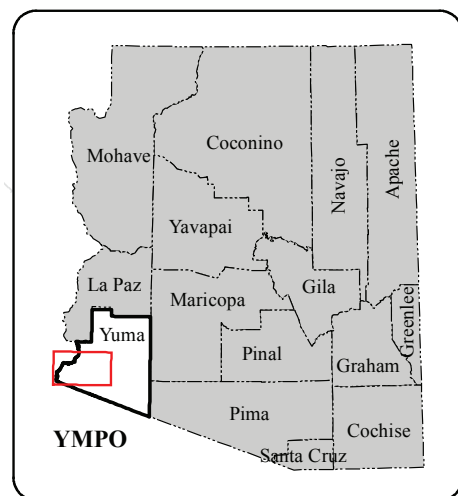
- ❖ Reclassifying roadway segments to better reflect current or projected roadway functionality
- ❖ Widening roadways or intersections to increase the number of through lanes or turn lanes
- ❖ Paving dirt roads to eliminate discontinuities in the paved roadway network and to improve travel time and air quality
- ❖ Providing traffic signalization or refined traffic signal timing to improve intersection operations
- ❖ Constructing new or improved bridges to separate traffic from intersecting vehicles, trains, canals, rivers, or washes
- ❖ Constructing new or improved roadway and pedestrian facilities in the vicinity of POEs to facilitate the efficient movement of people and goods
- ❖ Rehabilitating pavement surfaces to protect investments made in roadway infrastructure
- ❖ Implementing roadway or intersection safety improvements
- ❖ Providing facilities for alternate modes of travel such as walking, bicycling, or riding transit
- ❖ Providing other traveler amenities such as rest areas and landscaping



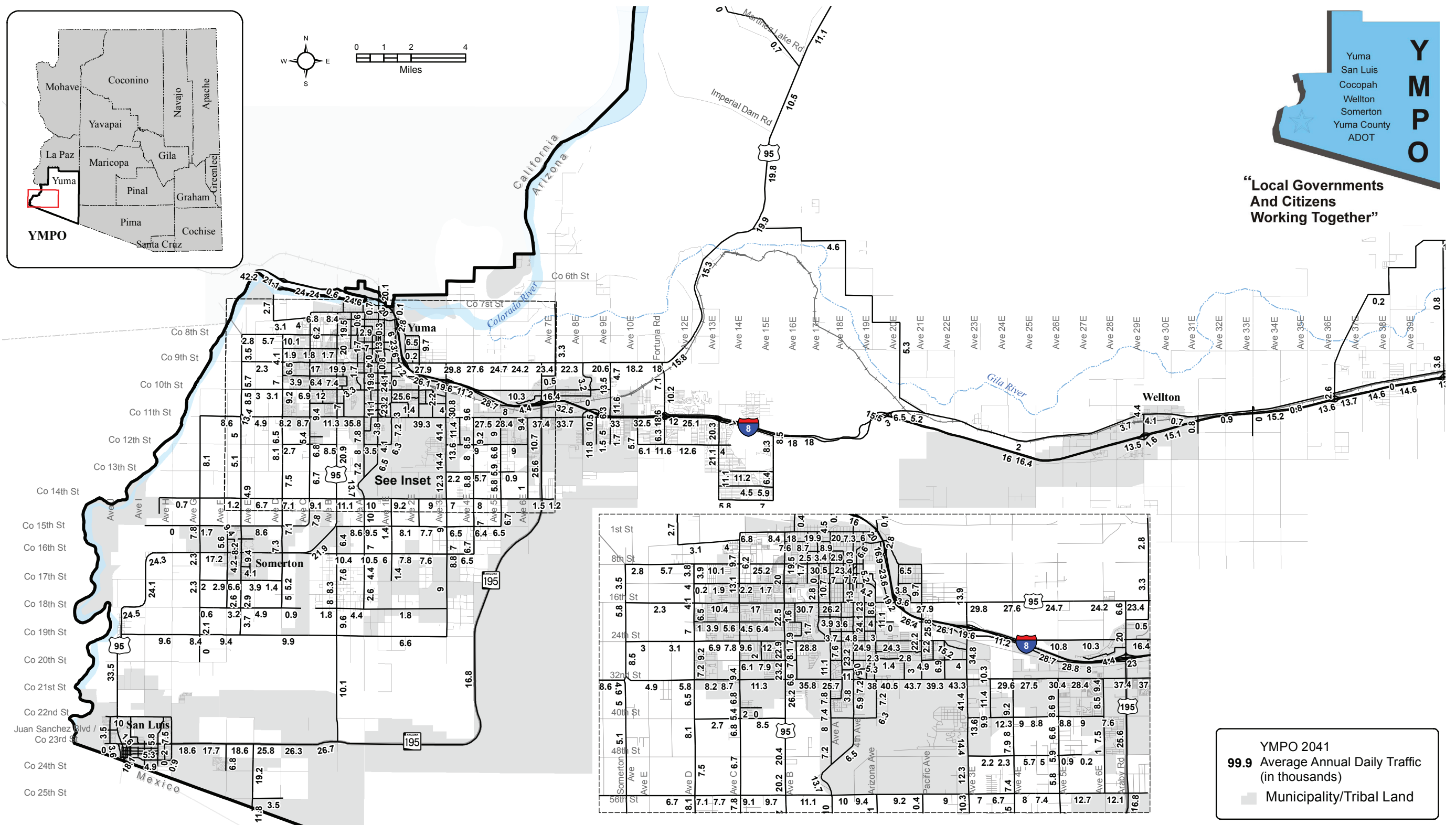
Main Street, Yuma (Source: Kimley-Horn)

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“Local Governments And Citizens Working Together”



YMPO 2041
99.9 Average Annual Daily Traffic (in thousands)
 ■ Municipality/Tribal Land

Figure 5.7 – 2041 Traffic Volumes (Source: Wilson & Company, YMPO)



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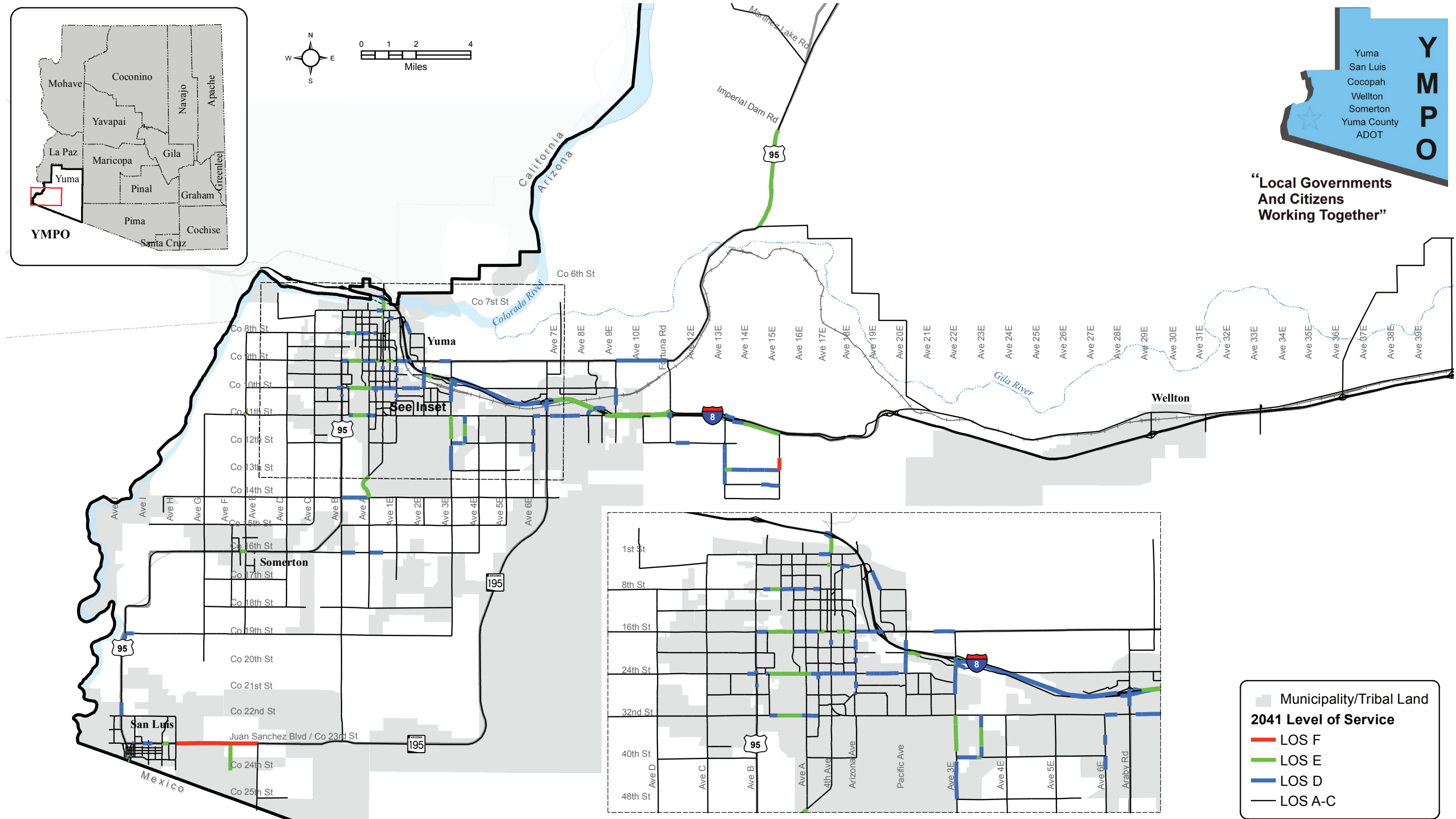


Figure 5.8 – Roadways with LOS E or LOS F in 2041 Baseline Condition (Source: Wilson & Company, YMPO)

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Safety

Overview

Highway Safety – A Regional and National Priority

The YMPO has been proactive in addressing transportation safety in the region and in May, 2016 completed the YMPO Regional Strategic Transportation Safety Plan to reduce the risk of death and serious injury to all transportation users in the YMPO region. The plan resulted in a strategy to incorporate safety enhancements in projects, improve safety via traffic operations and ITS solutions, and monitor and report on system performance and program effectiveness.

The plan was developed in recognition of the safety emphasis areas (shown to the right) that were developed in the statewide Arizona 2014 Strategic Highway Safety Plan. The top five emphasis areas are considered to be the top focus statewide due to the high contribution to fatalities and serious injuries statewide.

Priority projects were identified and information was assembled to assist jurisdictions in justifying these projects for funding.

YMPO Region Safety Vision and Goal

Input from the YMPO TAC, as well as professionals from other engineering, planning, management, law enforcement, public safety, education, and community agencies in the YMPO region developed the following safety vision and regional goal for traffic safety:

Arizona 2014 Strategic Highway Safety Plan Emphasis Areas

- ❖ Speeding and Aggressive Driving
- ❖ Impaired Driving
- ❖ Occupant Protection
- ❖ Motorcycles
- ❖ Distracted Driving
- ❖ Roadway Infrastructure and Operations
- ❖ Age-related
- ❖ Heavy Vehicles/Buses/Transit
- ❖ Non-motorized Users
- ❖ Natural Risks
- ❖ Traffic Incident Management
- ❖ Interjurisdictional

The safety vision:

“No More Deaths, No More Injuries – Know More.”

The regional goal for traffic safety:

“Reduce the number of fatalities and serious injuries in the region by 3% annually.”

Regional Safety Performance

Crash data over a 10-year period from 2004 to 2013 was analyzed to identify safety concerns for the entire YMPO region. The crash data was used to identify trends and issues in order to create a list of potential safety projects for the region.

Table 5.1 shows the percent of total crashes, incapacitating injury crashes, and fatal crashes in the region for the 10-year period.

Agency	Total Crashes	% of Total Crashes	Incapacitating Injury Crashes	% of Incapacitating Injury Crashes	Fatal Crashes	% of Fatal Crashes
Yuma	19,225	67%	545	57%	74	32%
Yuma County	8,163	28%	391	41%	148	64%
San Luis	996	3%	8	0.8%	6	2.6%
Somerton	234	0.8%	6	0.6%	4	1.7%
Wellton	60	0.2%	4	0.4%	1	0.4%
Total	28,680	100%	954	100%	233	100%

Table 5.1 – Crashes by Jurisdiction, 2004-2013

(Source: YMPO Regional Strategic Transportation Safety Plan, May 2016)

A further review of data indicated that rear end crashes were the most frequent type of crash in the region, however single vehicle crashes were the most frequent fatal crash type (see Figure 5.9.)

of Total Crashes and Serious Crashes per Collision Manner

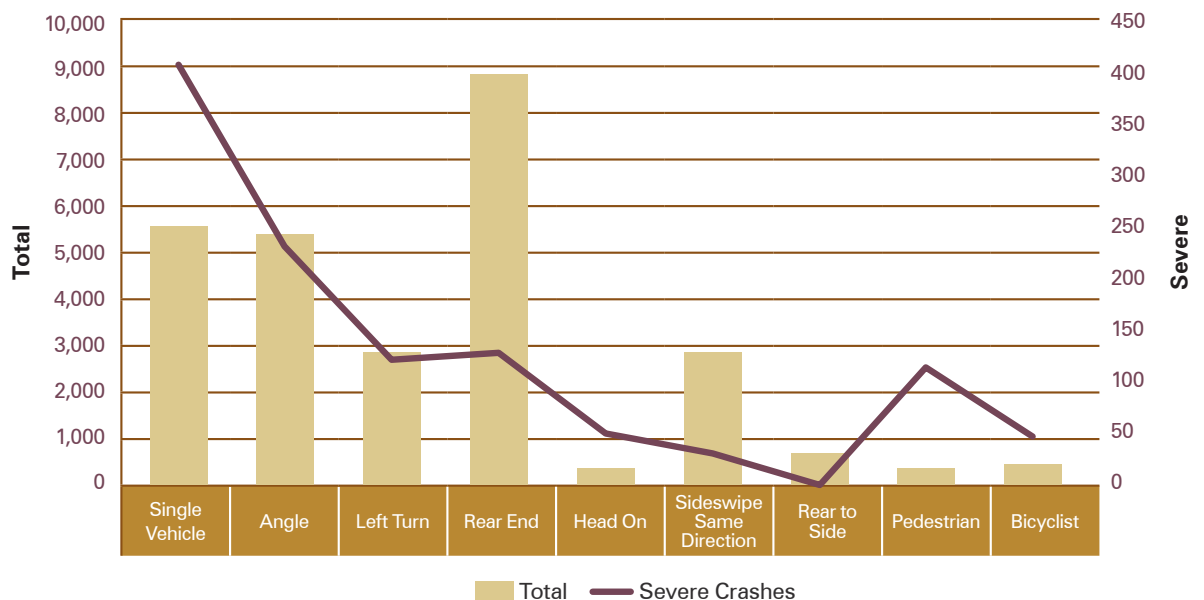
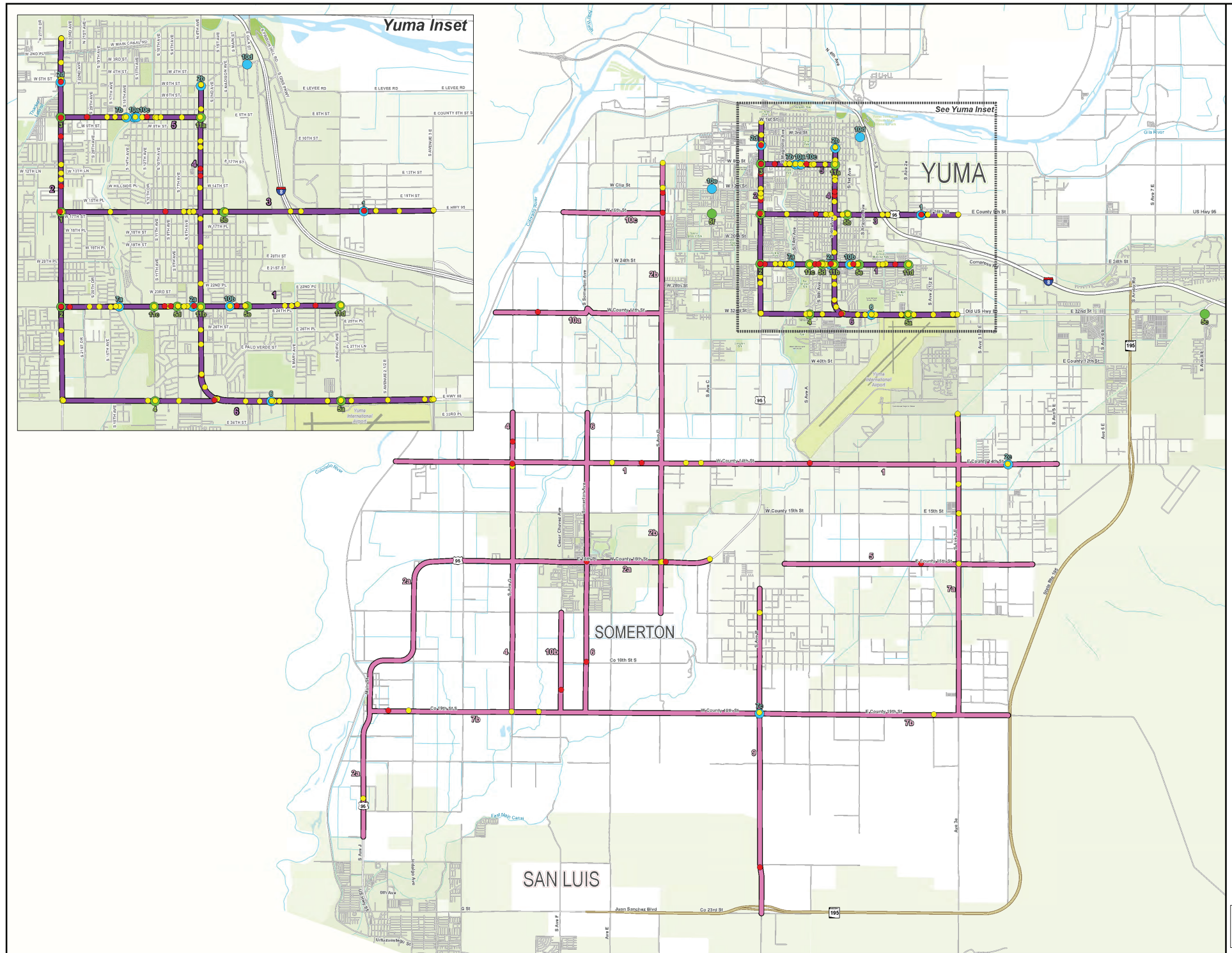


Figure 5.9 – Number of Total Crashes and Serious Crashes per Collision Manner
(Source: YMPO Regional Strategic Transportation Safety Plan, May 2016)

The goal of the crash data analysis was to determine locations that would benefit from safety improvement. Highway Safety Improvement Program (HSIP) federal funding is a critical source for local governments to install and upgrade traffic safety countermeasures and strategies. To improve the odds of receiving federal funds, high priority intersections and segments were combined to highlight 12 rural and six urban corridors in the region, shown in *Figure 5.10*. The corridors were selected based on the number of crashes on relevant segments and intersections, especially fatal and incapacitating injury crashes. TAC members reviewed the corridors and provided input on existing conditions and safety concerns and provided suggestions for alternative or additional corridors.

These corridors and intersections will be the focus of safety improvements over time. Specific projects were developed to address these safety needs.

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YUMA SOMERTON SAN LUIS

Yuma Metropolitan Planning Organization Region

HSP Priority Intersections and Corridors 2009 - 2013

- Serious Injury Crash
- Fatal Injury Crash
- Signalized Intersections
- Unsignalized Intersections
- Urban Corridors
- Rural Corridors

Rank	HSIP Signalized Intersections
1	S Ave B & W 16th St
2	S Ave B & W 24th St
3	S Ave B & W 8th St
4	S Ave A & W 24th St
5a	E 24th St & S Pacific Ave
5b	E 16th St & S 1st Ave
5c	S Ave E & E 24th St
5d	S 8th Ave & W 24th St
5e	E 24th St & S Arroyo Ave
5f	W 16th St & S Ave C
11a	W 8th St & S 4th Ave
11b	S 4th Ave & W 24th St
11c	W 24th St & S Ave A
11d	E 24th St & S Pacific Ave

Rank	HSIP Unsignalized Intersections
1	E 16th St & S Engler Ave
2a	W 24th St & S 6th Ave
2b	W 5th St & S 4th Ave
2c	S Ave E & E County 14th St
2d	W 5th St & S Ave B
6	S Creek Dr & E 24th St
7a	W 24th St & S 17th Ave
7b	S 15th Ave & W 8th St
7c	S Ave B & W County 19th St
10a	W 8th St & S 14th Ave
10b	E 24th St & S Madison Ave East
10c	W 8th St & S Avenue Dr
10d	S Gila St & Harold C. Gila Pkwy
10e	S Ave C & 10th St

Rank	HSIP Urban Corridors
1	24th St Avenue B Pacific Ave
2	Avenue B 1st St 24th St
3	16th St Avenue B Avenue 3 E
4	8th Ave 8th St 24th St
5	8th St Avenue B 4th Ave
6	24th St Avenue B Avenue 3 E

Rank	HSIP Rural Corridors
1	County 14th St Levee Rd Avenue 9 E
2a	S Hwy 95 / Main St Avenue C County 21 1/2 St
2b	Avenue D 8th St County 17th St
4	Avenue G County 13th St County 19th St
5	County 16th St Avenue A 1/2 Avenue 4 1/2 E
8	Somerton Ave County 13th St County 19th St
7a	Avenue 3 E County 13th St County 19th St
7b	County 19th St US Hwy 95 SR 195
9	Avenue B County 14 1/2 St Lujan Sanchez Blvd
10a	County 11th St 800' east of Levee Rd Avenue D
10b	Avenue F County 17th St County 19th St
10c	County 16th St Avenue F

Y M P O

Yuma
San Luis
Cocopah
Willton
Somerton
Yuma County
ADOT

Job No: 2016-0011
Date: 03/2015
Scale: N/A

ATMPC
Foster
Wheeler

Figure 5.10 – HSIP Corridors in the YMPO Region (Source: YMPO Regional Strategic Transportation Safety Plan, May 2016)

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How Regional Safety is Incorporated into the Regional Transportation Plan

Safety concerns should be considered on every project in the region. Safety is being included in the RTP in the following ways:

- ❖ Consider safety a criteria in project programming.
- ❖ Give high priority to projects that address YMPO Regional Strategic Transportation Safety Plan Emphasis Areas.
 - ◆ Give high priority to locations experiencing fatal and serious injury crashes.
 - ◆ Promote systematic safety improvements in projects like rumble strips, shoulders, bike lanes, sidewalks, and lighting.
- ❖ Recommend conducting Road Safety Assessments (RSA) during the project design stage and during evaluation of high priority locations.

Bridges and Grade Separations

Bridges have played an important role in the Yuma region's history. In 1870 the Southern Pacific Railroad bridged the Colorado River near today's Yuma Crossing National Heritage area, which was created to tell the story of the crossing at "Pivot Point." It includes the history of the rail, rope ferry, and bridge crossings. The Ocean-to-Ocean Highway Bridge on Old Highway 80 was built in 1914 and was the first vehicle bridge across the Colorado River.



(Source: City of Yuma, Handpainted Mural to Celebrate 100th Anniversary of Incorporation of City of Yuma, April 2014)

When constructed in 1914, the Ocean-to-Ocean Highway Bridge was the only vehicular traffic bridge over the lower Colorado River for 1,200 miles.

Bridges and grade-separated structures are a major transportation asset in the YMPO region. ADOT maintains inventories for all bridges and grade-separation structures on the state highways. YMPO member jurisdictions have agreements with ADOT to maintain bridge inventories for bridges on local and county roads. ADOT bridge inventories document the location, year of construction, bridge type, and physical dimensions of the bridge and roadway. Each bridge and grade-separation structure has a sufficiency rating indicative of bridge sufficiency to remain in service. Bridge sufficiency is expressed as a percentage in which 100 percent represents an entirely sufficient bridge and zero percent represents an entirely insufficient bridge. ADOT uses bridge sufficiency ratings of “functionally obsolete” or “structurally deficient” to classify bridges that are eligible for program funding. *Table 5.2* summarizes the most recently available state and local governments’ bridge inventories on total bridges and the number of bridges classified as “functionally obsolete” or “structurally deficient” in the YMPO region, as well as associated sufficiency ratings.

Functionally Obsolete – A bridge can be labeled functionally obsolete if it has substandard geometric features such as narrow lanes or shoulders or inadequate clearance.

Structurally Deficient – This means a component of the bridge needs rehabilitation. For example, if a bridge inspection shows that the bridge deck, superstructure, or substructure condition rating is below a certain threshold, the bridge may receive this rating.

Agency or Jurisdiction	Number of Bridges	Bridges Classified as Functionally Obsolete or Structurally Deficient				
		Total Number	Classification (Functionally Obsolete = F, Structurally Deficient = S)	Sufficiency Rating	Structure Number	Structure Name
ADOT	51	12	F	58.0	00343	Wellton Mohawk Canal Bridge
			F	93.0	01277	Araby Rd TI OP EB
			F	93.0	01278	Araby Rd TI OP WB
			F	86.8	01194	Antelope Hill TI UP
			F	95.8	01195	Tacna TI UP
			F	93.6	00784	Mohawk TI OP EB
			F	93.6	00785	Mohawk TI OP WB
			F	91.4	01331	Ave 25E OP WB
			F	94.0	00685	Spot Rd TI OP EB
			F	94.0	00686	Spot Rd TI OP WB
			F	84.7	01281	E Yuma TI OP WB
			F	84.8	01188	E Yuma TI OP EB

Agency or Jurisdiction	Number of Bridges	Bridges Classified as Functionally Obsolete or Structurally Deficient				
		Total Number	Classification (Functionally Obsolete = F, Structurally Deficient = S)	Sufficiency Rating	Structure Number	Structure Name
Yuma County	96	8	S	70.9	07638	Texas Hill Bridge
			F	94.9	07717	W. Main Canal Bridge
			S	71.0	07751	Well—Mohawk Canal Bridge
			S	59.6	07753	Texas Hill Bridge
			S	60.3	07876	Fortuna Wash Bridge SFRD
			F	93.4	08424	Wellton UPRR UP
			S	92.0	08865	Mohawk Canal Bridge
			F	96.0	08943	Salinity Canal Bridge
City of Yuma	22	3	S	47.9	08338	S. Gila Canal Bridge
			S	94.9	08517	B. Canal Bridge
			S	47.3	08533	Old Colorado River Bridge
City of San Luis	3	0	N/A	N/A	N/A	N/A
City of Somerton	2	0	N/A	N/A	N/A	N/A
Town of Wellton	4	0	N/A	N/A	N/A	N/A
Total	178	13				

Table 5.2 – Bridges and Bridge Classifications in the YMPO Region

(Source: Arizona Public Agency System Bridge Record as of 10/27/2016, sorted by agency, <https://www.azdot.gov/docs/default-source/business/arizona-local-government-inventory---bridge-inventory.pdf?sfvrsn=6>)

YMPO member jurisdictions place high priority on managing and maintaining bridges and grade-separation structures. Local jurisdictions should continue to monitor available bridge inventories and aggressively seek funds for bridge repairs and maintenance, particularly for those bridges identified as "functionally obsolete" or "structurally deficient".

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Chapter 6

Transportation Alternatives

TRANSPORTATION ALTERNATIVES

Intelligent Transportation Systems (ITS)

Overview

ITS uses traffic and traveler information to integrate all components of a traditional transportation system into an interconnected network. ITS uses technologies, communications, and management strategies to increase the safety and efficiency of the surface transportation system.

ITS in the YMPO Region

Traditional ITS devices that are used by YMPO member jurisdictions include traffic signals, traffic detection, and communications between signals to a centralized location for management and operations. Signal preemption for emergency vehicles and highway-rail equipment are also utilized in the YMPO region. The current focus of local jurisdictions is to manage the arterial street system to maximize the safety and efficiency of the arterial transportation system. An ITS inventory for the YMPO region includes over 100 ITS devices.

In the City of Yuma signals are centrally operated by a signal system housed at the City of Yuma Traffic Operations Center (TOC). Signals along 4th Avenue and 16th Street are coordinated to maximize progression and reduce travel time along the corridors. The City is responsible for maintenance and operation of City intersections. There are currently no Closed Circuit Television (CCTV) cameras at signalized intersections in the YMPO urbanized area, although camera functionality has been included in the development of the City's centrally controlled system. Intersection loops systems are used for traffic detection on City-operated signals.



City of Yuma Intersection (Source: Kimley-Horn)

ADOT utilizes a package of ITS strategies commonly referred to as a Freeway Management System (FMS). The FMS provides surveillance, incident management, travel time displays, and traveler advisory functions throughout the state. All FMS operations are centrally coordinated from the ADOT TOC in Phoenix. The TOC also serves as a statewide emergency coordination center during freeway emergencies. ADOT operates one Dynamic Message Sign (DMS) in Yuma County on I-8 eastbound around Avenue 10E. The DMS is used by ADOT to provide traveler information such as construction alerts, lane restrictions, and general public service announcements.

ADOT also provides information via the internet at www.az511.com. This 511 traveler information service provides traveler information in Sonora, Mexico and wait times at San Luis POE I. This website is heavily utilized by local television and radio traffic reporters, as well as members of the public, to obtain freeway condition information.



Screenshot of Arizona Traveler Information System, www.az511.com
(Source: ADOT)

ITS at Ports of Entry

There are four POEs in the YMPO region: two in Yuma supporting I-8 state-to-state travel and two in San Luis supporting international travel. There are only a few existing ITS devices associated with screening and processing (e.g., cameras, signals, signs) at the state POEs, while the international POEs have a more widespread deployment of ITS devices.

Statewide ITS Architecture

USDOT Rule 940 stipulates that all federally funded regional ITS projects or projects that include ITS components must be consistent with a regional ITS architecture and must include a Systems

Engineering Analysis. In order to be compliant with Rule 940, YMPO was involved in the development of the Arizona Statewide ITS Architecture completed in February 2013. Yuma County Inter-governmental Public Transportation Authority (YCIPTA) was also involved in the development of a regional ITS architecture regarding existing and planned transit ITS functions. The Arizona Statewide ITS Architecture provides a common framework for planning, defining, and integrating ITS. Local agencies can use the ITS architecture information to better define planned ITS projects, thus ensuring regional compatibility and better integration in the future.

The Arizona ITS Architecture includes all ITS elements existing and planned in the state of Arizona. The ITS elements include:

- ❖ Archived Data Management Systems for Arizona
- ❖ Emergency Management for Arizona
- ❖ Traffic Management
- ❖ Transit Services for Arizona
- ❖ Maintenance and Construction Operations for Arizona
- ❖ Traveler Information for Arizona

The Statewide ITS Architecture provides a starting point for project definition, rather than specific project recommendations. It provides an overall framework that shows how anticipated projects will integrate with each other and with existing systems.

Needs, Projects, and Estimates

Arterial ITS Program

Traffic signal synchronization/coordination along major transportation corridors should be completed on an every-other-year basis to ensure traffic efficiency is maximized along the corridor and travel times are efficient. DMS and CCTV cameras do not exist along roadways in the YMPO region and should be a planned investment as an ITS-specific project or included as part of future intersection improvements. The YMPO region could benefit from investing in arterial DMS to provide traveler information to the local traveling public, such as closures and restrictions, special event messages, and travel times. CCTV cameras can provide surveillance capabilities for monitoring incidents and congestion levels.

An ITS plan should be developed for the YMPO region to document existing conditions and needs, as well as establish the long-term ITS strategies and processes that would benefit the region. A regional ITS plan should include ITS-related infrastructure, operational processes, and agreements that will support the future expansion and use of ITS devices and systems in the region. Arterial components should be the focus of the ITS plan, although coordination and integration with ADOT's plans for state-owned facilities in the YMPO region are necessary.

Freeway Management System (FMS)

Enhancements to ADOT's FMS system in the YMPO region along I-8 would benefit interstate travelers and commercial vehicle operations. Inclusion of some CCTV surveillance of I-8 and coordination with the City of Yuma TOC would support integrated corridor management when I-8 experiences closures or restrictions that force traffic onto the arterial network. Additional DMS along I-8 westbound and eastbound would provide traveler information to the public when closures or restrictions cause delays. Shared control of future Caltrans DMS close to the state line should be considered for incidents that may affect state line accessibility.

Travel Demand Management (TDM)

Overview

Single Occupant Vehicle (SOV) Use is Increasing

According to the American Community Surveys (ACS) conducted by the U. S. Census Bureau, the number of workers in Yuma County that drive alone to and from work has been steadily increasing over the past several years, up from an estimated 77 percent in 2007 to 85 percent in 2015.

TDM is aimed at decreasing the number of SOVs that travel on roadways, particularly during periods of peak congestion. This can be achieved through the implementation of policies and strategies that replace vehicle trips with another mode of travel such as transit, carpooling or vanpooling, bicycling, or walking. The key to successful TDM is providing incentives and convenient access to alternate travel mode.



(Source: *Commuting Characteristics, U.S. Census Bureau ACS, 2007,2009,2011, 2015*)

YCAT Vanpool

Vanpooling can be a great option for larger groups of commuters. YCAT Vanpool provides clearly marked vans to qualifying groups of 7-15 commuters, driven by one of the vanpool members. Passengers share the cost of operating the van by paying a monthly fee to the primary driver. The fee covers gas, insurance, and vehicle maintenance. YCIPTA provides a \$300 subsidy to vans on a first come, first served basis through their contractor, vRide. Further information about the program is provided on the YCIPTA website, www.ycipta.org/vanpool.html.



YCAT Vanpool Vehicle
(Source: YCIPTA)

Regional Needs and Projects

More Travel Mode Choices

Transportation alternatives to the SOV should be provided through investments in bicycle, transit, and pedestrian amenities throughout the YMPO region. The current YCIPTA 10-Year Capital Plan includes funding to install bus shelters, signs, information posts, poles, benches, trash cans, and other passenger enhancements. Bicycle and pedestrian improvements should be incorporated into road widening and intersection projects if identified within each agency's bicycle plan.



YCAT Transit Stop (Source: Kimley-Horn)

Intelligent Transportation Systems for Public Transportation

Advanced technology-based ITS applications in public transportation can serve as incentives to increase use of transit for work and non-work trips, thereby reducing the demand for SOVs.

Programs and Strategies to Reduce SOVs

Programs and strategies to deter SOV use should be considered by regional and local levels of governments and by employers. Examples of strategies and programs include:

- ❖ Parking pricing strategies to encourage other modes of travel.
- ❖ Employer programs to encourage carpooling or transit use through employee reimbursement and by providing vanpool services or vehicles.
- ❖ Employer incentive programs to encourage alternative work hour options to reduce travel during peak periods of congestion.

Marketing Campaigns

Developing printed and electronic messages can inform the public of available alternate travel mode options and encourage their use.



(Source: <http://www.parkingsign-corner.com/reformcarpopa.html>)

Transit

Overview

YCIPTA was formed in 2010 to administer, plan, operate, and maintain public transit services throughout Yuma County. YCIPTA Board of Directors members include representatives from the Quechan Indian Tribe, Cocopah Indian Tribe, Arizona Western College, Northern Arizona University, Yuma County, the cities of Yuma, San Luis, Somerton, and the Town of Wellton.

YCIPTA is in the process of developing a YCAT Community Transit Committee to help form community partnerships and provide a communication link between the residents of the service area and the YCIPTA Board of Directors.

Transit service is provided by YCAT, which includes fixed route vanpool and YCAT OnCall demand-response bus service throughout the YMPO region. YCAT also serves the unincorporated communities of Gadsden, Fortuna Foothills, and Ligurta.

Fixed Route Service – YCAT provides transit services Monday through Friday from 5:30 a.m. to 8:30 p.m. with limited evening service from Arizona Western College, University of Arizona, and Northern Arizona University, as well as other limited Yuma County and eastern Imperial County destinations. Weekend service is Saturday between 9:30 a.m. and 6:30 p.m. YCAT operates nine routes as well as a special night service called the NightCAT. A route map is provided in *Figure 6.1* and is available at www.ycipta.org.

YCAT OnCall Paratransit – YCAT OnCall is a demand response transportation service that provides door-to-door transportation for individuals who, because of a disability, are not able to utilize a fixed route bus service.

YCAT Vanpool Program – YCAT Vanpool provides clearly marked vans to qualifying groups of 7-15 commuters to be driven by one of the vanpool members. Passengers share the cost of operating the van by paying a monthly fee to the primary driver. The fee covers gas, insurance, and vehicle maintenance. YCIPTA provides a \$300 subsidy to vans on a first come, first served basis through their contractor, vRide. Further information about the program is provided on the YCIPTA website, www.ycipta.org/vanpool.html.

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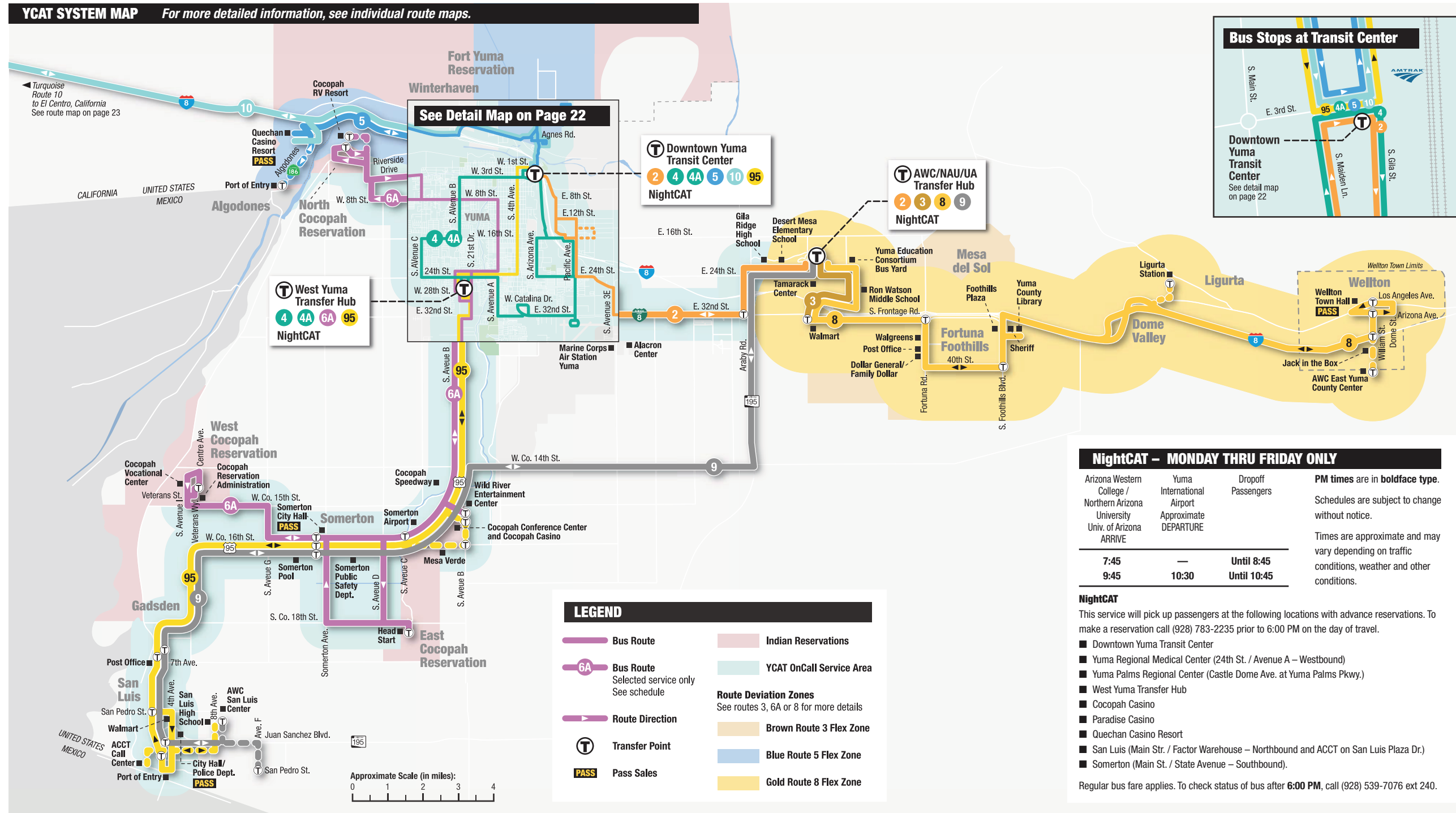


Figure 6.1 – YCAT Bus System Map (Source: YCIPTA)

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Transit System Enhancements

Special features of the YCAT transit system that make it convenient to take the bus include:

CatTRAX System – Bus riders can text or call to find out when the next bus is coming to their stop. This system uses satellite technology and advanced computer models to track buses. Though it initially operated one route, it now covers many YCAT routes.

How to Use the catTRAX System

YCAT is now NextBus enabled. To find out when your next bus will come and if you are at a bus stop and would like to know when the next bus is coming, text: yuma ### (which is available below) to 41411 or call (928) 304-7537 and enter the bus stop number. If you require technical assistance, please call (928) 783-2235 or email info@ycipta.az.gov.

Don't know your stop number? [Click here](#) to download the bus stop number list with the catTRAX number.

Interested in mobile access with a smartphone? [Click here](#) for details.

Select your route/direction/stop to obtain GPS-based arrival times:

Route:


Direction:

Stop:

Tracked vehicles for route 2 in:

Arriving

50 minutes



Stop number: 408
Phone: 928-304-7537
SMS: 41411 "yuma 408"

Valid as of 3:17 PM Friday, September 30

Update page address so that it can be bookmarked ?

Show:

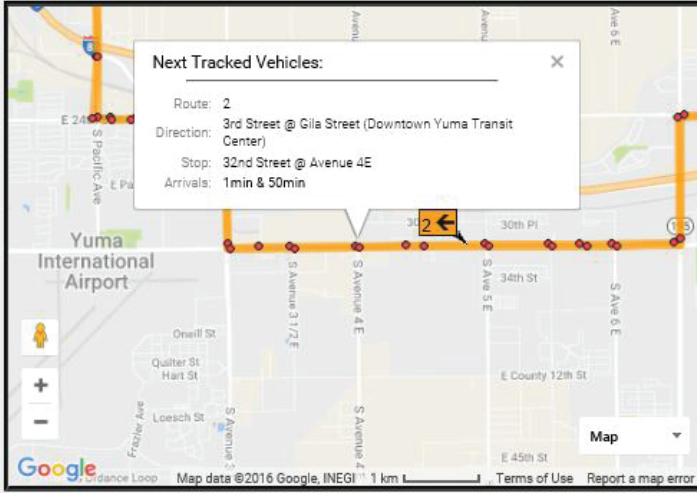
Stops

Vehicles

[Select Routes...](#)

[Help...](#)

Send comments to: feedback@nextbus.com.



Next Tracked Vehicles:

Route: 2

Direction: 3rd Street @ Gila Street (Downtown Yuma Transit Center)

Stop: 32nd Street @ Avenue 4E

Arrivals: 1min & 50min

© 2016 NextBus Inc.

(Source: YCIPTA)

YCATPass – An all-in-one electronic transit card that keeps track of any passes and cash value that a rider loads onto it, while applying all applicable fares, discounts, and transfer rules. This lets the transit patron customize the card for his or her transit needs. YCAT also participated in a pilot program for Acufare Smartcards, an online loading feature for smartcard passes.

Passenger amenities – New bus shelters and benches were installed at 36 locations in 2014 and bus stop standards were developed. In 2016, five bus shelters were installed, as well as a number of bus benches. Over 175 locations throughout the YCAT service area now have infoposts installed to tell passengers when the bus will arrive at their stop.

Greyhound Connect – In 2014, YCIPTA partnered with Greyhound Lines to implement “Greyhound Connect.” YCAT Yellow Route 95 now connects to Greyhound's network of more than 3,800 destinations via the Yuma Greyhound Bus stop. Other locations on Yellow Route 95 include San Luis, Gadsden, Somerton, Cocopah Casino, the West Yuma Transfer Hub, and the Downtown Yuma Transit Center.

Lifeline Transit Pass Program – In 2014, YCIPTA received funding to start a new lifeline transit pass program for low income residents. The program provides discounted passes for passengers meeting income eligibility guidelines.

SARA Rides – Since 2012, YCIPTA has been working with the Saguaro Foundation and YMPO to implement SARA Rides - a mobility management "one call, one click" transportation center where Yuma County residents can get information regarding transportation options and services from one source.

YMPO and ADOT have provided funding to help start SARA Rides and as a result, a new scheduling, reservations, and dispatching system was purchased to facilitate the coordination of vehicles from all public and non-profit transportation providers, reducing the cost of transportation services for these sensitive populations.

New Buses – Two new 40-foot buses were purchased and put into service in 2016.

Planning for the Future

In 2014, a Short-Range Transit Plan (Fiscal Year 2013-2014 to Fiscal Year 2018-2019) was created to guide the development of the transit system. YCIPTA also has a 10-Year Capital Plan that provides long-range planning through Fiscal Year 2024-2025. Some major future transit plans included in the 10-Year Capital Plan are detailed below, and the YCIPTA 10-Year Capital Plan is provided in Chapter 8.

Multimodal Transit Center

A multimodal facility in the downtown area is planned to incorporate Amtrak’s cross-country rail services, Greyhound’s regional intercity bus lines, and YCAT's local bus services. The current YCIPTA 10-Year Capital Plan includes \$9.8 million for the multimodal transit center. Phase I includes exterior and first floor renovations and roof/HVAC upgrades. Phase II will renovate the second and third floors and will be based on the City of Yuma identifying a private developer.

Operations and Maintenance Facility

A new bus maintenance facility is needed to replace the leased facility, accommodate more buses, and provide more cost-effective maintenance. The current YCIPTA 10-Year Capital Plan includes \$1.0 million for a new bus maintenance facility.

Park-and-Ride Lots

Park-and-ride lots are needed to encourage transit use in outlying areas. The current YCIPTA 10-Year Capital Plan includes a park-and-ride lot at the County Sheriff’s station in Fortuna Foothills near the intersection of South Foothills Boulevard and South Frontage Road.

Passenger Amenities

Passenger amenities will encourage people to ride the bus. The current YCIPTA 10-Year Capital Plan includes installation of bus shelters, signs, information posts, poles, benches, trash cans, and other passenger enhancements.

Fleet Replacement

The transit fleet will need to be replaced as it ages. The current YCIPTA 10-Year Capital Plan includes funding for bus fleet and support vehicle replacements. The purchase of electronic fareboxes and updated smartcard systems are included in the plan.

Bus Turnouts

Bus turnouts are needed to reduce congestion on the street system. The current YCIPTA 10-Year Capital Plan includes funds to construct bus bays and turnouts in Yuma County.

San Luis Transit Circulation Study

The purpose of the San Luis Transit Circulator Study is to evaluate the feasibility of, and opportunities for, a new transit circulator route that meets the needs of the San Luis community and is implementable in a two- to five-year timeframe, dependent upon available funding.

A proposed operating plan was developed that would start with limited peak hour service. A proposed route, stops, estimated operating and capital costs, and revenues were developed. Steps for implementation were identified. YCIPTA will include the transit circulator route shown in *Figure 6.2* in its next grant application to ADOT.

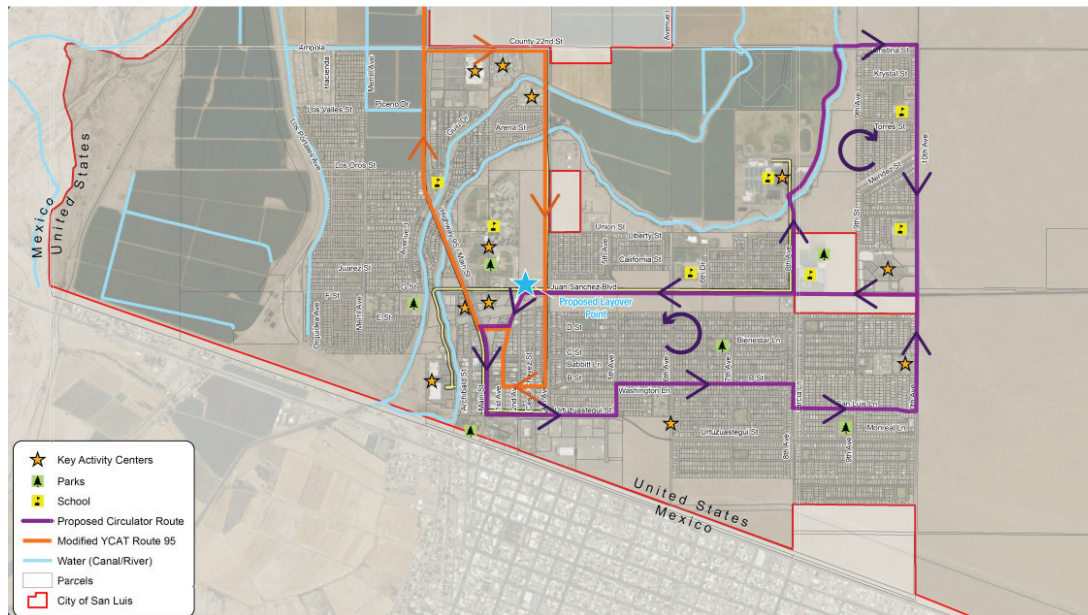


Figure 6.2 – Recommended San Luis Circulator Route (Source: San Luis Transit Circulator Study, 2016)

Non-Motorized Transportation

Overview

Bicycle Facilities – A Growing Regional System

Arizona is recognized as a place that is conducive for bicycling. The League of American Bicyclists ranks Arizona as No. 19 in its annual state rankings (May 2015). Furthermore, 10 Arizona communities are designated by the League as a Bicycle Friendly Community: Tempe, Tucson, and Scottsdale are gold; Mesa, Sedona, and Flagstaff are silver.

While communities in the YMPO region have not yet achieved designation as a Bicycle Friendly Community, bicycle and pedestrian accommodation and safety are of high importance.

City of Yuma – Most of the region’s existing bicycle and pedestrian facilities are located in the City of Yuma. According to the City of Yuma Transportation Master Plan (October 2014), there are slightly more than 36 miles of bicycle facilities in the City comprised of bike routes, lanes, paths, and multi-use paths. There are 12.4 miles of designated bike lanes. While a stand-alone pedestrian plan has not been developed, separated multi-use paths provide ideal pedestrian facilities. Future bicycle facilities planned are documented in the City of Yuma 2012 General Plan.



(Source: Kimley-Horn)

City of San Luis – As part of the San Luis Streets Improvement project, new dedicated bicycle lanes were installed on US 95 (Main Street) and First Avenue.

City of Somerton – According to the Somerton Comprehensive Transportation Plan, there are three existing multi-use path segments in Somerton. Two are on Main Street, one is on County 16½ Street, and several shared-use pathways are on Caesar Chavez Avenue and the Somerton Canal. The Somerton Shared-Use Pathway and Trails System Master Plan (2013) recommends additional multi-use paths. The Somerton General Plan includes policies that promote the construction of bicycle facilities and routes on new collectors or arterials.

Town of Wellton – Wellton does not have designated bicycle facilities, but there are paved shoulders and a multi-use path on Old Highway 80 through downtown Wellton that can be utilized by bicyclists. Bicycle facility improvement projects and Complete Streets cross-sections that include a multi-use lane are recommended in the Wellton Transportation Long-Range Plan.

Existing and proposed designated bicycle facilities and shared-use paths in the region are shown in *Figure 6.3*. The existing regional bicycle network has many gaps and discontinuities. There are few bicycle amenities such as bike racks or lockers in the region, however, transit buses are equipped with bicycle racks and bicycles can be brought on the bus at the bus operator’s discretion.

Pedestrian Facilities Expand Travel Choices

Sidewalks exist in urbanized parts of the region, but there are many gaps and discontinuities. In rural areas, sidewalks generally do not exist. Most of the sidewalks and sidewalk ramps are accessible by pedestrians with disabilities, particularly those facilities constructed since 1990.

City of Yuma – The Yuma General Plan indicates that “the City shall plan, design, and operate all transportation facilities to enable safe and convenient access for all users, including motorists, pedestrians, bicyclists and transit riders.” As part of the City of Yuma Master Transportation Plan (October, 2014), 12 strategic roadway corridors were reviewed and evaluated to identify deficiencies related to pedestrian mobility:

1. 4th Avenue from Colorado River to 32nd Street
2. 4th Avenue Extension from 32nd Street to 40th Street
3. Arizona Avenue from 10th Street to 32nd Street
4. Pacific Avenue from 8th Street to 32nd Street
5. Avenue A from 1st Street to 32nd Street
6. Avenue 3 E from US-95/County 9th Street to 32nd Street
7. 1st Street from 4th Avenue to Avenue B
8. 8th Street from 4th Avenue to Avenue B
9. US-95/16th Street from Arizona Avenue to Engler Avenue
10. 24th Street from Avenue A to Pacific Avenue
11. 32nd Street from Avenue B to Avenue 3 E
12. 40th Street from Avenue 3 E to Avenue 10 E.

A field review of these corridors indicated that 26 miles of additional sidewalks would be required to provide continuous pedestrian facilities. An Americans with Disabilities (ADA) review of these corridors was also undertaken and it was recommended that a transition plan for non-compliant driveways and intersections be developed. Locations of sidewalk deficiencies within these corridors are shown in *Figure 6.4*.



*Sidewalks in Downtown Yuma
(Source: Kimley-Horn)*

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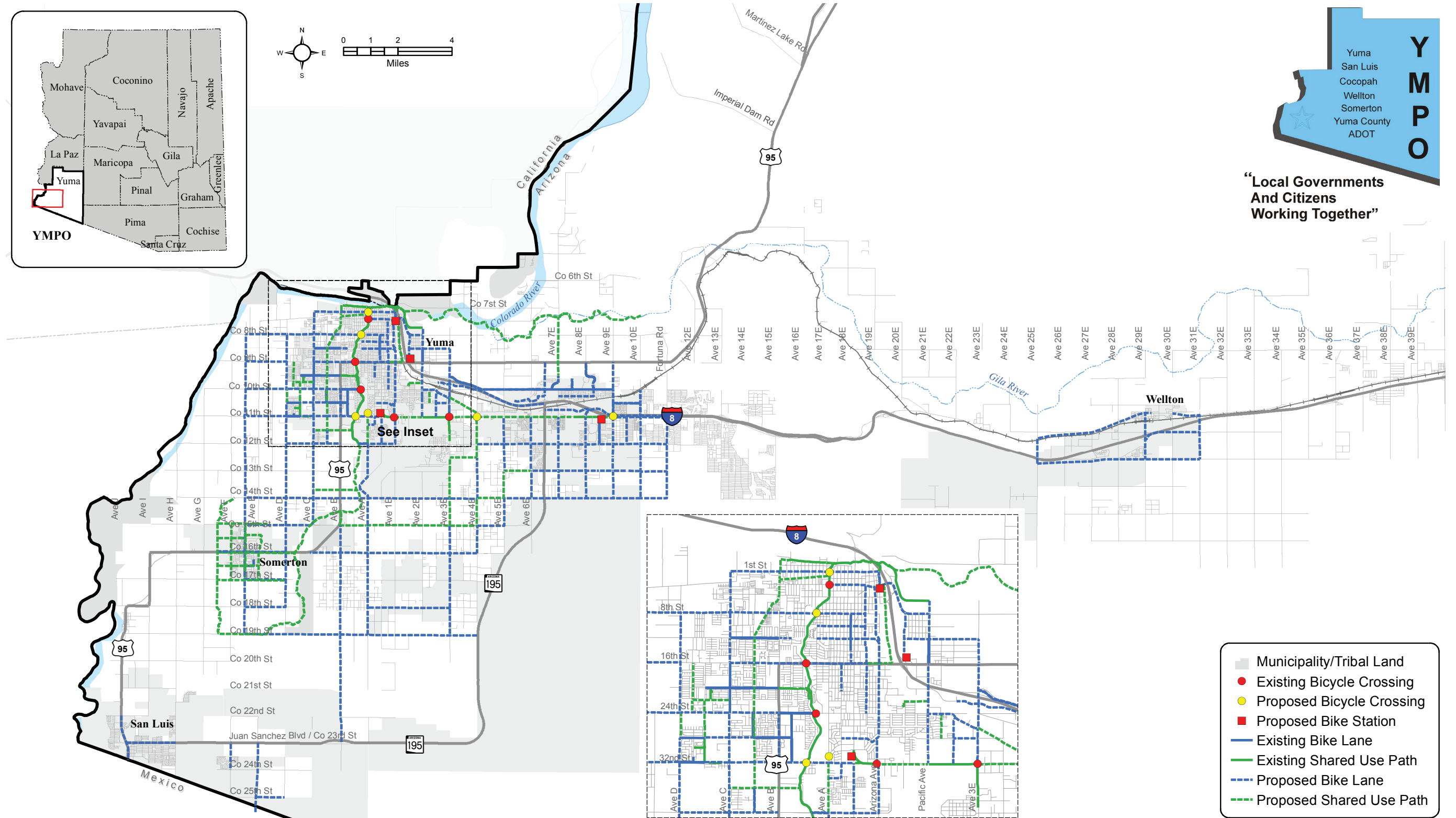


Figure 6.3 – Existing and Proposed Bicycle Facilities in the YMPO Region
 (Source: City of Yuma, City of San Luis, City of Somerton, Town of Wellton)

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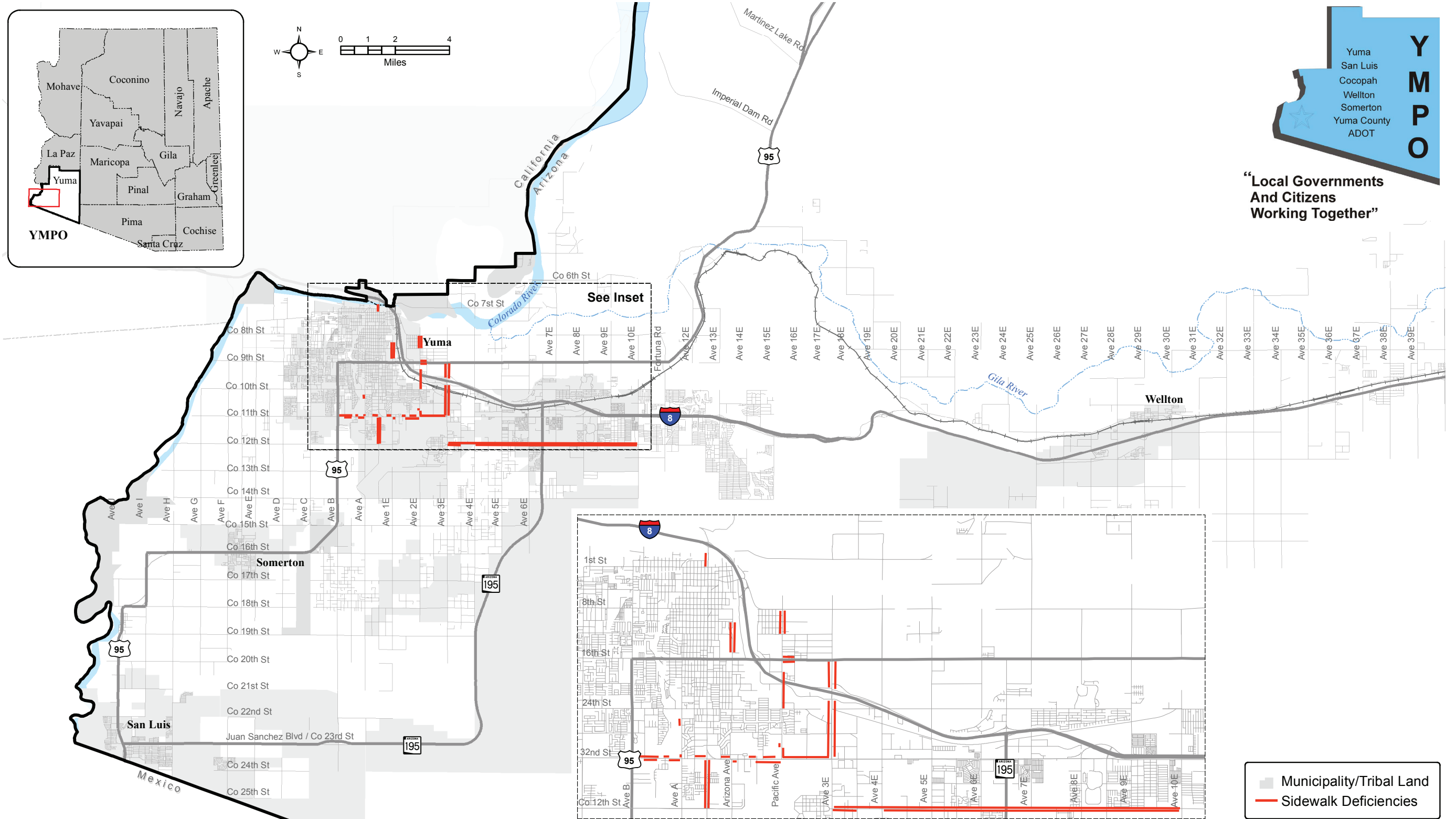


Figure 6.4 – Sidewalk Deficiencies (Source: City of Yuma)

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City of San Luis – Over two million pedestrians annually cross the U.S./Mexico border at San Luis POE I, giving the downtown area of the City of San Luis the highest level of pedestrian activity in the region.

In 2015, the San Luis Street Improvement project was completed, which included pedestrian improvements.

The project included rerouting San Luis POE traffic away from the busy business district, which has significant pedestrian and bicycle traffic. POE traffic was moved to two local roads that were converted to one-way streets in an effort to relieve some of the traffic congestion and enhance safety.

By rerouting vehicle traffic from the San Luis POE away from Main Street, access to businesses along Main Street was improved to better accommodate pedestrians and bicyclists. It also allowed for additional parking, benches, new pavement, pavement striping, and landscaping.

ADOT installed the first pedestrian-activated signalized crosswalk in Yuma County, located at the intersection of US 95 (Main Street) and Urtuzuastegui Street. This special type of traffic light, known as the Pedestrian Hybrid Beacon, is a system of indicator lights and signs that controls vehicle traffic to assist pedestrians in safely crossing a major street or highway at a marked crosswalk that does not have a standard traffic signal.

The San Luis General Plan includes policies that promote the installation of new pedestrian facilities such as sidewalks, overpasses, pedestrian signals at major intersections, improved curb cuts at cross-walks, and pedestrian refugee areas.

City of Somerton – Sidewalks exist along most roadways in the developed portions of the City of Somerton. Per the Somerton General Plan, all new road construction within the City is required to provide sidewalks and Americans with Disabilities Act (ADA)-accessible ramps. The City also has a retrofit program in place to gradually install sidewalks on all older roadways within the City.



*Sidewalks in Somerton
(Source: Kimley-Horn)*

Town of Wellton – The Town of Wellton has sidewalks along only a few of its roadway segments. The Town has identified a need for pedestrian facilities such as sidewalks that connect activity centers. The Town has developed pedestrian facility improvement project recommendations, and Complete Streets cross-sections that include sidewalks in the Wellton Transportation Long Range Plan.

Yuma County – Yuma County has subdivision regulations that require sidewalks in all new developments.

Cocopah Indian Tribe – The Cocopah Indian Tribe has indicated it would like to see more sidewalks implemented to encourage more physical activity and provide a safer traveling environment for pedestrians.

YMPO Region Trails and Paths Provide a Regional Asset for Recreation

While trails and paths can be used as connecting routes to other transportation facilities, they are most often used for recreational purposes. Trails generally are not paved while paths generally are paved. Trails and paths are typically multi-use, meaning they are open to various non-motorized travelers such as pedestrians, hikers, bicyclists, and equestrians. Existing trails and paths in the YMPO region are generally located along canals, rivers, or in hilly areas. The locations of the trails and paths generally align with the aforementioned bicycle paths (see *Figure 6.3*).



Canal Pathway
(Source: Kimley-Horn)

Regional Needs and Projects

Bicycle Facilities – The Yuma Bicycle Facilities Master Plan (2009) identifies a proposed network of bike lanes, bike paths, shared-use paths, and crossings to create a network that connects to schools and activity centers to encourage bicyclists of all ages and abilities to routinely use bicycling to get to and from work, school, and other activities. This plan has been updated through guidance from City of Yuma bicycle planners and public input. Proposed bicycle facilities include bike lanes, shared-use paths, and shared-use trails. These proposed bicycle facilities, along with bicycle facilities proposed in approved plans for Wellton, Somerton, and San Luis, are shown in *Figure 6.3*.

Pedestrian Improvements

The ADOT Pedestrian Safety Action Plan identified three segments in Yuma as high priority locations to improve pedestrian safety. These segments were selected based on a high number of motor-vehicle pedestrian crashes. The ADOT Pedestrian Safety Action Plan (2009) recommends improvements be made to these segments including pedestrian crossings and median refuge islands. The segments and estimated cost of improvements are:

- ❖ US 95, Avenue 2E - Avenue 3E (Estimated Cost: \$1.5 million)
- ❖ 4th Avenue, 1st Street - 32nd Street (Estimated Cost: \$5.5 million)
- ❖ US 95, 4th Avenue - Redondo Center Drive (Estimated Cost: \$1.3 million)

This plan is currently being updated.

Regional Plan and Policy Recommendations

In addition to expanding the bicycle network, it is proposed that YMPO serve as a leader to instill a “bicycle culture” throughout the region. A city and region with a strong “bicycle culture” has a well-developed bicycle infrastructure (e.g. separated bike lanes, facilities to improve convenience of bicycling, bicycle racks). A region with a “bicycle culture” will have a significant portion of the population bicycling to and from work or for other utilitarian purposes. The following policy recommendations should be considered by YMPO and its member jurisdictions.

1. **Develop a Regional Bicycle and Pedestrian Facilities Plan** – The Yuma Bicycle Facilities Master Plan presents a cohesive network within the City of Yuma. A Regional Bicycle and Pedestrian Plan should be developed that incorporates the communities of San Luis, Somerton, Wellton, Winterhaven, CA, and Yuma County. The Yuma Regional Bicycle and Pedestrian Plan should provide for facilities within communities and facilities that connect communities. The plan should include an extensive education and outreach campaign.
2. **Develop a Regional Complete Streets Policy** – Complete Streets are designed and operated to enable safe access and use for everyone (bicyclists, pedestrians, motorists, and public transit users of all ages and ranges of ability). Complete Streets make it easy to cross the street, walk to shopping, and bicycle to work. By adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right-of-way to enable safe access for all users.
3. **Regional Bicycle and Pedestrian Advisory Committee** – Form a regional bicycle and pedestrian advisory committee that would:
 - ❖ Develop a regional bicycle and pedestrian facilities plan
 - ❖ Develop and implement a regional bicycle and pedestrian safety awareness campaign
 - ❖ Distribute bicycle and pedestrian safety education booklets



(Source: Kimley-Horn)

- ❖ Host bicycle and pedestrian facility design workshops for local agency staff
 - ❖ Encourage employers to be bicycle friendly – provide bike racks, showers, and benefits for bicycle commuters
 - ❖ Collaborate with local jurisdictions, companies, schools, and health organizations to promote bicycling and walking as a healthy alternative to driving
 - ❖ Host bicycle and walking events such as Walk to School Day and Cyclovia bicycle rides
 - ❖ Encourage cities and towns to pursue and implement bicycle- and pedestrian-friendly policies
 - ❖ Collaborate with local law enforcement to better enforce traffic laws that relate to bicycles and pedestrians, including the three-foot law when passing a bicyclist and yielding to pedestrians at a crosswalk
 - ❖ Collaborate with and encourage local bicycle advocacy organizations
4. **Bicycle Friendly Region** – Submit for designation as a Bicycle Friendly Region by the League of American Bicyclists; enact the policies and implement the infrastructure requisite for this designation. Develop an action plan to improve bicycling in Yuma based on feedback provided by the League of American Bicyclists.
 5. **Walk Friendly Communities Assessment** – Develop an action plan to improve walkability in the YMPO region based on feedback from an assessment tool. Submit for designation as a Walk Friendly Community offered by the University of North Carolina Highway Safety Research Center.

The City of Yuma is expected to establish a bicycle and pedestrian commission. The commission will help raise the prominence of bicycling and walking in the City of Yuma. Consideration should be given to establishing a regional bicycle and pedestrian advisory committee with representation from all YMPO member jurisdictions.

Aviation

Overview

Improvements at Yuma International Airport and Rolle Field

There are two public-use airports in the YMPO region: Yuma International Airport (YIA) and Rolle Field. YIA operates in conjunction with the Marine Corps Air Station Yuma (MCAS-Yuma). Rolle Field is a GA airport located near San Luis that formerly operated as an auxiliary airfield for the Army during World War II. Both airports are operated by the Yuma County Airport Authority (YCAA).



*Yuma International Airport
(Source: Yuma County Airport Authority)*

The YCAA embarked on several improvements to YIA and Rolle Field. These improvements include taxiway and apron improvements at YIA, as well as expansion of and improvements to the Defense Contractor Complex. Improvements at Rolle Field include a complete rehabilitation of one of the runways, construction of a hangar, aircraft parking apron, and security fencing. In 2015 an Airport Master Plan was completed for Rolle Field. The plan was developed with the objectives to:

- ❖ Preserve public and private investments
- ❖ Reflect community goals and objectives
- ❖ Take advantage of the current trends towards unmanned aircraft systems (UAS)
- ❖ Maintain safety
- ❖ Strengthen the economy



*Rolle Field
(Source: Yuma County Airport Authority)*

Additionally, Somerton Airport, a private GA airport, has three runways of gravel and/or dirt composition, as well as hangar facilities, fuel service, flight training offices, and a pilot lounge. Due to its structure as a private airport, pilots are required to sign a waiver prior to landing and are encouraged to contact the airport prior to operating there.

Commercial Aviation Increases Over the Long-Term

One commercial airline serves the YMPO region. American Airlines provides nonstop service to Phoenix Sky Harbor International Airport. In 2015, there were 79,233 passenger boardings.

Partnering to Support Military Aviation

The YMPO region is deeply rooted in military aviation and in providing military support. The region has recently seen increased interest from operators of Unmanned Aerial System (UAS) vehicles. YIA is currently partnering with several agencies including the Defense Contractors Complex (DCC), YPG, and MCAS-Yuma to be one of the Federal Aviation Administration's (FAA) test ranges for the safe integration of UAS vehicles into the national airspace system. The airport master plan addresses how Rolle Field can act as a viable alternative for operating and testing UAS vehicles.

Space Technology Testing

In 2009, a newly completed hangar—the Pappy Boyington Hangar—was leased for use by the National Aeronautics and Space Administration and one of their consulting partners. The facility has been serving as a base as it conducts testing for the parachute assembly system for the Orion space capsule program. The hangar is used for preparation by the NASA team prior to conducting air drop tests at YPG.



MCAS-Yuma; Slated to Become an Operational Base for the F-35 JSF (Source: Scott Youmans [public domain]. <https://www.marines.mil>)

MCAS-Yuma: An Operational Base for the F-35

MCAS-Yuma is involved with the F-35 Joint Strike Fighter (JSF) program and will become an operational base for the F-35. Over \$400 million in improvement projects have been implemented at MCAS-Yuma to prepare for the F-35 JSF jets. MCAS-Yuma is expected to house five F-35 squadrons of 16 planes each and a test squadron of eight planes.

Yuma Proving Ground (YPG)

YPG is a large Army installation located in northern Yuma County where nearly every piece of combat equipment is tested. The testing includes significant aviation activity, encompassing helicopter and fixed-wing developmental testing, aircraft parachute drops, and UAS vehicle testing.

Airport Master Plans Set the Vision and Goals for Aviation in the Region

The most recent YIA Master Plan update was completed in 2009 and was intended to cover a planning horizon of 20 years. The following are some of the goals and objectives identified for the airport master plan effort at the beginning of the process.

- ❖ Develop a plan to ensure a workable agreement between the YCAA and the U.S. Marine Corps. MCAS-Yuma has an important role in the City's economy and the collective resources offered by YCAA and MCAS-Yuma should be managed collaboratively.
- ❖ Develop a plan that identifies the best long-term facilities for civil aviation activity including reasonably-priced GA facilities, economic development, and passenger amenities within the terminal building.
- ❖ Enhance the relationship and partnership between the YCAA and the U.S. Marine Corps. Consider global and specific issues such as airfield inspections and hours of operation for the airport traffic control tower.
- ❖ Provide strategies for accommodating future terminal needs, including expansion of passenger holding areas and public parking needs during peak activity or heightened security threats.

The ADOT Aeronautics Division completed a comprehensive update to the Arizona State Airports System Plan (ASASP) in 2008. An airport system vision was established, which led to the development of airport system goals. The ASASP vision is to provide an airport system that accommodates demand, supports economic and transportation needs, and maximizes funding resources.

The recommended Rolle Field Master Plan Concept includes the following enhancements:

- ❖ Extension of Runway 17-35 to the north and south
- ❖ Addition of full length parallel Taxiway A
- ❖ GA terminal / Administration building
- ❖ Apron enhancement
- ❖ Additional storage hangers
- ❖ UAS support vehicle parking
- ❖ UAS Launch and Recovery Site
- ❖ Additional storage hangers and training and meeting rooms

Regional Needs and Projects

Regional aviation projects are based on information in the 2017-2021 ADOT Five-Year Construction Program.

Yuma International Airport 2017-2021 Improvements

There are two taxiway pavement preservation projects estimated to cost \$182,319.

Rolle Field 2017-2021 Improvements

There are two pavement preservation projects for a runway and taxiway estimated to cost \$92,900.

Congestion Management

Regional Traffic Congestion Can Vary Seasonally

Traffic congestion, as measured by traditional traffic analysis techniques, is not a significant problem today in the YMPO region compared to many larger metropolitan areas. Congestion that takes place during the daily commute-to-work period (known as recurring congestion) occurs on the north and south I-8 frontage roads, in urbanized commercial areas in the City of Yuma, and at San Luis POE I. What traditional traffic techniques do not fully recognize is the dramatic increases in traffic during the agricultural produce season and during the influx of winter visitors, which cause traffic volumes in some areas to increase by 33 percent over average conditions. With the projected increase in population and economic activity in the region, congestion levels will increase significantly unless steps are taken to plan and implement a multimodal transportation plan to combat congestion with transportation choices that reduce the region's reliance on single-occupancy vehicle use. Congestion relief is a regional goal of this RTP.

Congestion Management Process (CMP)

The YMPO region does not currently have a CMP because the minimum population threshold of 200,000 in the urbanized area has not been met (the 2015 estimated population for the urbanized area was 150,811 persons), and the YMPO region has not been defined as a Transportation Management Area (TMA). When both of these criteria are met, a CMP will be required as part of the regional transportation planning process. The proactive development of a CMP can offer valuable input to congestion relief strategies as the region prepares for becoming a TMA, though it is not yet required.



(Source: Kimley-Horn)

The proactive development of a CMP can offer valuable input to congestion relief strategies as the region prepares to become a TMA.

The CMP shown in *Figure 6.5* is a systematic approach, collaboratively developed and implemented throughout a metropolitan region, that provides for the safe and effective management and operation of new and existing transportation facilities through the use of demand reduction and operational management strategies.

To prepare a CMP for the YMPO region, CMP models from across the country are available in publications prepared by FHWA, FTA, and the Association of Metropolitan Planning Organizations (AMPO). The FHWA CMP Guidebook defines the steps for developing a CMP process model. The process model is not intended to serve as a step-by-step approach, but is intended to convey the general flow of the approach, building on regional objectives to develop and implement strategies and evaluate their effectiveness.

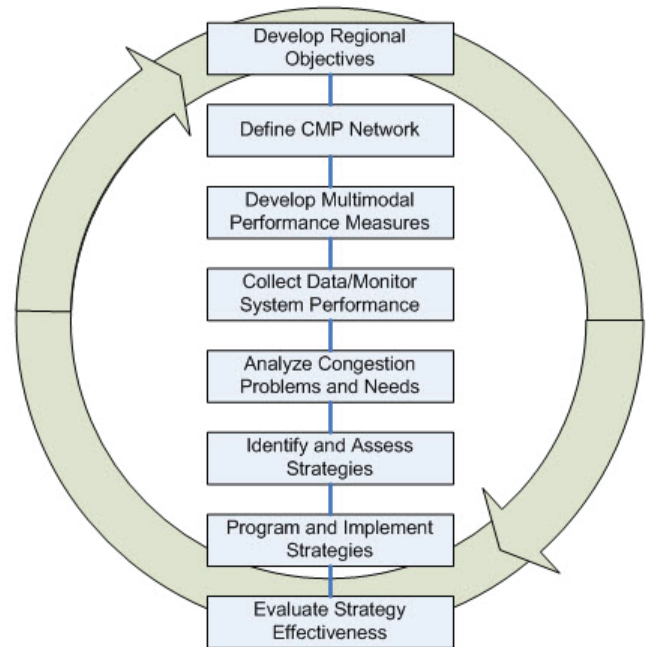


Figure 6.5 – Elements of the Congestion Management Process
(Source: FHWA Congestion Management Handbook)

Regional Needs and Projects

Congestion Management Steering Committee

YMPO should establish a steering committee to monitor the development of a region-wide CMP and the development of projects and strategies. Because projects are most often implemented by YMPO member jurisdictions, oversight by a steering committee can be valuable to relay information on the CMP process during project development and performance assessment. A goal of the committee should be to achieve regional consistency between planned and programmed projects and project development, particularly for projects that will add capacity to roadways. The steering committee should oversee research leading to the development and evaluation of CMP model alternatives and the development of the CMP itself. A proactive CMP should be collaboratively developed and implemented by YMPO and its member jurisdictions to add a new dimension to the traditional approach to congestion management and operate new and existing transportation facilities through the use of demand reduction and operational management strategies.

Transportation Security

Overview

The security of the transportation system is a national and regional priority. September 11, 2001 changed many Americans' perspective about homeland safety and security. When one considers the amount of hazardous materials, chemicals, and flammable products that are transported on the nation's infrastructure each day, it is easy to recognize the need for security measures along highways and bridges. The security of America's infrastructure including critical transportation assets such as bridges, POEs, airports, and primary highways, has become an important consideration during the development of new transportation projects.

Transportation security addresses the protection of transportation infrastructure related to hazardous events. Security must be considered early in the planning of new transportation projects.

Security Planning

The YMPO region has developed plans to mitigate adverse impacts from hazardous natural or man-made events. In 2004 and 2005, Yuma County and its incorporated cities and towns participated in a multi-jurisdictional mitigation planning process. YMPO member jurisdictions developed Multi-Hazard Mitigation Plans for Yuma County, San Luis, Somerton, Wellton, and the City of Yuma.

The Federal Emergency Management Authority approved these plans between 2005 and 2006. In 2010, a five-year update was completed and the plans were consolidated into one overall plan called the Yuma County Multi-Jurisdictional Hazard Mitigation Plan. This consolidated plan provides information on potential hazards including descriptions, history, probability and magnitude, vulnerability, sources, and profile maps. The hazards evaluated include transportation crashes, drought, earthquakes, flooding, severe wind, and wildfire.

In 2013, the State of Arizona Hazard Mitigation Plan was developed, which included the assessment of Yuma County.

Regional Needs and Projects

Transportation Infrastructure Planning

Planning for transportation security should be part of the regional transportation planning process. The degree to which transportation security should be considered and resources expended is dependent upon the nature of the project.

- ❖ Is the proposed project in a primarily rural area?
- ❖ Does the proposed project cross a state border?
- ❖ Will the proposed project be in close proximity to urbanized areas?
- ❖ Will the proposed project become a major thoroughfare subject to heavy truck traffic and hazardous materials?
- ❖ Is the proposed project a critical piece of infrastructure (e.g., bridges across navigable waters, rest areas, POEs)? Are there other nearby infrastructure (e.g., power plants, refining facilities, etc.)?
- ❖ Could the proposed project affect or mitigate hazards identified in the Yuma County Multi-jurisdictional Hazard Mitigation Plan?

The majority of needed roadway system improvements are located near I-8, the UPRR, the Colorado River, the border with California, the international border, MCAS-Yuma, YIA, highly urbanized areas, and agricultural areas. These warrant a security risk assessment as part of project development. Coordination with the Arizona Division of Emergency Management (ADEM) and Yuma County Office of Emergency Management should be considered.

Transportation Security/Incident Management Working Group

A transportation security/incident management working group should be established to provide transportation security input on new projects. This working group can also enhance collaboration and coordination between traditional transportation infrastructure providers (e.g., regional, county, tribal, and local entities) and emergency responders. The working group should coordinate with YMPO and member jurisdictions to establish organizational responsibilities, available transportation resources, and procedures for preparing for, responding to, and recovering from incidents that impact the residents of the YMPO region. The working group should solicit input from key emergency management and response stakeholders including the Yuma County Office of Emergency Management, Yuma County Sheriff's Office, ADEM, Arizona Department of Public Safety (DPS), and FHWA.

Transportation Security Education and Training

YMPO should conduct transportation security education, training exercises, and workshops using local and national experts.

Intelligent Transportation System (ITS) Integration

The YMPO region's ITS infrastructure is an integral part of transportation security. Current and future transportation and transit ITS components should consider video surveillance, CCTV, DMS, mobility assistance patrols, vehicle detectors, transit vehicle tracking, in-vehicle navigation, integrated radio systems, and automated vehicle location. These traffic monitoring, incident detection, and response systems can be utilized to improve the security of the regional transportation system.

New Technologies

Automated Vehicles

Automated vehicles can take over some or all of the driving tasks. Although the technology of self-driving cars is still in the testing and development phase, several automated safety features are currently available to improve safety¹ such as:

- ❖ Electronic stability control – slows individual wheels during a turn to keep a car on course
- ❖ Lane-Keep assist – Detects lane departure and steers vehicle back into the correct lane
- ❖ Adaptive cruise control – monitors the driver-set speed and distance to the vehicle ahead
- ❖ Collision warning system – alerts the driver if a collision is imminent
- ❖ Adaptive headlights – give you a better view of the road around curves especially at night. The lights react to the steering, speed and elevation of the car, and make adjustments for better visibility
- ❖ Back up camera – improves visibility when backing up or parking
- ❖ Active parking assist – helps parallel park the vehicle with no steering from the driver
- ❖ Drowsiness alert – uses automobile or driver data to indicate when the driver needs a break

Automated vehicles have the potential to increase travel reliability, increase safety, and reduce congestion. Several companies have announced advancements in automated vehicle production and some expect to deploy self-driving vehicles, operating in certain scenarios, by the beginning of the next decade. Uber is currently testing a fleet of self-driving cars for hire in the Pittsburgh area.

Currently, the effect of these changes in technology as it relates to roadway capacity, safety, sustainability (due to fewer idling and more efficient vehicles) and other potential impacts is unknown. However, for the next RTP update, YMPO will prepare to start incorporating automated vehicles more explicitly in their planning processes.

Electric Vehicles and Charging Stations

As concerns grow about vehicle emissions, electric vehicles are increasing in both personal automobile and commercial truck fleets. These may be fully electric vehicles or plug-in hybrids, which use a gasoline engine to extend the driving range when longer trips than the battery can provide are taken. This can create a challenge for the vehicle operator in terms of being able to charge their vehicle in locations away from home or the commercial fleet base of operations. While some employers have installed electric vehicle (EV) charging stations, EV car owners may expect that they should be able to access public charging stations.

YMPO supports increased electric vehicle infrastructure and future initiatives may include outreach and education.



*Electric Vehicle Charging Station
(Source: Yuma County Airport Authority)*

¹ USAA, "8 Tech Features that Improve Car Safety," <https://www.usaa.com/inet/wc/advice-auto-safetyfeatures?akredirect=true>, accessed 11/2/2016



Chapter 7

Freight

FREIGHT

Yuma's location on the border of four states (Arizona, California, Sonora, Mexico and Baja, Mexico) and two countries (United States and Mexico), makes it a natural transportation hub. There are over 52 million consumers within a one-day truck haul in the east and west via Interstate 8 or the north and south via US Highway 95, according to the Greater Yuma Economic Development Corporation. Freight movement is critical to the Yuma economy and supports many key sectors of the economy, such as agriculture, Maquila operations, and industrial manufacturing.

Truck Freight

Major commercial and industrial trucking activity is limited to designated truck routes, which are built to standards accommodating heavy vehicles. Existing truck routes in the Yuma area are shown in *Figure 7.1*.

The figure shows designated commercial truck routes and overweight truck routes. Key truck routes include I-8, US 95, SR 195, 8th Street, 16th Street, 4th Avenue, and 32nd Street. An overweight truck route is located on SR-195 between E. 32nd Street and east of San Luis. ADOT permits for travel on this route can be purchased, which increases the weight limits for commercial trucks from 80,000 pounds to 90,800 pounds. The fee for this permit is shared with the State Highway Fund (50%), Yuma County (25%), and San Luis (25%). This permit allows produce from Mexico to be unloaded into warehouses located in the commercial zone of the Arizona International POE, which is defined by a 25-mile radius from the Arizona-Mexico border. While the routes used by overweight trucks are approved by local jurisdiction, ADOT implements the permitting process that legally allows trucks to use these corridors.

As part of the City of Yuma Transportation Master Plan (2014) a Buildout Truck Routing Plan was developed for the community, also shown in *Figure 7.1*. A focus for the plan was to facilitate the efficient movement of trucks and minimize excessive wear on local streets.

YMPO Truck Count Program

YMPO conducts an extensive traffic count program twice a year at approximately 188 locations in the region. They have been proactive in including classification counts as part of the traffic counts and have identified routes that have the highest percentage of truck volumes and the highest number of trucks traveling on the road system.

Table 7.1 shows the top 10 locations with the highest percentage of truck traffic and *Table 7.2* shows the top 10 locations with the highest number of trucks. All designated truck routes are planned to have truck counts in the future.

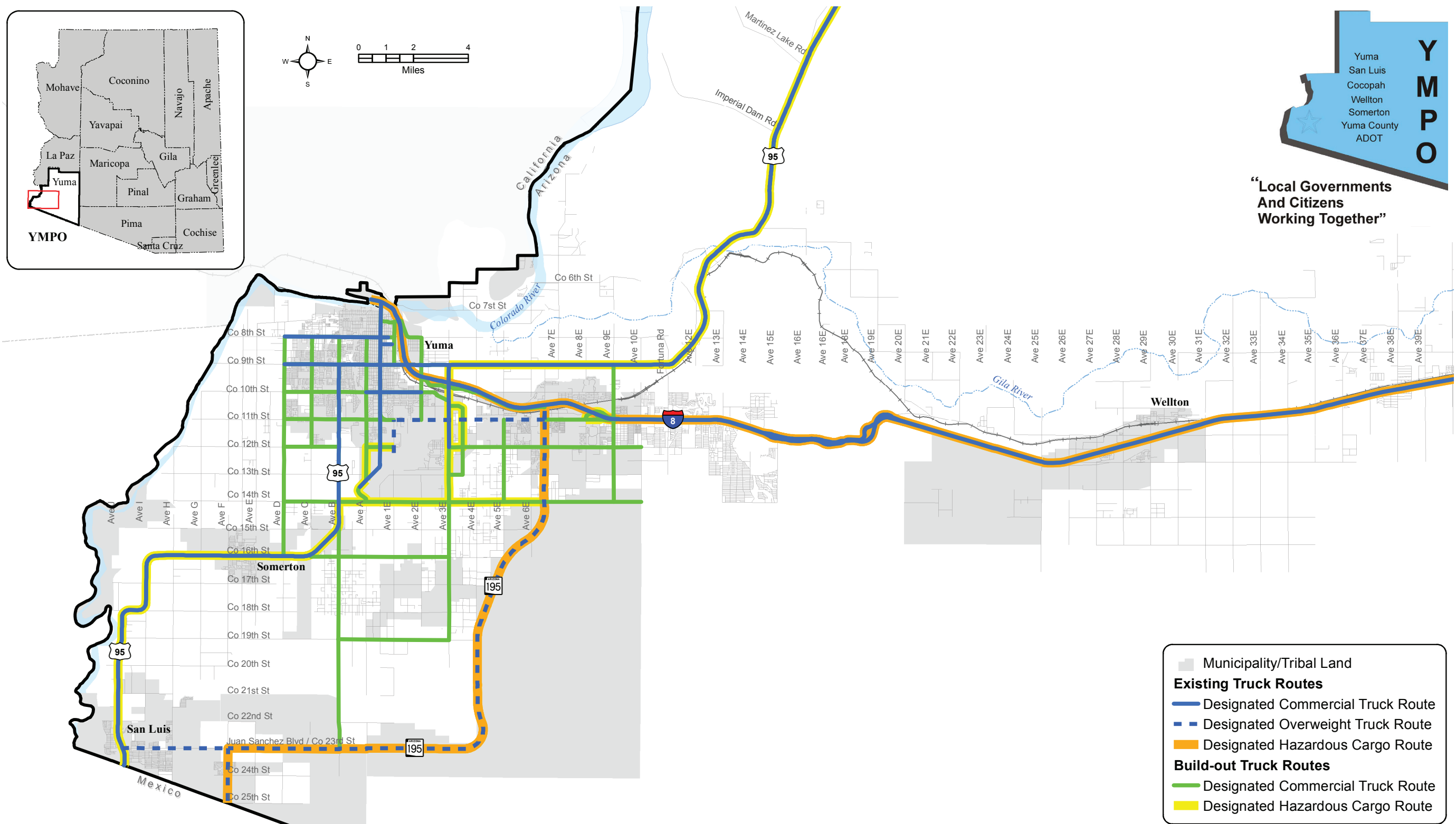
Road	Location	Number of Trucks*	Percent Trucks
Avenue E	South of Juan Sanchez Boulevard	199	24%
Ave 3 1/2 E	South of 32nd Street	389	24%
Gila Ridge Road	East of Ave 3E	892	23%
16th Street	West of Avenue C	1734	22%
4th Avenue	North of 40th Street	597	18%
County 19th Street	West of Avenue 3E	391	16%
4th Ave Extension	South of 32nd Street	1254	15%
Dome Valley Road	North of Old US 80	87	14%
Avenue 3E	South of Palo Verde	1217	13%
Gila Ridge Road	West of Araby Road	547	12%

Table 7.1 – Top Ten Road Segments with the Highest Percent Trucks, Based on 2015 Traffic Count Data
 (Source: Yuma Metropolitan Planning Organization)

Street	Location	Number of Trucks*	Percent Trucks
16th Street	West of Avenue C	1734	22%
16th Street	East of Arizona Avenue	1539	4%
4th Avenue	South of 16th St	1423	6%
Avenue B	South of 20th St	1387	5%
16th Street	West of Ave A	1378	5%
32nd Street	East of Fortuna Avenue	1343	4%
16th Street	West of Pacific Avenue	1291	6%
B-8	East of Ave 3E	1279	6%
4th Ave Extension	South of 32nd St	1254	15%
Pacific Avenue	South of 24th St	1243	7%

Table 7.2 – Top Ten Locations with the Highest Number of Trucks, Based on 2015 Traffic Count Data
 (Source: Yuma Metropolitan Planning Organization)

* Represents an average of the factored truck counts conducted in February 2015 and July 2015



“Local Governments
And Citizens
Working Together”

- Municipality/Tribal Land
- Existing Truck Routes**
- Designated Commercial Truck Route
- - Designated Overweight Truck Route
- Designated Hazardous Cargo Route
- Build-out Truck Routes**
- Designated Commercial Truck Route
- Designated Hazardous Cargo Route

Figure 7.1 – Existing Truck Routes and Buildout Truck Routing Plan
(Source: City of Yuma Transportation Master Plan (2014) Wilson and Company)

National Freight Highway Network

Freight in the U.S. travels over an extensive multimodal network of highways, railroads, waterways, pipelines, and airways. The FHWA has established a National Highway Freight Network to improve the U.S. freight transportation network. Arizona's freight network is shown in *Figure 7.2*.

I-8 is not considered part of the Primary Highway Freight System, however, it does provide important continuity and access to freight transportation facilities.

Future Plans

The Arizona State Freight Plan, currently underway, will establish immediate and long-range plans for freight related transportation investments. Specifically, it will identify freight transportation facilities that are critical to the State's economic growth and give appropriate priority to investments in such facilities. The State Freight Plan will ultimately provide Arizona with a guide for assessing and making sound investment and policy decisions that will yield outcomes consistent with the State's visions, goals, and objectives. Most notably, it will promote regional competitiveness and economic growth.

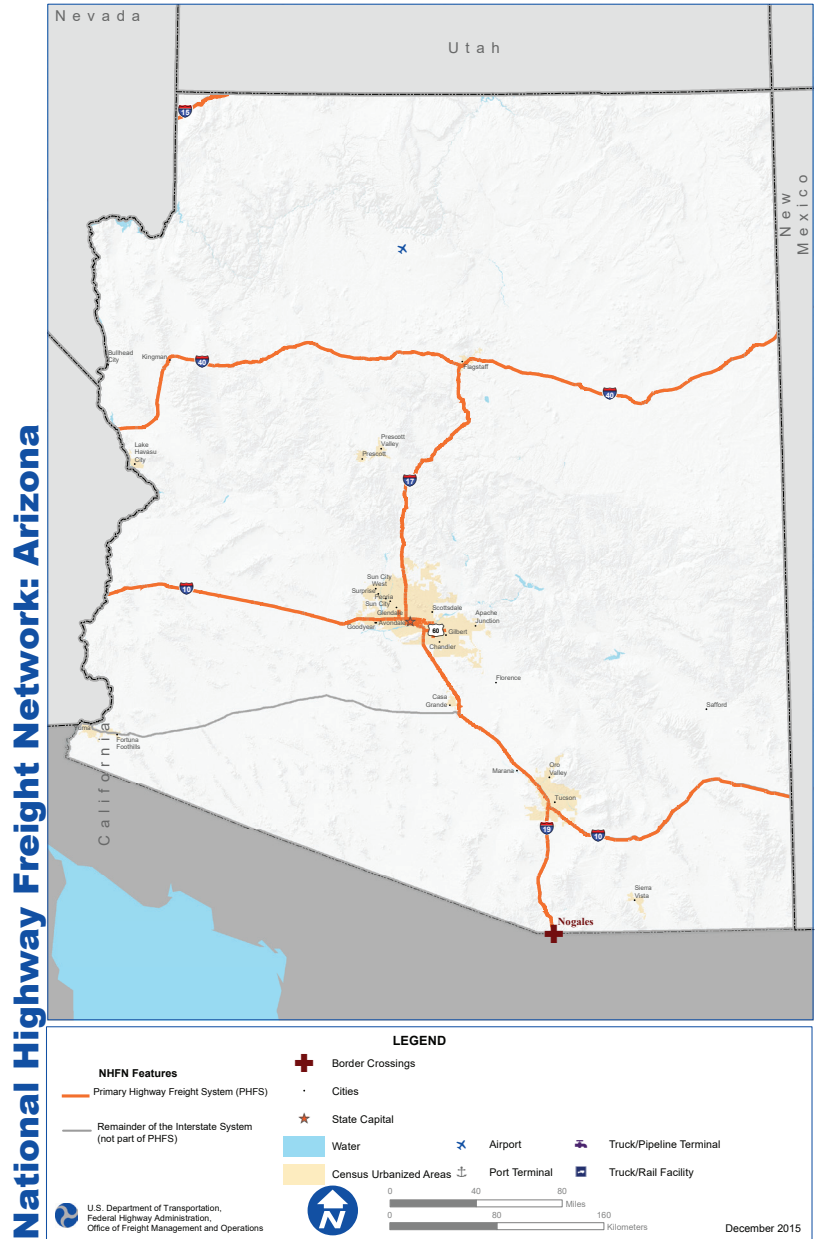


Figure 7.2 – National Highway Freight Network in Arizona
 (Source: FHWA, http://ops.fhwa.dot.gov/freight/infrastructure/ismt/state_maps/states/pdf/nhfn_map/az_arizona_nhfn.pdf)

Air Freight



Air Freight at Public Airports – The two public airports in the YMPO region provide limited freight service. YIA has an air cargo ramp and FedEx provides air freight services there. Though limited with respect to air freight services, The YIA is experiencing a change in functions and roles as it addresses the needs of MCAS-Yuma, YPG, and the nation’s space development program. As military and space-related activities increase at the YIA, the demand for expanded air freight capability will also increase.

Rolle Field

Rolle Field is a GA airport located approximately two miles north of the San Luis II Commercial POE. In 2015, an Airport Master Plan was completed for the airport. The vision for the airport, in part, is that the development of Rolle Field will contribute to the economic development of the City of San Luis as it grows with the expansion of the new POE at San Luis II. Rolle Field is also uniquely positioned to participate in the testing and development of unmanned aircraft as an extension of the YIA Defense Contractor's Complex.

Rail Freight

UPRR – UPRR is the sole rail freight provider in the YMPO region. The UPRR Sunset Route between Los Angeles and El Paso ties in with rail corridors extending east to Jacksonville, Florida and north to Chicago, Illinois. UPRR operates up to 70 trains per day on the Sunset Route and the ongoing double tracking of the line will allow the company to operate more than 100 trains per day.

UPRR Wellton Branch – The Arizona State Rail Plan (2011) included a recommendation to investigate reopening the UPRR Wellton Branch between the Phoenix metropolitan area and the Town of Wellton. This was accomplished through the Wellton Branch Railroad Rehabilitation Study (2014).

The Wellton Branch Railroad Rehabilitation Study was conducted to assess the costs for alternatives to reestablish freight and passenger service between Arlington, Arizona and Wellton. The reestablishment of service would provide a direct connection from Los Angeles to Phoenix.

The Wellton Branch is a segment of the UPRR Phoenix Subdivision that extends between downtown Phoenix and Wellton, Arizona. The 45-mile portion between Phoenix and Arlington and the 11.6-mile portion between Roll and Wellton are currently the only portions of the branch still in service. The westernmost 11.6 miles from Roll to Wellton is part of a segment known as the Roll Industrial Lead. The 80 miles of track between Arlington and Roll is currently out of service and is used for railroad car storage.

The study area for the Wellton Branch Railroad Rehabilitation Study are shown in *Figure 7.3*.

The Wellton Branch Railroad Rehabilitation Study analyzed the required improvements and capital cost estimates for four scenarios:

- ❖ Scenario 1: Through freight service only
- ❖ Scenario 2: Through freight service and basic Amtrak service
- ❖ Scenario 2A: Through freight service and basic Amtrak service with Positive Train Control (A federally mandated system designed to automatically stop a train before certain accidents occur)
- ❖ Scenario 3: Through freight service and higher speed passenger service

The study found that the current freight demand along the active portion of the Wellton Branch and Phoenix Subdivision did not warrant the rehabilitation of the out-of-service segment of the Wellton Branch. Capital costs were estimated to range from \$165 million to \$420 million, depending on the alternative scenario. The study also concluded that reopening this corridor solely for passenger service would be cost prohibitive.

Regional Needs and Projects

Regional Freight Framework Study

Improved integration of regional air, rail, and truck freight services and facilities is needed to meet current and future freight demands. A regional freight framework study should be conducted to establish a framework for regional freight processing, services, and facilities for manufacturers and commercial (retail and wholesale) enterprises. The study should address issues such as regional preferences for a location of a Colorado River UPRR rail crossing to accommodate UPRR double tracking, and an assessment of regional costs and benefits of being part of the national freight highway network.

Yuma County Rail Corridor Study Recommendations

The recommendations developed by the Yuma County Rail Corridor Study should be advanced, including the creation of a steering committee to engage appropriate federal (U.S. and Mexico) and state (Arizona and Sonora) agencies in pursuing improved rail connectivity in the region and with Mexico.

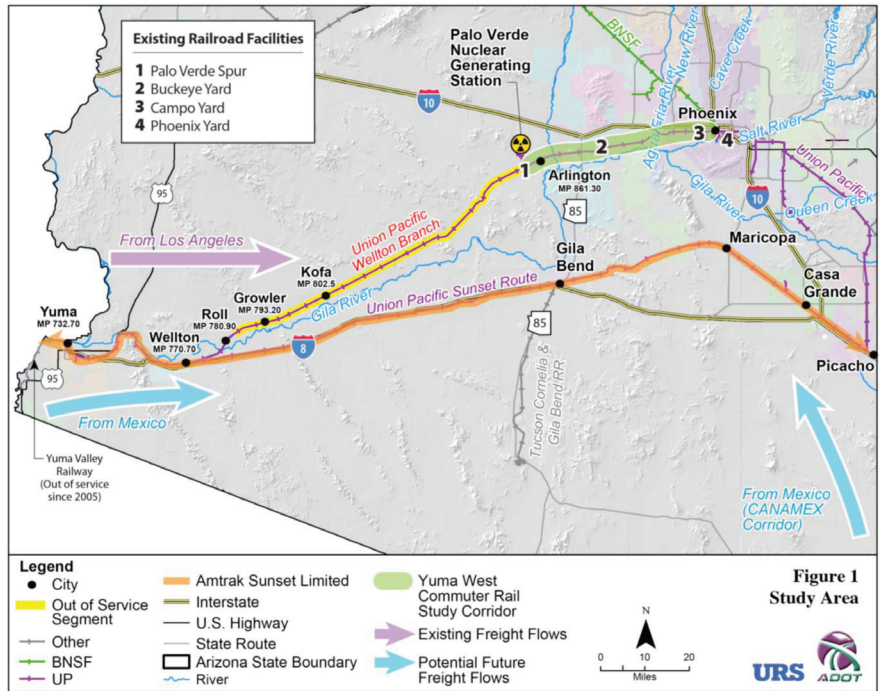


Figure 7.3 – Study Area for Wellton Branch Railroad Rehabilitation Study
Source: Wellton Branch Railroad Rehabilitation Study (March 2014)

Border Infrastructure

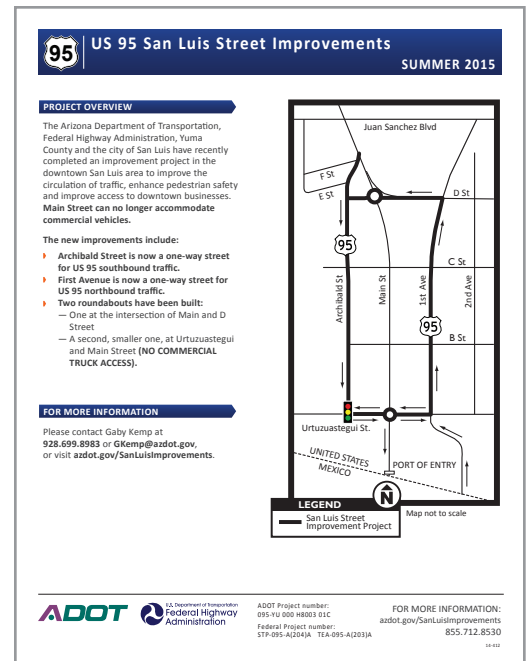
International POEs in the Region

The YMPO region is currently served by two international POEs. Combined, the two POEs represent the second highest level of border crossing activity in the state of Arizona. About 30 percent are passenger vehicles and pedestrian crossings and 11 percent are commercial vehicle crossings. Historically, POEs in the YMPO region account for approximately five percent of the value of all goods crossing the Arizona-Sonora border.

San Luis POE I was constructed in 1930 and later expanded in 1984 and 1991. It is located in the downtown commercial center in the City of San Luis at the terminus of Main Street (US 95). San Luis POE I provides cross-border patrol inspection of passenger vehicles, bicycles, and pedestrians. Vehicular congestion exists along US 95 as a result of U.S. Customs and Border Protection (CBP) inspection protocols for southbound vehicles exiting to Mexico. Congestion at the San Luis POE I increases during the agricultural produce season. A reconstruction of the San Luis POE I is planned, which will improve pedestrian processing pace and reduce wait times for cross-border travelers entering the U.S. in a safe manner consistent with security measures in place by agencies operating the POE. In 2014, almost 2.29 million pedestrians used this border crossing. This proposed project would not change either the ingress or egress points to the POE. Pedestrians coming into the US from Mexico would, upon leaving the new processing building, utilize the existing sidewalks leading north to Urtuzuastegui Street.

ADOT completed a San Luis Street Improvement project to improve traffic and pedestrian mobility through the San Luis POE, to reduce conflicts between motorists, bicyclists and pedestrians, to improve drainage in the project area, and to enhance and revitalize the business district on Main Street. The project included:

- ❖ Constructing two roundabouts: D Street at US 95 and Urtuzuastegui Street at US 95
- ❖ Converting Archibald Street (SB) and 1st Avenue (NB) to one way streets
- ❖ Reconfiguring NB traffic from the POE directly to 1st Avenue with accessibility to US 95 from the Urtuzuastegui Street (EB and WB)
- ❖ Converting US 95 from a five lane facility between the planned Urtuzuastegui Street mini-roundabout and D Street roundabout into a two-lane local road
- ❖ Constructing a transition road from the F Street/US 95 intersection, which is north of the D Street roundabout, west to Archibald Street
- ❖ New construction, reconstruction, and widening of Archibald Street from a two lane street to a three lane one-way SB facility from F Street to Urtuzuastegui Street
- ❖ Constructing an additional EB lane on Urtuzuastegui Street from Archibald Street to the LPOE
- ❖ Providing amenities on US 95 to accommodate pedestrian and bicycle traffic



(Source: ADOT)

San Luis POE II, built in 2010, is located approximately five miles east of San Luis POE I at the terminus of Avenue E. It provides commercial vehicle inspection and direct access to SR 195. San Luis POE II was designed with the potential for expansion to accommodate up to 650 commercial vehicles per day, as well as the potential to add facilities for passenger vehicles, pedestrians, and bicyclists.

Arizona-Sonora Border Master Plan

ADOT, in cooperation with the State of Sonora, Mexico and numerous bi-national federal, state, and local stakeholders, completed the Arizona-Sonora Border Master Plan (2013), which identified and ranked a series of POE, multimodal infrastructure, and rail projects that would enhance travel across the border.

Regional Needs and Projects

Arizona-Sonora Border Master Plan Recommendations

A number of projects evaluated during the Arizona-Sonora Border Master Plan were among the necessary capital improvement projects that have been completed or are in planning and design. Highly ranked projects recommended in the Arizona-Sonora Border Master Plan are shown in *Table 7.3*.

As described previously, improvements to the POE I are currently being planned.

Evaluation of Arizona POE Projects		2016 Status
POE Project Description		
San Luis I - SENTRI Primary Booth Project		In process
San Luis I - Pedestrian Pop-Out Project #1 (Reconfiguration in place)		In process
San Luis I - Pedestrian Pop-Out Project #2 (Expansion)		In process
San Luis II - POV/Pedestrian Processing Facility		Not currently in development
San Luis I - Outbound Technology Project		In process
San Luis I - SENTRI Secondary Inspection Area		In process
San Luis I - Expansion and Modernization		In process
San Luis I - Outbound Inspection Infrastructure		In process
San Luis I - Primary Booth Replacement Project		In process
San Luis II - New Rail POE		Not currently in development

Evaluation of Multimodal Infrastructure Projects			2016 Status
Facility	Project Description/ Extent	Proposed Improvement	
Archibald St and First Ave	C St to Urtuzuastegui St	Convert to one-way couplet and construct bus pullouts	Completed
Main St Project	US 95 from A St to Juan Sanchez Blvd	Reconstruction	Completed

Evaluation of Multimodal Infrastructure Projects			2016 Status
Facility	Project Description/ Extent	Proposed Improvement	
Juan Sanchez Blvd	10th Ave to Ave E	Widen to 4 through lanes	Unfunded project in RTP
Juan Sanchez Blvd	10th Ave to US 95	Widen to 4 through lanes	Project planned – widening from US 95 to 8th Ave, 2018-2027
Ave E	San Luis POE II at Arizona-Sonora border to SR 195	Widen to 4 through lanes	No widening planned, however an extension of Ave E and D is listed as an unfunded project
56th St	SR 195 to Ave 13E	Construct new roadway	Planned project for paving on County 14th St, Ave 10E to Ave 13E from 2033-2037
US 95	Ave 9E to Aberdeen Road	Widen to 4 through lanes, construct bridge at Fortuna Wash	Planned in three phases between 2023-2041
Ave 3E	US 95 to I-8	Widen to 4 through lanes	Underway
Bridge Replacement	South Gila Canal at Avenue 7E	Construct new bridge	No projects planned
Fortuna Rd	40th St to 48th St	Construct new roadway	No projects planned

Table 7.3 – Arizona-Sonora Border Master Plan Recommendations
(Source: ADOT)

Participation in the Implementation Monitoring Committee (IMC)

Continued coordination with CBP and GSA is necessary to maintain focus on transportation corridors including routes identified as part of the national freight highway network between POE projects and surface transportation infrastructure adjacent to the ports. YMPO should participate in the IMC recommended in the Arizona-Sonora Border Master Plan.

Accessibility to International POEs

Accessibility to the international POEs should be improved by providing alternate routes and additional capacity along Juan Sanchez Boulevard, Avenue E, 56th Street, US 95, and Avenue 3E, as identified and prioritized in the Arizona-Sonora Border Master Plan. The 2015 San Luis Streets Improvement project was designed to improve circulation of traffic, enhance pedestrian safety, and improve access to downtown businesses.

Access for workers traveling between Arizona and Sonora

Access for workers traveling between Arizona and Sonora, Mexico should be improved. Currently, many of these workers are pedestrians who experience long delays in the early morning hours. The expansion of San Luis POE I is planned to improve wait times. Processing efficiency for transit and vanpools that connect workers to downtown San Luis and agricultural employment centers should be improved.

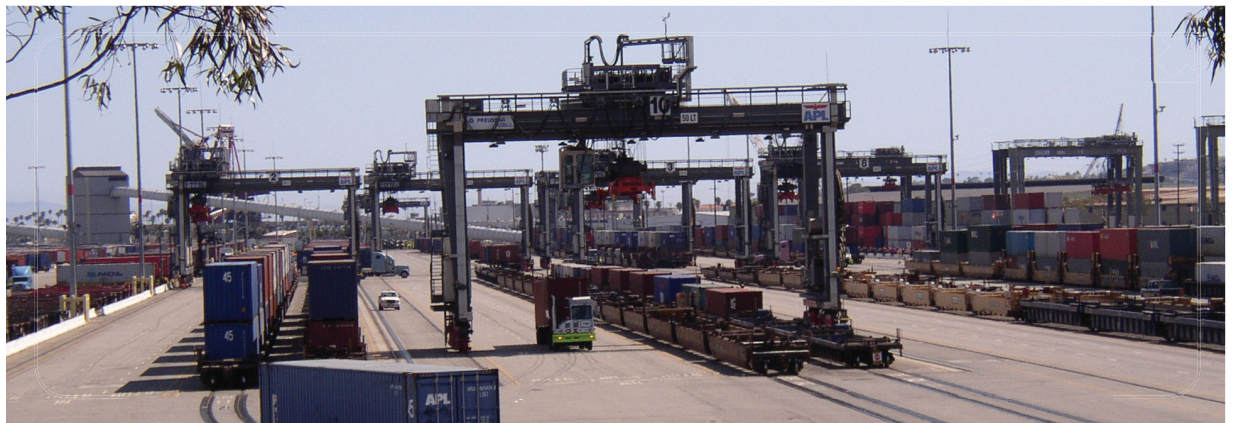
Inland Ports, Warehousing, and Distribution Centers

Overview

The concept of inland ports stems from processing and capacity constraints at the Pacific coast ports in Southern California. Coastal ports are limited in their ability to classify and store commodities destined for inland locations. Private and public sector planners in the YMPO region have viewed this situation as an opportunity to develop inland ports that will streamline the supply chain by integrating rail and truck freight services with warehousing and distribution services.

Key elements of the general economic activity in the region are warehousing functions and distribution to markets. Historically, major industries in the YMPO region have been manufacturing, fabrication, and agriculture related activities. Recently, the area has been the beneficiary of numerous newly constructed agricultural processing plants. Produce is shipped to these facilities from the fields and is then processed, packaged, and stored for market distribution. The YMPO region has been identified as a prime location for long-term development of agricultural based processing and other industrial activities. It has a well-developed transportation system including I-8, the UPRR Sunset Route, and YIA.

Industrial and commerce centers are typically located near major transportation facilities. The YMPO region is strategically located at the crossroads of California, Arizona, and Sonora, Mexico. This location puts the region within a one-day truck haul of over 50 million consumers via I-8 and US 95. The dual POEs in San Luis provide incentives for the development of distribution centers to support warehouse storage of export and import goods. Seventeen major trucking companies are located in the YMPO region and NAFTA is becoming the vehicle for the international trade envisioned. Land ports open the door for future goods movement between Arizona and Sonora and will increase demand for an even more dynamic warehouse/distribution logistics formula for the YMPO region.



Port of Long Beach, California
(Source: http://en.wikipedia.org/wiki/Intermodal_freight_transport)

Modal Integration and Access

Key requirements for the development of inland ports are the modal integration of rail and truck freight services and access to the interstate highway system for truck shipments. The UPRR Sun-

set Route passes through the YMPO region and links 23 states in the western U.S. with links to railroads serving the eastern U.S. and Canada. UPRR is the only railroad serving six international gateways to Mexico, made possible by operating agreements with Ferromex. UPRR is in the process of double-tracking the Sunset Route, which will increase freight capacity and access to the YMPO region. Connections with major ports and freight transfer points in Los Angeles and El Paso provide an ideal opportunity for investments to advance the concept of an inland port with associated warehousing and distribution centers.

The Yuma County Rail Corridor Study

The Yuma County Rail Corridor Study has advanced the inland port concept in the YMPO region through recommendations for improving rail access and the evaluation of methods for maximizing import and export options, particularly with Mexico. This study involved the investigation of alternatives for creating an industrial park on the UPRR Sunset Route and a linkage of the UPRR Sunset Route with Ferromex in Mexico. The study also identified ways to improve rail freight service and access in the YMPO region and evaluated methods for supporting economic development through improvements to freight handling and movement.

Regional Needs and Projects

Site Selection and Land Planning

The Yuma County Rail Corridor Study has identified two potential sites for an inland port facility. Additional work is needed to evaluate potential industrial sites and identify requirements for road access, site infrastructure, and accommodation of rail freight infrastructure and services. New zoning or rezoning may be necessary.

Yuma County Rail Corridor Study Recommendations

The recommendations of the Yuma County Rail Corridor Study should be implemented as appropriate and include assessment of the economic costs and benefits of constructing a rail line to access an industrial park in San Luis, assessment of the economic costs and benefits of constructing a rail spur to an industrial park in Wellton, and evaluation of developing a rail linkage with Ferromex in Mexico.

NAFTA/CANAMEX Support Elements

Collaboration and cooperation with Sonora industrial and commercial entities should continue in order to identify transportation and facility needs that will support expansion of the warehousing and distribution functions in the YMPO region. Partnerships with USDOT, ADOT, and Caltrans should be expanded with respect to master planning of border area transportation facilities.

Commercial and Industrial Site Development

GYEDC's GIS-based website provides a one-stop source for corporate site selection data, economic/demographic research results, and quality of life information for prospective businesses. GYEDC has developed a dynamic, interactive website that can examine the location and attributes of commercial and industrial sites in the YMPO region. GYEDC offers a portal to the YMPO region's business activity, available to interested individuals and corporations around the world. Actions to maintain and update this site with appropriately located sites will yield benefits beyond the traditional practice of industrial development.

A large, spherical radar dome is mounted on a tall, complex metal lattice tower. The scene is set at sunset, with a vibrant orange and red sky transitioning into a deep blue. In the foreground, a barbed wire fence runs across the frame. The entire image is framed by a decorative yellow border with square cutouts at the corners.

Chapter 8

Implementation

IMPLEMENTATION

Implementation Plan Overview

Separate implementation plans are presented for three transportation elements: roadway, transit, and aviation. Revenues at the federal and state level for these elements are associated with distinct funding sources and funding requirements and are not transferable except in special cases. The roadway system implementation plan encompasses all RTP elements not specifically covered by the transit and aviation implementation plans. The roadway system implementation plan is the focus of the 2018-2041 RTP, as the roadway element is the most comprehensive of the three and YMPO member jurisdictions have control over the allocation of the revenues associated with roadway. This chapter also discusses the impact of planned roadway improvements on air quality in the region.

Roadway Capital Improvements

Revenue Projections for Capital Improvements

A roadway transportation system investment approach was selected in collaboration with the YMPO RTP-TAC and is fiscally constrained, meaning the level of investment serves as a “budget” for federal transportation funding that is projected to be available to the region through 2041.

Future capital improvement revenues were based on data from ADOT and local agency budget documents. The federal program funding estimates are based on a combination of historical trends and anticipated future availability. Estimate revenues for capital improvements are summarized in Table 8.1. Revenue sources include:

- ❖ Yuma County Highway User Revenue Funds (HURF) – HURF funds include gasoline and use fuel taxes, motor carrier fees, vehicle license taxes, motor vehicle registration fees, and other miscellaneous fees that are distributed to states, counties, and incorporated jurisdictions based on population and fuel sales.
- ❖ Yuma County Vehicle License Tax (VLT) – Arizona charges a VLT in lieu of a personal property tax on vehicles. This is the Yuma County share of this tax.
- ❖ City of Yuma Road Tax – This is a local one-half percent sales tax approved by voters in 1994 for maintenance and construction of roadways.
- ❖ Federal Surface Transportation Block Grant Program (STBG) – This program provides flexible funding that may be used by states and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway; bridge and tunnel projects on any public road; pedestrian and bicycle infrastructure; and transit capital projects, including intercity bus terminals. An average level of funding was assumed per year, based on the funding in the FY 2014-2018 Transportation Improvement Program. The average funding level was increased by 3.5% per year.
- ❖ Off-System Bridge Funds - ADOT Off-System Bridge Funding for bridge work on a minor collector or local road. Off-System bridge funds are used for replacement of structurally deficient or functionally obsolete bridges or for rehabilitation of bridge structures on a public road functionally classified as local or rural minor collector.

- ❖ An average level of funding was assumed per year, based on the funding in the 2014-2018 Transportation Improvement Program. The average funding level was increased by 3.5% per year.
- ❖ Federal Transportation Alternatives Program (TAP) – The FAST Act eliminated the previous TAP and replaced it with a set-aside of Surface Transportation Block Grant program funding for transportation alternatives. To be conservative, only previously awarded funds are assumed in this plan.
- ❖ Federal Highway Safety Improvement Program (HSIP) – This program is focused on funding improvements to reduce traffic fatalities and serious injuries. Funding is awarded through an ADOT application-based process. To be conservative, only previously awarded funds are assumed in this plan.
- ❖ Developer Participation – Developer participation includes development impact fees, improvement districts, and privately-financed transportation infrastructure that is dedicated for public use. Developer participation is based on an assumed annual average that was developed in the previous RTP from jurisdiction input. The average annual revenue amount was increased by 3.5% per year.

Source	Estimated Revenues (\$) for Capital Improvements					
	2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Total, 2018-2041
Yuma County Highway User Revenue Fund	\$8,325,228	\$9,887,760	\$11,743,557	\$13,947,661	\$13,020,579	\$56,924,785
Yuma County Vehicle License Tax	\$6,105,167	\$7,251,024	\$8,611,942	\$10,228,285	\$9,548,425	\$41,744,842
City of Yuma Road Tax	\$15,559,396	\$17,178,831	\$34,578,938	\$38,177,942	\$33,384,080	\$138,879,187
Federal Surface Transportation Program	\$5,559,201	\$6,647,246	\$7,894,843	\$9,376,597	\$8,753,348	\$38,231,235
Off-system Bridge Funding	\$5,686,077	\$5,533,275	\$6,571,795	\$7,805,231	\$7,286,427	\$32,882,804
Federal Transportation Alternatives Program	\$2,131,826	\$2,000,000	\$2,000,000	\$2,000,000	\$1,600,000	\$9,731,826
Federal Highway Safety Improvement Program	\$1,411,919	\$2,000,000	\$2,000,000	\$2,000,000	\$1,600,000	\$9,011,919
Developer Participation	\$16,087,398	\$19,106,782	\$22,692,863	\$26,952,003	\$25,160,539	\$109,999,585
Total Anticipated Available Revenue	\$60,866,212	\$69,604,917	\$96,093,938	\$110,487,719	\$100,353,398	\$437,406,183

Table 8.1 – Estimated 2018-2041 YMPO Region Revenues for Capital Improvements

Sources:

- Arizona Highway User Revenue Fund Forecasting Process and Results, FY 2016-FY 2025
- ADOT Office of Financial Planning FY 2015 HURF Distribution to Cities and Counties
- City of Yuma Comprehensive Annual Financial Report, fiscal year ending June 30, 2015 and City of Yuma CIP Administrator
- Yuma County Comprehensive Annual Financial Report for fiscal year ending June 30, 2015
- TAC member review comments

Recommended Roadway Capital Improvement Projects

Roadway capital improvement projects were based on an assessment of needs. Projects were grouped by the YMPO member jurisdictions likely to be the lead agency in implementing the projects. Project priorities were developed using input from TAC members and the public. Priorities considered the following goals:

- ❖ Address safety
- ❖ Address congestion
- ❖ Preserve existing infrastructure
- ❖ Improve system continuity and efficiency
- ❖ Promote economic development
- ❖ Encourage multimodal travel
- ❖ Improve air quality

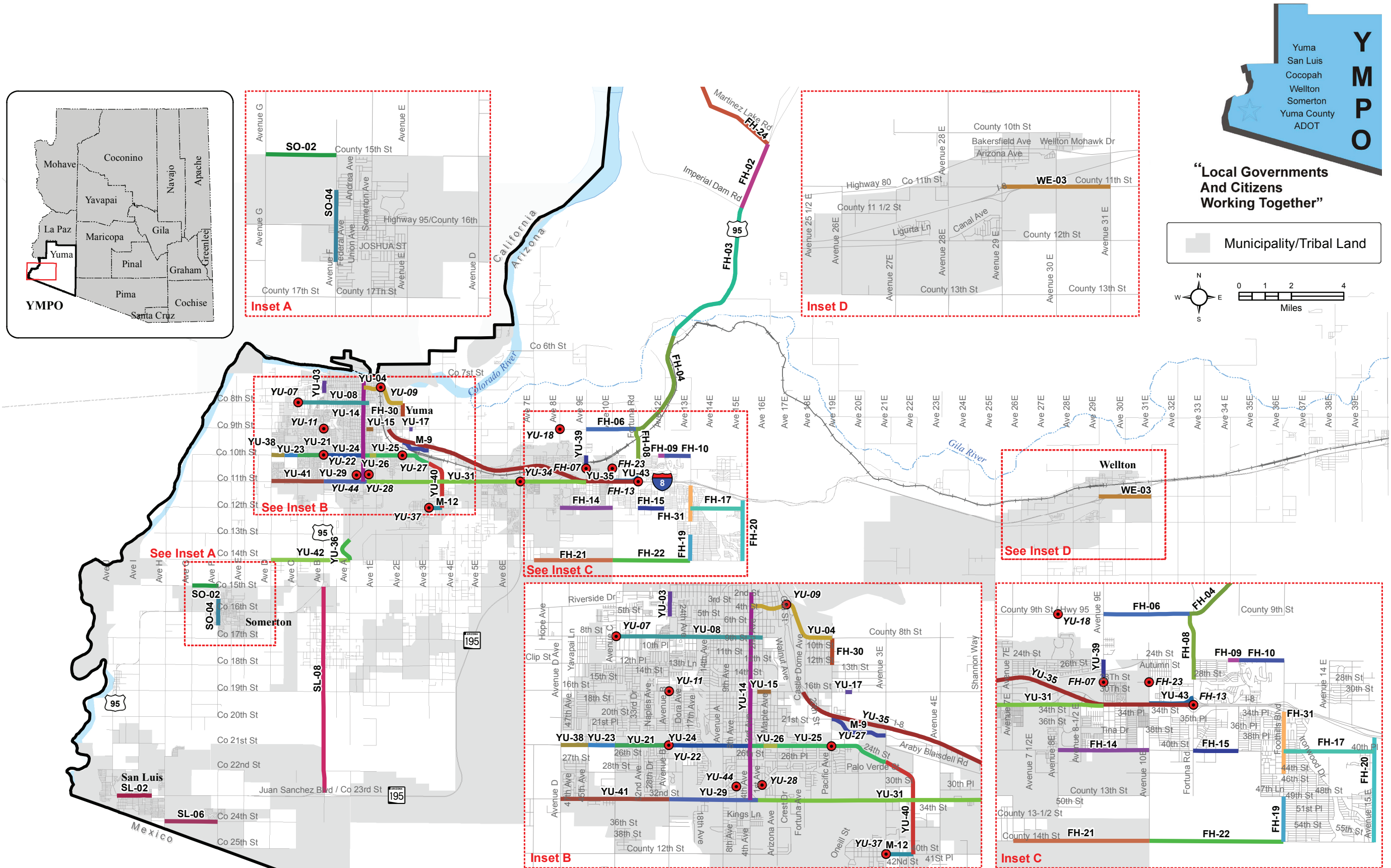
The project implementation was assigned to one or more of the following time periods, based on TAC input and available funding:

- ❖ 2018-2022
- ❖ 2023-2027
- ❖ 2028-2032
- ❖ 2033-2037
- ❖ 2038-2041

The recommended roadway capital improvement projects are mapped in *Figure 8.1*.

Tables 8.2 through 8.8 provide a more detailed summary of each project by jurisdiction. These tables include costs, implementation time frames, and project descriptions. It should be noted that ADOT Southwest District Projects are shown for information purposes, as these projects are not funded through the YMPO.

Planning level cost estimates were developed for each project. Project costs include planning, design, construction, and in some cases right-of-way costs. Summary sheets were developed for each project, as well as an Excel spreadsheet summarizing project costs. This information was developed to provide a reference resource for future project development. The costs are subject to refinement as projects advance through project development. Summary sheets and cost estimates are provided in the Appendix (under separate cover).



Note: Colors are used to distinguish the starting and ending points of improvements

Figure 8.1 – Recommended Roadway Capital Improvement Projects, 2018-2041 (Source: Kimley-Horn)



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Area-Project No.	City of Yuma – Recommended Roadway Capital Projects							RTP Period							Factored Cost (Million \$)	RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	\$/Cost by Timeframe						Factored Cost by Timeframe									
					Old	New		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded	2018-2022		2023-2027	2028-2032	2033-2037	2038-2041	Unfunded			
								1	2	3	4	5	UF	1		2	3	4	5	UF			
N/A	Traffic Signals/ITS Devices	Citywide	COY	-	-	-	7.40	2.5	1.9	1.0	1.0	1.0	0.0	11.5	2.5	2.7	1.7	2.1	2.5	0.0	This project will implement city wide traffic signals/ITS devices within the City of Yuma. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041).		
N/A	Misc. Widening/Imp.	Citywide	COY	-	-	-	11.00	3.0	2.0	2.0	2.0	2.0	0.0	18.4	3.0	2.8	3.5	4.2	4.9	0.0	This project will widen/improve miscellaneous roadway segments within the City of Yuma. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041).		
N/A	Misc. Pedestrian/Bicycle Imp.	Citywide	COY	-	-	-	7.00	2.0	1.0	1.0	1.0	2.0	0.0	12.1	2.0	1.4	1.7	2.1	4.9	0.0	This project will implement city wide pedestrian/bicycle improvements within the City of Yuma. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041).		
YU-04	Giss Parkway/8th St. Safety Imp.	4th Ave. to Pacific Ave./12th St.	COY	3.80	-	-	5.20	5.2	-	-	-	-	0.0	5.2	5.2	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to Giss Parkway/8th Street from 4th Avenue to Pacific Avenue/12th Street. This project is phased for the period 2018-2022. This project includes the following components: <ul style="list-style-type: none"> Giss Parkway/1st Avenue intersection Improvements – roundabout Widen 8th Street from 2 to 4 lanes between Pacific Avenue and existing 4-lane section 		
YU-25	24th St. Safety Imp.	4th Ave. to Ave. 3E	COY	2.50	-	-	2.00	1.3	0.7	-	-	-	0.0	2.3	1.3	1.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to 24th Street from 4th Avenue to Avenue 3E. This project is phased for the period 2018-2022. Per RSA, this project includes street lighting, curve protection, chevron installation, cross walk enhancements, and sidewalk improvements.		
YU-27	Pacific Ave./24th St. Intersection Improvement	Pacific Ave./24th St.	COY	-	-	-	2.00	2.0	-	-	-	-	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to the Pacific Avenue/24th Street intersection. This project is phased for the time period of 2018-2022. The safety improvements include additional turn lanes, two traffic signal pole relocations, and right-of-way acquisition.		
YU-36	Airport Loop Safety Imp.	4th Ave. Extension to County 14th	COY	1.50	2	2	3.00	2.0	1.0	-	-	-	0.0	3.4	2.0	1.4	0.0	0.0	0.0	0.0	This project will provide safety improvements to Airport Loop from 4th Avenue Extension to County 14th Street. This project is phased for multiple time periods (Phase 1: 2018- 2022, Phase 2: 2023-2027). The project includes shoulder improvements, intersection improvements at Avenue A and paving improvements.		
YU-37	Ave. 3E/40th St. Safety Imp.	Ave. 3E/40th St.	COY	-	-	-	2.00	2.0	-	-	-	-	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to Avenue 3E/40th Street intersection. This project is phased for the period 2018-2022. Project includes evaluating the need for a traffic signal and the addition of turn lanes, lighting, and sidewalk improvements.		
YU-10	Corridor Safety Studies	8th St., Ave. B, 16th St., Ave. 3E, 4th Ave	COY	-	-	-	0.50	0.5	-	-	-	-	0.0	0.5	0.5	0.0	0.0	0.0	0.0	0.0	This project will provide a safety study for 8th Street, Avenue B, 16th Street, Avenue 3E, and 4th Avenue corridors. This project is phased for the period 2018-2022.		
YU-11	Ave. B/16th St. Safety Imp.	Ave. B/16th St.	COY	-	-	-	4.00	3.0	1.0	-	-	-	0.0	4.4	3.0	1.4	0.0	0.0	0.0	0.0	This project will provide safety improvements to Avenue B/16th Street intersection. This project is phased for multiple periods (Phase 1: 2018-2022, Phase 2: 2023-2027). The project includes construction of dual left turn lanes eastbound and westbound, construction of right turn lanes on three approaches, and right of way acquisition to the north.		
YU-26	24th St. Widening	1st Ave. to Arizona Ave.	COY	0.25	4	6	9.00	5.0	4.0	-	-	-	0.0	10.7	5.0	5.7	0.0	0.0	0.0	0.0	This project will widen 24th Street from four to six lanes from 1st Avenue to Arizona Avenue. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027).		
YU-22	Ave. B/24th St. Safety Imp.	Ave. B/24th St.	COY	-	-	-	3.30	2.0	1.3	-	-	-	0.0	3.9	2.0	1.9	0.0	0.0	0.0	0.0	This project will provide safety improvements to Avenue B/24th Street intersection. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027). The safety improvements include two right turn, one through left turn lanes, and traffic signal upgrades.		
YU-21	24th St. Widening	Ave. C to Ave. B	COY	1.00	2	4	5.00	3.0	2.0	-	-	-	0.0	5.8	3.0	2.8	0.0	0.0	0.0	0.0	This project will widen 24th Street from two to four lanes from Avenue C to Avenue B. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027).		

Table 8.2 – City of Yuma Roadway Capital Improvement Projects, 2018-2041
 (Source: Kimley-Horn)

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Area-Project No.	City of Yuma – Recommended Roadway Capital Projects							RTP Period							RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	1	2	3	4	5	UF	1	2	3	4	5	UF			
					Old	New		\$/Cost by Timeframe							Factored Cost by Timeframe							
					2018-2022	2023-2027		2028-2032	2033-2037	2038-2041	Unfunded	2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded					
FH-14	40th St. Paving	Ave. 8E to Ave. 10E	COY/ YC	2.00	-	2	7.00	7.0	0.0	0.0	-	-	-	7.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	This project will pave 40th Street from Avenue 8E to Avenue 10E. This project is phased for the period 2018-2022.
YU-15	16th St. Widening	3rd Ave. to Maple Ave.	COY	0.20	4	6	2.40	2.4	0.0	0.0	0.0	0.0	-	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	This project will widen 16th Street from four to six lanes from 3rd Avenue to Maple Avenue. This project is phased for the period 2018-2022.
YU-14	4th Ave. Safety Imp.	1st St. to 32nd St.	COY	4.00	-	-	2.90	2.9	-	-	-	-	-	2.9	2.9	0.0	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to 4th Avenue from 1st Street to 32nd Street. This project is phased for the period 2018-2022. This project includes traffic signal upgrades, a HAWK signal at 4th Avenue and 13th Street, pork chop medians at 4th Avenue and 13th Street, and LED lighting from 1st Street to 14th Street.
YU-28	Catalina Dr/1st Ave. Safety Imp.	Catalina Dr/1st Ave.	COY	0.50	-	-	0.25	0.3	-	-	-	-	-	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	This project will provide drainage improvements and lighting at the Catalina Drive/1st Avenue intersection. This project is phased for the period of 2018-2022.
YU-44	Catalina Dr/8th Ave. Safety Improvements	Catalina Dr/8th Ave.	COY	0.50	-	-	0.40	0.4	-	-	-	-	-	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	This project will evaluate the need for a roundabout or a traffic signal at the Catalina Drive/8th Avenue intersection. This project is phased for the period 2018-2022.
YU-02	Road Safety Assessments	3rd St., 8th St., 16th St., 1st Ave., 4th Ave.	COY	-	-	-	0.90	0.9	-	-	-	-	-	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	This project will provide Road Safety Assessments to 3rd Street, 8th Street, 16th Street, 1st Avenue, and 4th Avenue corridors. This project is phased for the period 2018-2022.
YU-08	8th St. Safety Imp.	Ave. C to 1st Ave.	COY	2.80	-	-	1.50	-	1.5	-	-	-	-	2.1	0.0	2.1	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to 8th Street from Avenue C to 1st Avenue. This project is phased for the period 2023-2027. The improvements include lighting and signal upgrades at Avenue C intersection.
FH-07	28th St./Ave. 9E Safety Imp.	28th St./Ave. 9E	COY	0.50	-	-	0.35	-	0.4	-	-	-	-	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to 28th Street/Avenue 9E intersection. This project is phased for the period 2023-2027. This project includes widening 28th Street, possibly a roundabout at this location.
YU-23	24th St. Widening	Ave. C to 45th Ave.	COY	0.50	2	4	2.00	-	2.0	-	-	-	-	2.8	0.0	2.8	0.0	0.0	0.0	0.0	0.0	This project will widen 24th Street from two to four lanes from Avenue C to 45th Avenue. This project is phased for the period 2023-2027.
YU-24	24th St. Safety Imp.	Ave. C to 4th Ave.	COY	2.50	-	-	1.20	-	1.2	-	-	-	-	1.7	0.0	1.7	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to 24th Street from Avenue C to 4th Avenue. This project is phased for the period 2023-2027. The improvements include street lighting and access control improvements.
YU-38	24th St. Paving	45th Ave. to Ave. D	COY	0.50	2	2	2.00	-	2.0	-	-	-	-	2.8	0.0	2.8	0.0	0.0	0.0	0.0	0.0	This project will pave 24th Street from 45th Avenue to Avenue D. This project is phased for the period 2023-2027.
YU-39	Ave. 9E RR crossing (underpass)	24th St. to 28th St.	COY	0.50	2	2	17.40	0.0	2.8	4.2	10.4	0.0	-	33.2	0.0	4.0	7.2	22.0	0.0	0.0	0.0	This project will construct an underpass for Avenue 9E Railroad crossing. This project is phased for multiple time periods (Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037)
YU-40	Ave. 3 1/2 E Paving	Ave. 3E/24th St. to 40th St.	COY	0.75/1.25	0/2	2/4	9.00	-	2.0	3.0	4.0	-	-	16.4	0.0	2.8	5.2	8.4	0.0	0.0	0.0	This project involves constructing 0.75 miles of new road and widening 1.25 miles of roadway. This project is phased for multiple time periods (Phase 2: 2023-2027, Phase 3: 2028-2032, and Phase 4: 2033- 2037).
YU-29	32nd St. Widening	Ave. B to 32nd St. connection	COY	1.50	4	6	10.50	-	-	5.7	2.8	2.0	-	20.7	0.0	0.0	9.9	5.9	4.9	0.0	0.0	This project will widen 32nd Street from four to six lanes from Avenue B to 32nd Street connection. This project is phased for multiple time periods (Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041)
FH-23	28th St./Ave. 10E Safety Imp.	28th St./Ave. 10E	COY	0.50	-	-	0.35	-	-	0.4	-	-	-	0.6	0.0	0.0	0.6	0.0	0.0	0.0	0.0	This project will provide safety improvements to 28th Street/Avenue 10E intersection. This project is phased for the period 2028-2032. Improvements include sidewalks, lighting, asphalt reconstruction, and pedestrian enhancements.

Table 8.2 Continued – City of Yuma Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

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Area-Project No.	City of Yuma – Recommended Roadway Capital Projects							RTP Period							RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	\$/Cost by Timeframe						Factored Cost (Million \$)	Factored Cost by Timeframe							
					Old	New		1	2	3	4	5	UF		1	2	3	4	5	UF		
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		
YU-07	Ave. C/8th St. Safety Imp.	Ave. C/8th St.	COY	-	-	-	2.00	-	-	1.0	1.0	-	-	3.8	0.0	0.0	1.7	2.1	0.0	0.0	This project will provide safety improvements to Avenue C/8th Street intersection. This project is phased for multiple time periods (Phase 3: 2028-2032, Phase 4: 2033-2037). Improvements include adding turn lanes, signal improvements, and lighting.	
YU-31	32nd St. Safety Imp.	4th Ave. to Ave. 9E	COY	9.00	-	-	1.60	-	-	-	1.6	-	-	3.4	0.0	0.0	0.0	3.4	0.0	0.0	This project will provide safety improvements to 32nd Street from 4th Avenue to Avenue 9E. This project is phased for the period 2033-2037. This project is to prepare a DCR and safety study for project scoping.	
YU-17	16th St. Safety Imp.	Alamo Dr to Engler Ave.	COY	2.60	-	-	4.30	-	-	-	1.0	3.3	-	10.2	0.0	0.0	0.0	2.1	8.1	0.0	This project will provide safety improvements to 16th Street from Alamo Drive to Engler Avenue. This project is phased for the period 2033-2037. Project includes shoulder improvements, lighting, access control, and evaluation of 16th Street/Engler Avenue traffic control.	
YU-41	32nd St. Widening	Ave. B to Ave. D	COY	2.00	2	3	8.00	-	-	-	4.0	4.0	-	18.3	0.0	0.0	0.0	8.4	9.9	0.0	This project will widen 32nd Street from two to three lanes from Avenue B to Avenue D. This project is phased for multiple time periods (Phase 4: 2033-2037, Phase 5: 2038-2041).	
M-12	40th St.	Ave. 3E to Ave. 31/2 E	COY/ YC	0.50	2 and 3	4	2.50	-	2.5	-	-	-	-	3.6	0.0	3.6	0.0	0.0	0.0	0.0		
FH-21	Co. 14th St. Paving Dirt Road	Ave. 7E to Ave. 10E	COY/ YC	3.00	-	2	6.00	-	-	-	3.8	2.2	-	13.4	0.0	0.0	0.0	7.9	5.5	0.0	This project will pave Co. 14th Street from Avenue 7E to Avenue 10E. This project will be phased for multiple time periods (Phase 4: 2033-2037, Phase 5: 2038-2041).	
M-9	Gila Ridge Rd	Pacific Ave. to Ave. 3E	COY/ YC	1.10	2	4	5.50	-	-	5.5	-	-	-	9.5	0.0	0.0	9.5	0.0	0.0	0.0		
M-1	Airport Loop	4th Ave. to 56th St. (Cty 14th St.)	COY	1.70	2	4	8.50	-	-	8.5	-	-	-	14.7	0.0	0.0	14.7	0.0	0.0	0.0		
M-2	16th St. Widening	17th Ave. to Elks Ave.	COY	0.20	4	6	1.40	-	-	1.4	-	-	-	2.4	0.0	0.0	2.4	0.0	0.0	0.0		
Total Cost (Million \$)							159.4	47.4	29.2	33.6	32.6	16.5	0.0	256.2	47.4	41.4	58.1	68.6	40.7	0.0		

Table 8.2 Continued – City of Yuma Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

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Area-Project No.	Yuma County – Recommended Roadway Capital Projects							RTP Period							RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	1	2	3	4	5	UF	1	2	3	4	5	UF			
					Old	New		\$/Cost by Timeframe						Factored Cost by Timeframe								
					2018-2022	2023-2027		2028-2032	2033-2037	2038-2041	Unfunded	2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded					
SO-02	Co. 15th St. Safety and Hazard Elimination	Ave. G to Ave. F	YC/ COC	1.00	-	2	0.5	0.5	0.0	0.0	0.0	0.0	-	0.5	0.5	0.0	0.0	0.0	0.0	0.0	This project is a safety and hazard elimination project. This project is phased for the period 2018-2022.	
SL-08	Ave. B Widening*	Co. 15th St. to SR 195	YC/SL	7.00	2	4	37.8	2.8	-	-	-	-	35.0	89.1	2.8	0.0	0.0	0.0	0.0	86.3	This project will widen Avenue B from two to four lanes from Co. 15th Street to SR 195. This project is phased for the period 2018-2022.	
FH-15	Co. 12th St. Widening	Fortuna Rd. to Ave. 12E	YC	1.00	2	4	5.0	-	5.0	-	-	-	-	7.1	0.0	7.1	0.0	0.0	0.0	0.0	This project will widen Co. 12th Street from two to four lanes from Fortuna Road to Avenue 12E. This project is phased for the period 2023-2027.	
FH-17	Co. 12th St. Road Extension	Foothills Blvd. to Ave. 15E	YC	1.50	0	2	6.7	0.0	6.7	0.0	0.0	0.0	-	9.5	0.0	9.5	0.0	0.0	0.0	0.0	This project will widen Co. 12th Street from two to four lanes from Foothills Boulevard to Avenue 15E. This project is phased for the period 2023-2027.	
FH-09	24th St. Paving Dirt Road	Universe Ave. to Camino del Sol	YC	0.50	-	2	1.0	-	-	1.0	-	-	-	1.7	0.0	0.0	1.7	0.0	0.0	0.0	This project will pave 24th Street from Universe Avenue to Camino del Sol. This project is phased for the period 2028-2032.	
FH-19	Foothills Blvd. Widening	Co. 13th St. to Co. 14th St.	YC	1.00	2	4	5.0	-	-	5.0	-	-	-	8.7	0.0	0.0	8.7	0.0	0.0	0.0	This project will widen Foothills Boulevard from two to four lanes from Co. 13th Street to Co. 14th Street. This project is phased for the period 2028-2032.	
FH-08	Fortuna Rd. Widening	US 95 to 28th St.	YC	1.50	2/3	4	6.0	-	-	3.8	2.2	-	-	11.2	0.0	0.0	6.6	4.6	0.0	0.0	This project will widen Fortuna Road from two to four lanes from US 95 to 28th Street. This project is phased for multiple time periods (Phase 3: 2028-2032, Phase 4: 2033-2037).	
YU-03	Ave. B Safety Improvements	1st St. to 5th St.	YC/ COY	0.50	-	-	0.5	-	-	-	0.5	-	-	1.1	0.0	0.0	0.0	1.1	0.0	0.0	This project provides safety improvements to Avenue B from 1st Street to 5th Street. This project is phased for the period 2033-2037.	
FH-22	Co. 14th St. Paving Dirt Rd.	Ave. 10E to Ave. 13E	YC	3.00	-	2	6.0	-	-	-	6.0	-	-	12.6	0.0	0.0	0.0	12.6	0.0	0.0	This project will pave Co. 14th Street from Avenue 10E to Avenue 13E. This project is phased for the period 2033-2037.	
FH-10	24th St. Paving Dirt Road	Camino del Sol to Foothills Blvd.	YC	1.30	-	2	2.6	-	-	-	2.6	-	-	5.5	0.0	0.0	0.0	5.5	0.0	0.0	This project will pave 24th Street from Camino del Sol to Foothills Boulevard. This project will be phased for the period 2033-2037.	
FH-30	Pacific Avenue Widening	Co. 8th St to City 12th St	YC/ COY	0.50	2	4	2.0	0.0	2.0	0.0	0.0	0.0	-	2.8	0.0	2.8	0.0	0.0	0.0	0.0	This project will widen Pacific Avenue from County 8th St to City 12th St from 2 to 4 lanes. This project will be phased for the time period 2023-2027.	
FH-20	Ave. 15E Widening	S. Frontage Rd. to Co. 14th St.	YC	2.50	2	4	12.5	-	-	-	-	12.5	-	30.8	0.0	0.0	0.0	0.0	30.8	0.0	This project will widen Avenue 15E from two to four lanes from S. Frontage Road to Co. 14th Street. This project will be phased for the period 2038-2041.	
FH-24	Martinez Lake Rd. overlay	US 95 to MP 4.3	YC	4.30	2	2	1.8	1.8	0.0	0.0	0.0	0.0	-	1.8	1.8	0.0	0.0	0.0	0.0	0.0	This project will overlay Martinez Lake Road from US 95 to MP 4.3. This project will be phased for the period 2018-2022.	
YU-42	Co. 14th St. Overlay	Ave. A to Ave. D	YC	3.00	2	2	1.3	1.3	-	-	-	-	-	1.3	1.3	0.0	0.0	0.0	0.0	0.0	This project will overlay Co.14th Street from Avenue A to Avenue D. This project will be phased for the period 2018-2022.	
YU-43	North I-8 Frontage Rd.	Ave. 10E to 11 E	YC	1.00	2	4	5.0	5.0	-	-	-	-	-	5.0	5.0	0.0	0.0	0.0	0.0	0.0	This project will widen I-8 Frontage Road from two to four lanes from Avenue 10E to Avenue 11E. This project will be phased for the period 2018-2022.	
FH-31	Foothill Blvd Mill and Overlay	S. Frontage Road to 44th St	YC	1.50	4	4	2.0	-	-	-	-	2.0	-	4.9	0.0	0.0	0.0	0.0	4.9	0.0	This project will overlay Foothills Blvd from the South Frontage Road to 44th Street. This project will be phased in the time period from 2038 to 2041.	
Total Cost (Million \$)							60.7	11.4	13.7	9.8	11.3	14.5	35.0	107.3	11.4	19.4	17.0	23.8	35.7	86.3		

Table 8.3 – Yuma County Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

*Note: An estimated \$35 million (\$86.3 Million factored cost) of this project is unfunded.

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Area-Project No.	San Luis – Recommended Roadway Capital Projects							RTP Period							RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	\$/Cost by Timeframe						Factored Cost (Million \$)	Factored Cost by Timeframe							
					Old	New		1	2	3	4	5	UF		1	2	3	4	5	UF		
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		
SL-06	Co. 24th St. Paving Dirt Rd.	Ave. H to Ave. F	SL	2.00	-	2	4	4	-	-	-	-	-	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	This project will pave Co. 24th Street from Avenue H to Avenue F. This project will be phased to for the period 2018-2022.
SL-02	Juan Sanchez Blvd. Widening	Main St./US 95 to 8th Ave.	SL	1.50	2/3	4	4.8	0.8	4	-	-	-	-	6.5	0.8	5.7	0.0	0.0	0.0	0.0	0.0	This project will widen Juan Sanchez Boulevard from two to four lanes from Main Street/US 95 to 8th Avenue. This project will be phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027).
Total Cost (Million \$)							8.8	4.8	4.0	0.0	0.0	0.0	0.0	10.5	4.8	5.7	0.0	0.0	0.0	0.0		

Table 8.4 – City of San Luis Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

Area-Project No.	Somerton – Recommended Roadway Capital Projects							RTP Period							RTP Period							Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes		Cost (Million \$)	\$/Cost by Timeframe						Factored Cost (Million \$)	Factored Cost by Timeframe							
					Old	New		1	2	3	4	5	UF		1	2	3	4	5	UF		
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		
N/A	Misc. Pedestrian/Bicycle Imp.	Citywide	SO	-	-	-	1.6	1.6	-	-	-	-	-	1.6	1.6	0.0	0.0	0.0	0.0	0.0	0.0	This project will implement citywide pedestrian/bicycle improvements within the City of Somerton. This project is phased for the period 2018-2022.
SO-04	Ave. F (Cesar Chavez Ave.) Widening	Co. 15 1/2 St. to Co. 16 1/2 St.	SO	0.50	2	4	5	0.3	1.9	1.8	1	-	-	8.2	0.3	2.7	3.1	2.1	0.0	0.0	0.0	This project will widen Avenue F (Cesar Chavez Avenue) from two to four lanes from Co. 15 1/2 Street to Co. 16 1/2 Street. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037).
N/A	Misc. Widening/Imp.	Citywide	SO	-	-	-	0.3	0.3	-	-	-	-	-	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	This project will widen/improve miscellaneous roadway segments within the City of Somerton. This project is phased for the period 2018-2022.
M-38	Main St. (additional studies needed)	Somerton Ave. to Bingham Ave.	SO	0.40	-	-	0.2	0.2	-	-	-	-	-	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	Study
M-39	Main St. (Co 16th St.) additional studies needed)	Union Ave. to Somerton Ave.	SO	0.20	-	-	0.2	0.2	-	-	-	-	-	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	Study
Total Cost (Million \$)							7.3	2.6	1.9	1.8	1.0	0.0	0.0	10.5	2.6	2.7	3.1	2.1	0.0	0.0		

Table 8.5 – City of Somerton Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

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Area-Project No.	Wellton – Recommended Roadway Capital Projects						Cost (Million \$)	RTP Period						Factored Cost (Million \$)	RTP Period						Project Description	
	Project	Limits	Agency	Length (Miles)	Through Lanes			\$/Cost by Timeframe							Factored Cost by Timeframe							
					Old	New		1	2	3	4	5	UF		1	2	3	4	5	UF		
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		
WE-03	Co. 11th St. Paving Dirt Rd.	Ave. 29E to Ave. 31E	W	2.00	-	2	4	-	1	1	1	1	1	-	7.7	0.0	1.4	1.7	2.1	2.5	0.0	This project will pave Co. 11 Street. from Avenue 29E to Avenue 31 E. This project is phased for multiple time periods (Phase 1: 2023-2027, Phase 2: 2028-2032, Phase 3: 2033-2037, Phase 4: 2038-2041).
Total Cost (Million \$)							4.0	0.0	1.0	1.0	1.0	1.0	0.0	7.7	0.0	1.4	1.7	2.1	2.5	0.0		

Table 8.6 – Town of Wellton Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

Area-Project No.	Cocopah – Recommended Roadway Capital Projects						Cost (Million \$)	RTP Period						Factored Cost (Million \$)	RTP Period						Project Description
	Project	Limits	Agency	Length (Miles)	Through Lanes			\$/Cost by Timeframe							Factored Cost by Timeframe						
					Old	New		1	2	3	4	5	UF		1	2	3	4	5	UF	
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded	
Misc. Widening/ Imp.	Reservation wide	COC	-	-	-	0.5	0.2	0.17	0.1	0.1	0.1	-	1.0	0.2	0.2	0.2	0.2	0.2	0.0		These are road widening and improvement projects. The specific locations and improvements are to be determined.
Misc. Pedestrian/ Bicycle Imp.	Reservation wide	COC	-	-	-	0.6	0.1	0.17	0.1	0.12	0.12	-	1.1	0.1	0.2	0.2	0.3	0.3	0.0		These are pedestrian and bicycle improvement projects. The specific locations and improvements are to be determined.
Total Cost (Million \$)							1.3	0.3	0.3	0.2	0.2	0.2	0.0	2.1	0.3	0.4	0.4	0.5	0.5	0.0	

Table 8.7 – Cocopah Tribe Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

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Area-Project No.	ADOT – Recommended Roadway Capital Projects						Cost (Million \$)	RTP Period						Factored Cost (Million \$)	RTP Period						Project Description	
	Project	Limits	Agency	Length (Miles)		Through Lanes		S/Cost by Timeframe							Factored Cost by Timeframe							
				Old	New			1	2	3	4	5	UF		1	2	3	4	5	UF		
								2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Unfunded		
YU-18	US 95/Ave. 8E Safety Improvements	US 95/Ave. 8E	ADOT	-	-	-	2.00	2.0	-	-	-	-	-	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to US 95/Avenue 8E intersection. This project is phased for the period 2018-2022.
YU-09	I-8 POE Reconstruction	I-8 POE Site	ADOT	-	-	-	22.50	2.5	-	20.0	-	-	-	37.1	2.5	0.0	34.6	0.0	0.0	0.0	0.0	This project will reconstruct I-8 POE. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 3: 2028-2032).
YU-34	SR 195/32nd St. Safety Imp.	SR 195/32nd St. Intersection	ADOT	-	-	-	2.00	-	2.0	-	-	-	-	2.8	0.0	2.8	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to SR 195/32nd Street intersection. This project is phased for the time period of 2023-2027.
FH-13	I-8/Fortuna Rd. Safety Imp.	I-8/Fortuna Rd. Interchange	ADOT/ YC	-	-	-	4.00	-	4.0	-	-	-	-	5.7	0.0	5.7	0.0	0.0	0.0	0.0	0.0	This project will provide safety improvements to I-8/Fortuna Road interchange This project is phased for the time period of 2023-2027.
FH-06	US 95 Widening	Ave. 9E to Fortuna Rd.	ADOT	2.00	2	4	10.00	-	10.0	-	-	-	-	14.2	0.0	14.2	0.0	0.0	0.0	0.0	0.0	This project will widen US 95 from two to four lanes from Avenue 9E to Fortuna Road. This project is phased for the time period of 2023-2027.
FH-04	US 95 Widening	Fortuna Rd. to Gila River	ADOT	5.00	2	4	24.60	-	24.6	-	-	-	-	35.0	0.0	35.0	0.0	0.0	0.0	0.0	0.0	This project will widen US 95 from two to four lanes from Fortuna Road to Gila River. This project is phased for the period 2023-2027.
FH-03	US 95 Widening	Gila River to Imperial Dam Rd.	ADOT	5.00	2	4	54.20	-	-	20.2	34.0	-	-	106.6	0.0	0.0	35.0	71.6	0.0	0.0	0.0	This project will widen US 95 from two to four lanes from Gila River to Imperial Dam Road. This project is phased for multiple time periods (Phase 3: 2028-2032, Phase 4: 2033-2037).
FH-02	US 95 Widening	Imperial Dam Rd. to Aberdeen Rd.	ADOT	3.00	2	4	14.20	-	-	-	-	14.2	-	35.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0	This project will widen US 95 from two to four lanes from Imperial Dam Road to Aberdeen Road. This project is phased for the period 2038-2041.
N/A	Traffic Signals/ ITS Devices	State Highway System	ADOT	-	-	-	7.40	3.0	1.4	1.0	1.0	1.0	-	11.3	3.0	2.0	1.7	2.1	2.5	0.0	0.0	This project will implement traffic signals/ITS devices along the State Highway System. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041).
N/A	Misc. Widening/Imp.	State Highway System	ADOT	-	-	-	8.90	0.2	2.7	2.0	2.0	2.0	-	16.6	0.2	3.8	3.5	4.2	4.9	0.0	0.0	This project will implement widening improvements along the State Highway System. This project is phased for multiple time periods (Phase 1: 2018-2022, Phase 2: 2023-2027, Phase 3: 2028-2032, Phase 4: 2033-2037, Phase 5: 2038-2041).
YU-35	I-8 Widening	SR 195 to Fortuna Rd.	ADOT	5.00	4	6	38.10	-	-	-	-	3.1	35.0	93.9	0.0	0.0	0.0	0.0	7.6	86.3	0.0	This project will widen I-8 from SR 195 to Fortuna Road. This project is phased for the period 2038-2041.
Total Cost (Million \$)							152.9	7.7	44.7	43.2	37.0	20.3	35.0	273.9	7.7	63.5	74.8	77.9	50.0	86.3		

Table 8.8 – Arizona Department of Transportation Southwest District Roadway Capital Improvement Projects, 2018-2041
(Source: Kimley-Horn)

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Comparison of Costs versus Revenues for Capital Projects

The FHWA/FTA Final Rule on metropolitan transportation planning and programming requires that revenue be reasonably available to cover the project costs of all recommended projects. This means the 2018-2041 RTP must be “fiscally constrained.”

Table 8.9 summarizes estimated project costs by jurisdiction, as compared to projected revenues. The RTP uses an inflation rate to reflect the year of expenditure based on FHWA guidance provided in the document Financial Planning and Fiscal Constraint for Transportation Plans and Programs (2013), which recommends using an inflation rate of four percent per year unless local data suggests a different inflation rate would be more appropriate. An inflation rate of four percent per year was used to estimate future project cost estimates, as reflected in the factored cost estimates previously shown in Tables 8.2 through 8.8.

Overall, there is estimated to be approximately \$43 million more in revenues than project costs. It was determined through discussion with the TAC that this estimated excess revenue could provide a cushion should implementation costs be higher than projected. If additional revenues become available projects can either be advanced or unfunded projects could potentially be implemented. Unfunded projects are summarized in the Appendix under separate cover.

YMPO Member Agency	Total RTP Funded Project Costs, (Million \$)	Total RTP Factored Projects Costs (Million \$)	Estimated Factored Roadway Capital Revenues and Costs by Timeframe					Unfunded Projects
			2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	
City of Yuma	159.4	256.2	47.4	41.4	58.1	68.6	40.7	122.5
Yuma County	60.7	107.3	11.4	19.4	17.0	23.8	35.7	168.7
City of San Luis	8.8	10.5	4.8	5.7	0.0	0.0	0.0	37.5
City of Somerton	7.3	10.5	2.6	2.7	3.1	2.1	0.0	24.6
Town of Wellton	4.0	7.7	0.0	1.4	1.7	2.1	2.5	45.8
Cocopah Indian Tribe	1.3	2.1	0.3	0.4	0.4	0.5	0.5	4.3
Total Estimated Costs for Capital Improvements	241.4	394.3	66.5	71.0	80.3	97.1	79.4	403.4
Total Anticipated Available Revenue	N/A	\$437.4	60.9	69.6	96.1	110.5	100.4	N/A
Difference (Revenues minus capital expenditures)	N/A	\$43.2	(\$5.6)	(\$1.4)	\$15.8	\$13.4	\$21.0	N/A

Note: Costs in 2016 dollars

Table 8.9 – RTP Estimated Capital Expenditures versus Revenues by Time Period
(Source: Kimley-Horn)

Impact of Planned Roadway Improvements on Traffic and Congestion

YMPO's Travel Demand Model (TDM) was developed for the year 2041 "with improvements" to determine how the RTP roadway improvement projects are anticipated to affect regional traffic patterns, traffic volumes, and roadway network performance.

Figure 8.2 shows the year 2041 "with improvements" roadway network in terms of number of through lanes and *Figure 8.3* shows the 2041 "with improvements" roadway network average annual daily traffic volumes. *Figure 8.4* shows the 2041 "with improvements" levels of service for roadways in the YMPO region.

The impact of the roadway improvements on congestion is shown by several measures. *Figure 8.5* compares statistics on miles of roadway near capacity or over capacity, and shows that construction of the planned road improvements will reduce future congestion levels considerably, from 26.0 miles to 4.9 lane miles of roadways operating at LOS E or F in 2041 if the planned roadway improvements are implemented.



*Traffic on the Ocean-to-Ocean Bridge
(Source: Kimley-Horn)*

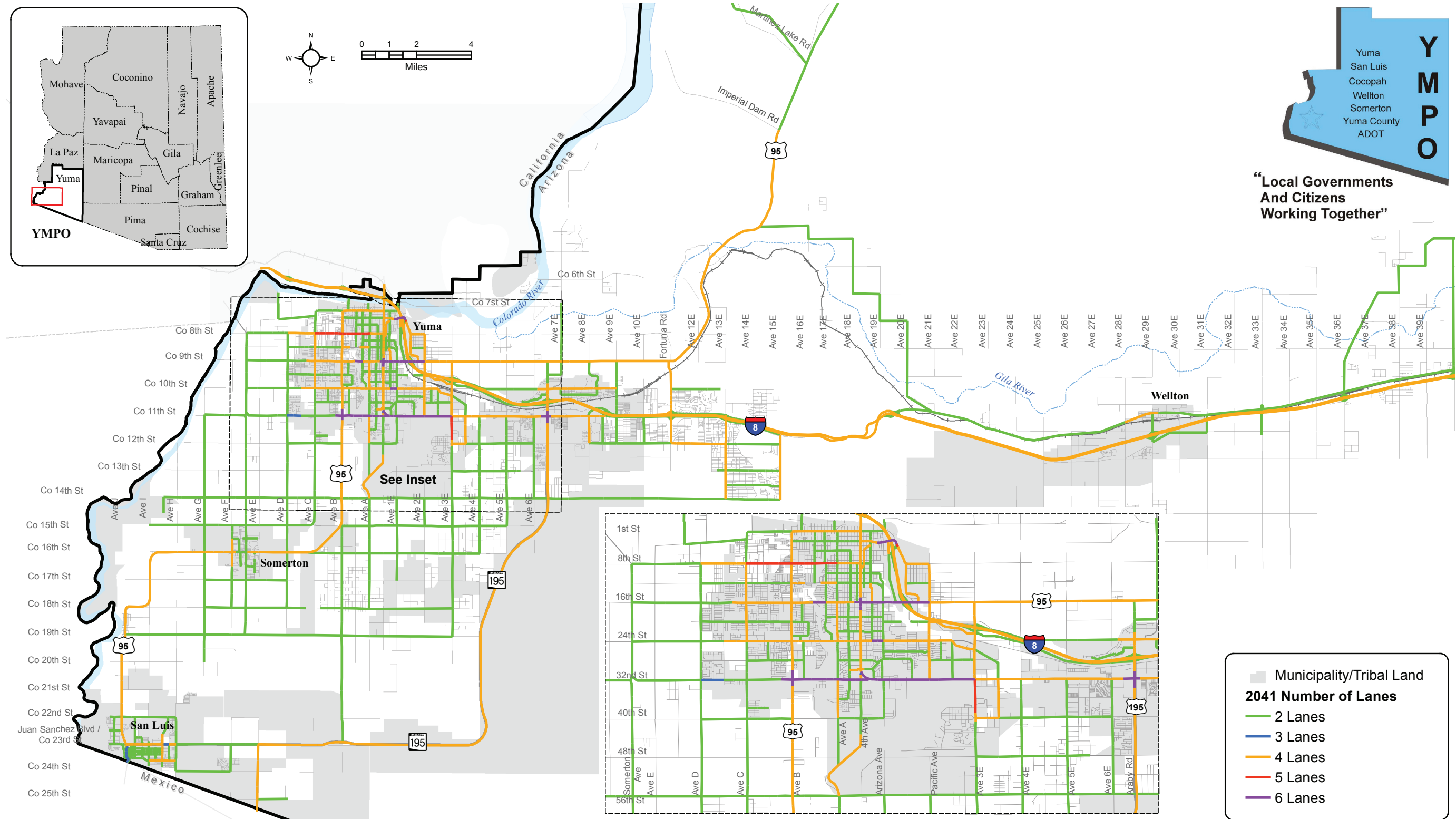


Figure 8.2 – 2041 “With Improvements” Number of Through Lanes
(Source: Kimley-Horn)

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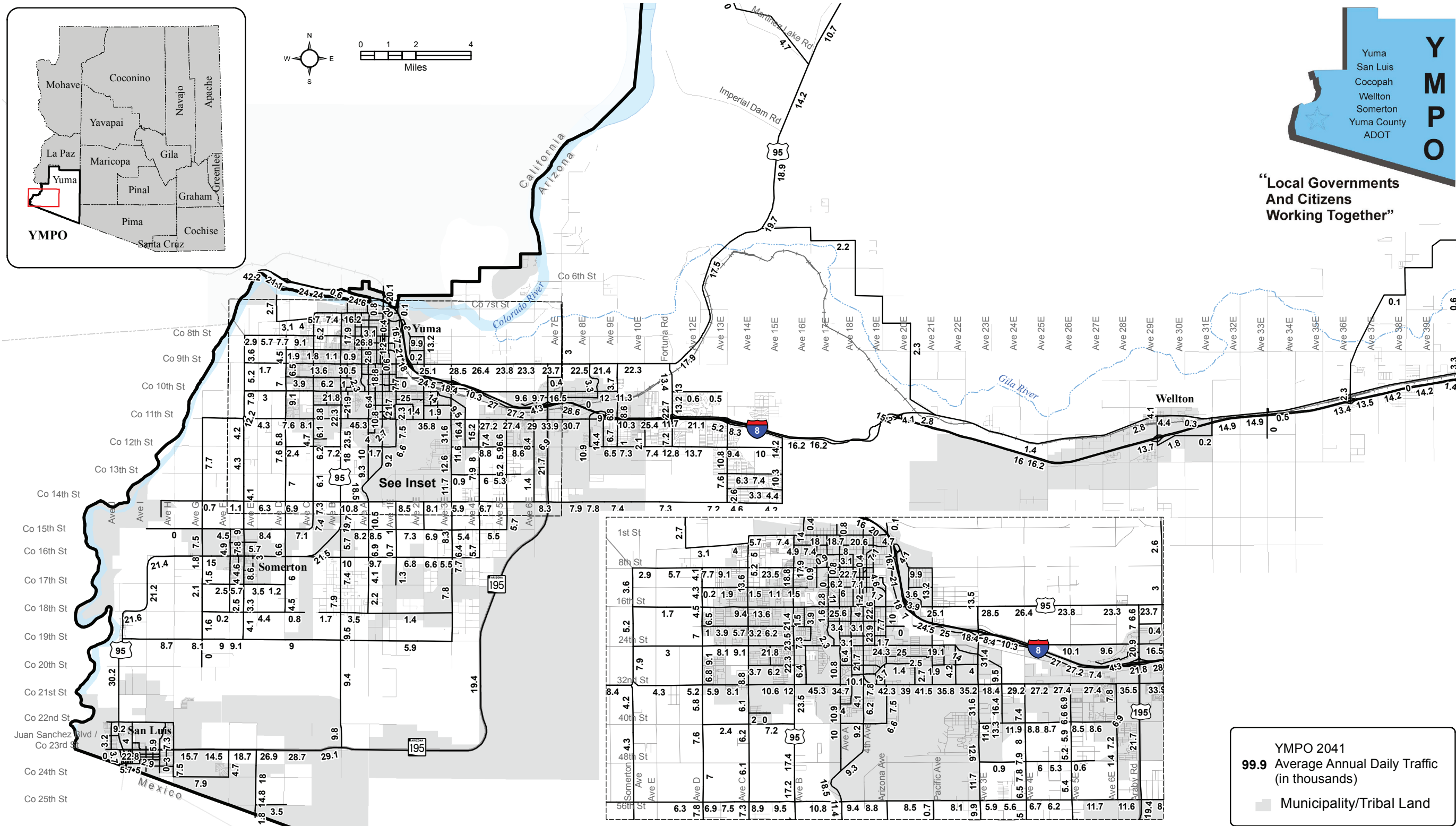


Figure 8.3 – 2041 “With Improvements” Traffic Volumes (Source: Kimley-Horn)

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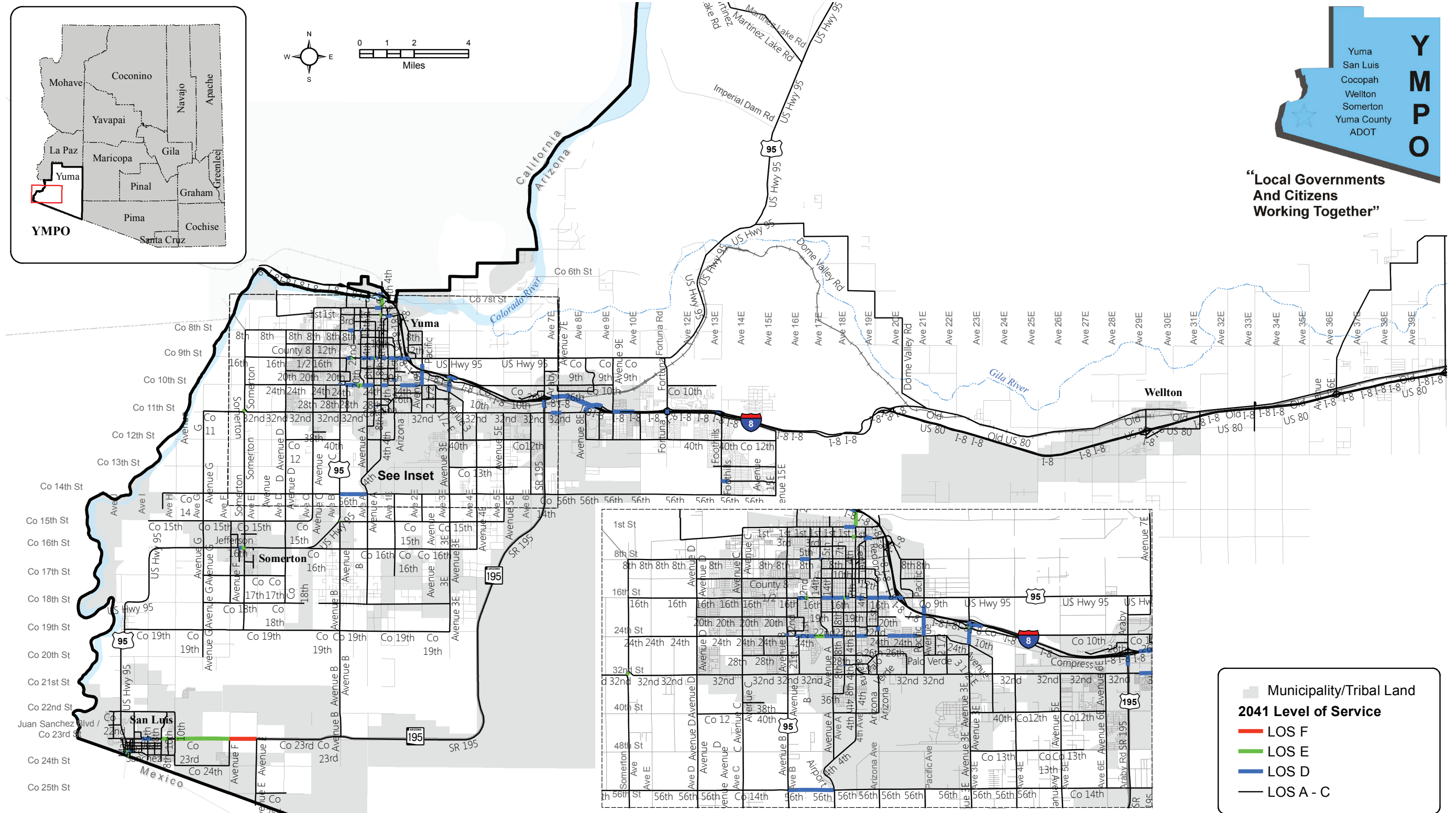


Figure 8.4 – 2041 “With Improvements” Level of Service
(Source: Kimley-Horn)

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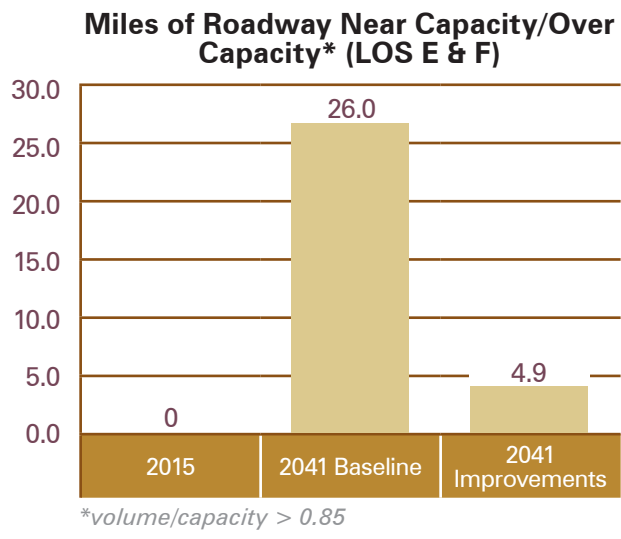


Figure 8.5 – Comparison of Lane Miles of Roadway Near Capacity or Over Capacity (Source: Kimley-Horn)

Figure 8.6 shows a comparison of vehicle hours of travel. The 2041 vehicle hours of travel with planned roadway improvements is lower than the 2041 baseline (without RTP improvements). This reflects the lower future congestion levels as roadway improvements are made.

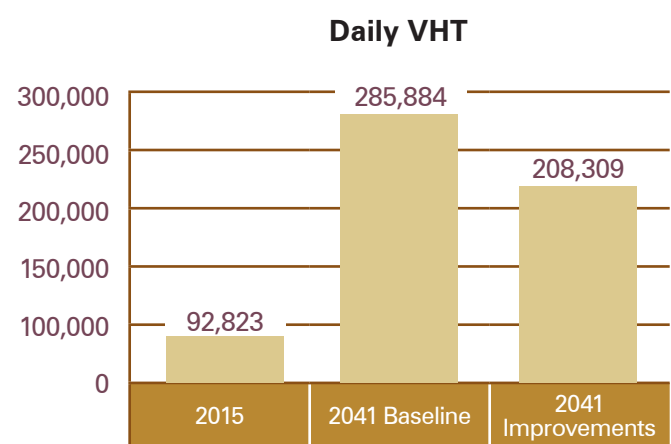


Figure 8.6 – Comparison of Daily Vehicle Hours of Travel (Source: Kimley-Horn)

Figure 8.7 shows a comparison of average speeds for 2015, 2041 baseline conditions, and 2041 “with improvements”. Speeds in the 2041 baseline condition decrease as compared to 2015, because as population and congestion increases, average vehicle speeds decrease. The 2041 “with improvements” shows that average speeds are increasing as compared to the 2041 baseline because of decreasing congestion.

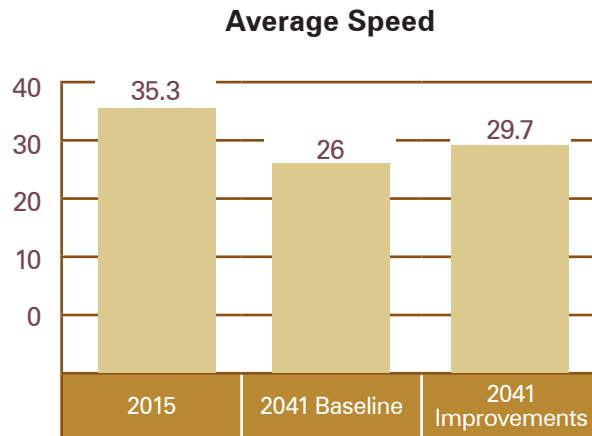


Figure 8.7 – Comparison of Average Speeds
(Source: Kimley-Horn)

Daily vehicle miles of travel are shown in Figure 8.8. The 2041 “with improvements” indicated a somewhat lower number of vehicle miles of travel as compared to the 2041 baseline condition.

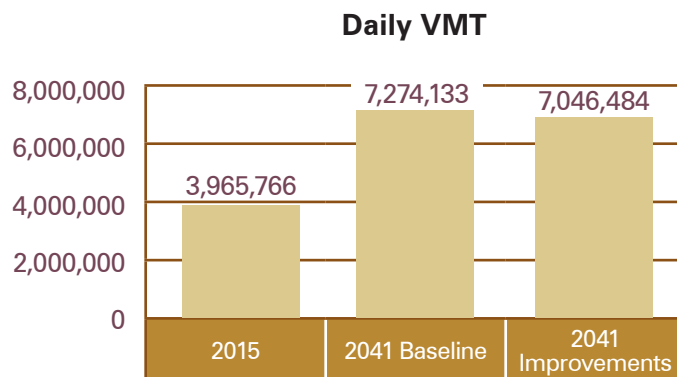


Figure 8.8 – Comparison of Vehicle Miles of Travel
(Source: Kimley-Horn)

Roadway Maintenance and Operations

Revenue Projections for Maintenance and Operations

Actual FY 2015 revenues (where available) used for maintenance and operations were used as a basis for developing forecast operations and maintenance revenues. A 3.5% annual growth rate was used to develop forecasts for the period 2018 to 2041, which is the same annual growth rate estimated in the ADOT publication, Highway User Revenue Fund Forecasting Process and Results FY 2016-2025, published by ADOT Financial Management Services.

The ADOT estimate for maintenance and operations revenues is based on anticipated average annual allocations documented in the ADOT Five-Year Construction Program, which is based on historic trends and ongoing maintenance needs. County, city, and town revenue estimates for maintenance and operations are based on their most recent available budget documents and TAC member input.

Table 8.10 summarizes projected revenues for maintenance and operations by time period. Table 8.11 summarizes revenues by jurisdiction and time period. Specific maintenance and operations activities are determined by jurisdiction and it is assumed that costs will match anticipated revenues.

Source	Estimated Revenues (\$)					
	2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Total, 2018-2041
ADOT HURF/ Gas Tax	\$29,904,685	\$35,517,384	\$42,183,511	\$50,100,778	\$46,770,647	\$204,477,005
Yuma County HURF	\$34,410,944	\$40,869,406	\$48,540,034	\$57,650,334	\$53,818,393	\$235,289,111
Yuma County Vehicle License Tax	\$6,105,167	\$7,251,024	\$8,611,942	\$10,228,285	\$9,548,425	\$41,744,842
City of Yuma HURF	\$24,043,447	\$25,269,904	\$26,558,924	\$27,913,696	\$23,352,715	\$127,138,686
City of Yuma Road Tax	\$6,129,047	\$6,766,963	\$7,471,274	\$8,248,890	\$7,213,107	\$35,829,280
City of San Luis HURF	\$12,641,467	\$15,014,097	\$17,832,037	\$21,178,867	\$19,771,136	\$86,437,603
City of Somerton HURF	\$6,470,060	\$7,684,401	\$9,126,658	\$10,839,607	\$10,119,113	\$44,239,838
Town of Wellton HURF	\$1,302,550	\$1,547,020	\$1,837,375	\$2,182,225	\$2,037,175	\$8,906,345
Total	\$121,007,365	\$139,920,200	\$162,161,754	\$188,342,681	\$172,630,711	\$784,062,711

Table 8.10 – Projected Revenues for Maintenance and Operations

Sources:

- Arizona Highway User Revenue Fund Forecasting Process and Results, FY 2016-FY 2025
- ADOT Office of Financial Planning FY 2015 HURF Distribution to Cities and Counties
- City of Yuma Comprehensive Annual Financial Report, fiscal year ending June 30, 2015 and City of Yuma CIP Administrator
- Yuma County Comprehensive Annual Financial Report for fiscal year ending June 30, 2015
- TAC member review comments

Source	Estimated Revenues (\$)					
	2018-2022	2023-2027	2028-2032	2033-2037	2038-2041	Total, 2018-2041
ADOT	\$29,904,685	\$35,517,384	\$42,183,511	\$50,100,778	\$46,770,647	\$204,477,005
Yuma County	\$40,516,111	\$48,120,430	\$57,151,976	\$67,878,619	\$63,366,818	\$277,033,954
City of Yuma	\$30,172,494	\$32,036,867	\$34,030,197	\$36,162,585	\$30,565,823	\$162,967,965
City of San Luis	\$12,641,467	\$15,014,097	\$17,832,037	\$21,178,867	\$19,771,136	\$86,437,603
City of Somerton	\$6,470,060	\$7,684,401	\$9,126,658	\$10,839,607	\$10,119,113	\$44,239,838
Town of Wellton	\$1,302,550	\$1,547,020	\$1,837,375	\$2,182,225	\$2,037,175	\$8,906,345
Total	\$121,007,365	\$139,920,200	\$162,161,754	\$188,342,681	\$172,630,711	\$784,062,711

Table 8.11 – Projected Maintenance and Operations Revenues by Jurisdiction

Sources:

- Arizona Highway User Revenue Fund Forecasting Process and Results, FY 2016-FY 2025
- ADOT Office of Financial Planning FY 2015 HURF Distribution to Cities and Counties
- City of Yuma Comprehensive Annual Financial Report, fiscal year ending June 30, 2015 and City of Yuma CIP Administrator
- Yuma County Comprehensive Annual Financial Report for fiscal year ending June 30, 2015
- TAC member review comments

Transit Implementation Plan

Transit Revenue Projections

According to the YCIPTA 10-Year Capital Plan and 10-Year Financial Plan, future transit revenues will continue to be derived from both federal and local sources, including federal grants, local matches, in-kind services, contributions from public entities, the Cocopah Indian Tribe and Quechan Tribe, and miscellaneous revenues such as advertising.

Planned Transit Capital Improvement Projects

Planned transit capital improvements are detailed in the YCIPTA 10-Year Capital Plan, which spans the fiscal years 2011-2012 and 2020-2021. The plan was updated in 2013. Projects that are planned for the period covering FY 2018-2022 include replacement of vehicles, construction of a new maintenance facility, and a multimodal transportation center in downtown Yuma. The current 10-Year Capital Plan is summarized in *Table 8.12*.



Yuma County Area Transit Bus
(Source: Kimley-Horn)

YCIPTA 10 Year Capital Plan - Revised 01/19/17

Sponsor Contact: Shelly Kreger
 Email: skreger@ycipta.az.gov
 Phone: 928-539-7076, ext 101

IMPLEMENTATION

Project Name	Project Description	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	Total	Federal	Local	Total (Check)
Bus Replacement	Replace DAR vehicles 111, 112, 113 - minivans	\$ 165,000				\$ 165,000						\$ 330,000	\$ 264,000	\$ 66,000	\$ 330,000
Bus Replacement	Replace fixed route vehicles 102, 106,136,137,138 - heavy duty diesel 40 ft	\$ 900,000					\$ 900,000		\$ 900,000			\$ 1,800,000	\$ 1,440,000	\$ 360,000	\$ 1,800,000
Bus Replacement	Replace vehicles 116, 117, 118, 121, 122, 123 - gasoline cutaway - low floor			\$ 180,000	\$ 180,000	\$ 180,000		\$ 180,000	\$ 180,000		\$ 180,000	\$ 1,080,000	\$ 864,000	\$ 216,000	\$ 1,080,000
Bus Replacement	Replace fixed route vehicles 124, 125, 126, 127, 128, 129, 130, 131, 132 - heavy duty diesel hybrid 35 ft - low floor		\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000				\$ 800,000	\$ 4,800,000	\$ 3,840,000	\$ 960,000	\$ 4,800,000
Bus Replacement	Replace minivans purchased in FY 2015 (146,147,148)				\$ -	\$ 165,000						\$ 165,000	\$ 132,000	\$ 33,000	\$ 165,000
Support Vehicle Replacement	Replace support vehicles (1 - YCIPTA/2 - YCAT)				\$ 75,000				\$ 75,000			\$ 150,000	\$ 141,450	\$ 8,550	\$ 150,000
Support Vehicle Replacement	Replace 139 support truck with YCIPTA support truck			\$ 50,000								\$ 50,000	\$ 47,150	\$ 2,850	\$ 50,000
Support Vehicle Replacement	Replace 140 service truck with YCIPTA service truck, plus tools			\$ 75,000								\$ 75,000	\$ 70,725	\$ 4,275	\$ 75,000
Computers for YCIPTA Staff	Purchase computers for YCIPTA staff and associated software				\$ 15,000			\$ 15,000			\$ 15,000	\$ 45,000	\$ 42,435	\$ 2,565	\$ 45,000
Radios for YCIPTA transit fleet	Purchase YCRS portable radios (2)		\$ 7,000									\$ 7,000	\$ 6,601	\$ 399	\$ 7,000
Electronic Fareboxes	Purchase electronic fareboxes for YCIPTA fleet, with associated computer, dump station and point of sale system (GFI Genfare)			\$ 450,000								\$ 450,000	\$ 360,000	\$ 90,000	\$ 450,000
Furniture for Office Staff	New office furniture for YCIPTA staff							\$ 25,000				\$ 25,000	\$ 23,575	\$ 1,425	\$ 25,000
Smart Card Accessories	Update smartcard System, purchase supplies, additional readers, point of sale system		\$ 50,000									\$ 50,000	\$ 47,150	\$ 2,850	\$ 50,000
Replacement Bike Racks	Replace bike racks on existing El Dorado National Passport Buses (9) and Small Cutaway Buses (5)			\$ 35,000				\$ 35,000				\$ 70,000	\$ 66,010	\$ 3,990	\$ 70,000
Telephone Equipment	Purchase Call Center system		\$ 30,000									\$ 30,000	\$ 28,290	\$ 1,710	\$ 30,000
ID Card Machine	Purchase ID card machine for Smartcard system, employees, Paratransit											\$ -	\$ -	\$ -	\$ -
Building Upgrades at Bus Facility	Upgrade building facility, security cameras, break area, storage containers		\$ 40,000									\$ 40,000	\$ 37,720	\$ 2,280	\$ 40,000
Purchase Software	Purchase ARC/GIS system, software for YCIPTA staff			\$ 6,000								\$ 6,000	\$ 5,658	\$ 342	\$ 6,000
Relocation of Bus Shelters	Relocate bus shelters throughout service area		\$ 10,000				\$ 10,000			\$ 10,000		\$ 30,000	\$ 28,290	\$ 1,710	\$ 30,000
Bus Shelter Procurement	Purchase additional bus shelters for placement in the service area	\$ 100,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 325,000	\$ 260,000	\$ 65,000	\$ 325,000
Passenger Amenities	Purchase signs, info posts, poles, benches, trash cans and other passenger enhancements	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 1,500	\$ 15,000	\$ 14,145	\$ 855	\$ 15,000
	Purchase tablets for Ecolane Software/replacements		\$ 7,500	\$ 1,000	\$ 1,000	\$ 7,500	\$ 1,000	\$ 1,000	\$ 7,500	\$ 1,000	\$ 1,000	\$ 28,500	\$ 26,876	\$ 1,625	\$ 28,500
	Yearly costs for Bishop Peak GPS bus tracker system			\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 16,000	\$ 128,000	\$ 120,704	\$ 7,296	\$ 128,000
Sidewalk Improvements	Improve sidewalk access at Yuma Palms Regional Center Transfer Hub											\$ -	\$ -	\$ -	\$ -
Bus Bay Construction	Construct bus bays/turnouts throughout Yuma County at TBD locations	\$ -	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000					\$ 200,000	\$ 160,000	\$ 40,000	\$ 200,000
New Multi-Modal Transportation Center	In conjunction with the City of Yuma, renovate Hotel Del Sol to function as a transit center with parking, Amtrak connection, buses, taxis and carsharing	\$ -	\$ -	\$ 2,330,680						\$ 9,800,000		\$ 12,130,680	\$ 9,704,544	\$ 2,426,136	\$ 12,130,680
New Park and Ride Lot	In conjunction with Yuma County, construct park and ride lot at County Sheriff Station in Foothills	\$ -				\$ 850,000						\$ 850,000	\$ 680,000	\$ 170,000	\$ 850,000
New Bus Wash Facility	Construct portable wash facility at Bus Facility and repairs to bus wash system			\$ 75,000								\$ 75,000	\$ 70,725	\$ 4,275	\$ 75,000
New Maintenance Facility	Develop and construct or purchase a bus maintenance facility							\$ 1,000,000				\$ 1,000,000	\$ 800,000	\$ 200,000	\$ 1,000,000
Security Cameras	Purchase security cameras for buses		\$ 400,000									\$ 400,000	\$ 320,000	\$ 80,000	\$ 400,000
Amtrak Ticket Machine	Purchase Amtrak ticket machine for YCAT Office						\$ 18,000					\$ 18,000	\$ 16,974	\$ 1,026	\$ 18,000
Contractor Start Up Costs	Contractor transition start up costs	\$ 71,000	\$ 71,000									\$ 142,000	\$ 113,600	\$ 28,400	\$ 142,000
Vehicle Repairs	Repairs to YCAT buses	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 500,000	\$ 400,000	\$ 100,000	\$ 500,000
Preventative Maintenance	Preventative maintenance to YCAT buses	\$ 482,000	\$ 484,000	\$ 486,000	\$ 488,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 4,040,000	\$ 3,232,000	\$ 808,000	\$ 4,040,000
Miscellaneous Bus Accessories	Purchase miscellaneous bus accessories such as denominators, transfer cutters, etc	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 10,000	\$ 9,430	\$ 570	\$ 10,000

Total Number of Projects: 33

Totals:	Cost by FY											Total	Federal	Local	Total
	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25					
	\$1,770,500	\$1,977,000	\$4,632,180	\$1,702,500	\$2,661,000	\$2,222,500	\$1,699,500	\$1,606,000	\$10,254,500	\$1,439,500	\$29,065,180	\$23,374,052	\$5,691,129	\$29,065,180	

STP funds are limited to \$144,000 per year at this time. All excess would use 5307 funds. STP is 94.7% Federal and 5% Local. 5307/5311 is 80% Federal and 20% Local.
 Total STP funds available as of 1/19/17 **\$297,000.00**

Description:
 Shaded areas are precalculated. Please do not change the formulas.

Total STP

Sponsor Agency Signature :

Table 8.12 – YCIPTA 10-Year Capital Plan
 (Source: YCIPTA)

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Aviation Implementation Program

This section discusses revenues and capital improvements planned for YIA and Rolle Field. The YCAA governs these airports.

Yuma International Airport/Marine Corps Air Station

MCAS-Yuma and the YCAA work together under a Joint Use Agreement, which has provided the opportunity to develop a single airfield master plan that supports the aviation vision of both airfield users. Additionally, it binds both to develop in compliance with an agreed master plan.

Yuma International Airport Revenue Sources

YCAA has access to various sources of funding—a mix of FAA funding, State funding, Passenger Facility Charge (PFC) revenues, Customer Facility Charge (CFC) revenues, private funds, and Airport funds.

The Federal Aviation Administration (FAA), ADOT, and local shares are based on a 91.06%, 4.47%, 4.47% ratio. Currently, the FAA share in Arizona is 91.06%. ADOT matches one-half of the local share on FAA projects.

Planned Aviation Capital Improvement Projects

Short Term Projects

Planned improvements are based on information in the Airport Program section of the ADOT 2017-2021 Five-Year Transportation Facilities Construction Program. This short-term planning horizon covers items of the highest priority. These items are coordinated with ADOT on a yearly basis, when the Five-Year Airport Capital Improvement Program (ACIP) information is updated and potential funding sources and priorities are assigned to individual projects. Each year, YIA and Rolle Field re-examine the priorities for funding in the short-term period, bringing projects which were originally included in intermediate or long-term planning horizons onto the FAA's or ADOT's capital programming list. While some projects are demand-based, others are based on design standards, safety, or rehabilitation needs.

The following short-term projects are planned at YIA or MCAS-Yuma for fiscal years 2017 through 2021:

- ❖ 2020 – Taxiway Pavement Preservation (crack seal/rubberized asphalt emulsion seal coat)
-\$106,729
- ❖ 2020 – Taxiway Pavement Preservation (crack seal/rubberized asphalt emulsion seal coat)
-\$75,590

Other Capital Projects

Other capital projects that were included in the YIA Airport Master Plan (revised 2011 with additional revisions by letter dated October 19, 2016) are summarized in *Table 8.13*. These projects are coordinated with ADOT on an annual basis and are programmed dependent on needs and funding availability.

Project	Total Cost	FAA Airport Improvement Grants Entitlements	FAA Airport Improvement Grants Discretionary	Local/Passenger Facility Charges	State
Terminal Apron Rehabilitation	\$3,500,000	\$1,000,000	\$2,325,000	\$87,500	\$87,500
Rolle Field Roadway Rehabilitation	\$2,000,000	\$0	\$1,900,000	\$50,000	\$50,000
Taxiway Y Section 2 with Taxiway L ext	\$3,000,000	\$1,000,000	\$1,850,000	\$75,000	\$75,000
Boarding Area Expansion	\$3,000,000	\$0	\$0	\$300,000	\$2,700,000
Rolle Field Parallel Taxiway	\$2,000,000	\$0	\$1,900,000	\$50,000	\$50,000
NW GA Hangar Apron Rehabilitation	\$2,000,000	\$1,000,000	\$900,000	\$50,000	\$50,000
Baggage Claim Expansion	\$2,000,000	\$0	\$0	\$200,000	\$1,800,000
Rolle Field Apron & Taxilanes	\$2,000,000	\$0	\$1,900,000	\$50,000	\$50,000
Taxiway Y Section 3	\$3,000,000	\$1,000,000	\$1,850,000	\$75,000	\$75,000
West GA Apron Rehabilitation	\$2,000,000	\$1,000,000	\$900,000	\$50,000	\$50,000
Public Parking Expansion	\$1,000,000	\$0	\$0	\$1,000,000	\$0
T-Shades Expansion	\$1,500,000	\$0	\$0	\$150,000	\$1,350,000
Rolle Field Hanger development	\$2,000,000	\$0	\$0	\$200,000	\$1,800,000
Taxiway Y Section 4	\$5,000,000	\$1,000,000	\$3,750,000	\$125,000	\$125,000
Administrative Space Expansion	\$1,000,000	\$0	\$0	\$100,000	\$900,000
Rolle Field Runway Extension	\$2,000,000	\$0	\$1,900,000	\$50,000	\$50,000
Apron Expansion Section 2	\$2,500,000	\$1,000,000	\$1,375,000	\$62,500	\$62,500
Rental Car Parking Expansion	\$4,000,000	\$0	\$0	\$4,000,000	\$0
Apron Expansion Section 3-7	\$5,000,000	\$1,000,000	\$3,750,000	\$125,000	\$125,000
	\$48,500,000	\$8,000,000	\$24,300,000	\$6,800,000	\$9,400,000

Table 8.13 – Planned Yuma International Airport Capital Improvement Projects
 (Source: Yuma International Airport, Airport Master Plan, Draft Change 1, 2011, page 153 with additional revisions by email dated October 19, 2016 from Gladys Wiggins, Airport Director.)

Rolle Field

Rolle Field Revenue Sources

Currently funding for Rolle Field is based primarily on ADOT and local sources. To be eligible for Federal Airport Improvement Program funds, an airport must be in the National Plan of Integrated Airport Systems (NPIAS), which is a federal planning document that defines the service level and role of all airports in the federal airport system. Currently, Rolle Field does not meet eligibility guidelines to be included in the NPAIS.



Rolle Field Runway
(Source: Rolle Field Airport Master Plan [2015])

Capital Improvement Projects

Short-Term Rolle Field Airport Projects

The following short-term aviation projects are part of the ADOT Five-Year ACIP, which is contained in the ADOT 2017-2021 Five-Year Transportation Facilities Construction Program:

- ❖ 2017 – Taxiway pavement preservation (crack seal/rubberized asphalt emulsion seal coat) - \$6,663
- ❖ 2017 – Runway pavement preservation (crack seal/rubberized asphalt emulsion seal coat) - \$86,237

Other short term projects that were included in the Rolle Field Airport Master Plan (2015) are summarized in *Table 8.14*. These projects are coordinated with ADOT on an annual basis and are programmed dependent on needs and funding availability.

Project Description	Total Cost	FAA/ADOT Grant 90%*	YCAA Grant Match 10%*
Short Term Airport Improvements			
EA - Future RP2 Acquisition, Expand Apron, Airfield Lighting and Airport Access	\$125,000	\$112,500	\$12,500
Construct 10,000 SY Apron Expansion	\$825,000	\$742,500	\$82,500
Construct Runway 17-35 MIRL including Electrical Vault and Extending Electrical Service to Airport	\$2,000,000	\$1,800,000	\$200,000
Install Airport Beacon, Relocate Segmented Circle, Install Lighted Wind Cone	\$200,000	\$180,000	\$20,000
Establish Microwave Link/Fiber Optics Telecommunications to Airport	\$210,000	\$0	\$210,000
Construct Conventional Hangars & Expand Airport Sanitary System	\$470,000	\$0	\$470,000
Construct Fire Suppression System	\$250,000	\$0	\$250,000

Table 8.14 – Rolle Field Short-Term Airport Improvements from Rolle Field Airport Master Plan (2015)
(Source: Rolle Field Airport, Airport Master Plan Final Report, May 2015)

Intermediate-Term and Long-Term Rolle Field Airport Projects

Project implementation is based on actual demands, approval of environmental assessments and availability of Federal, State and Local funding. A summary of Rolle Field Airport Projects contained in the Airport Master Plan is summarized in *Table 8.15*.

Project Description	Total Cost	FAA/ADOT Grant 90%*	YCAA Grant Match 10%*
Intermediate-Term Airport Improvements			
Upgrade Airport Access Road (All-weather gravel) From Ave. B to Airport	\$670,000	\$603,000	\$67,000
Extend Airport Perimeter Fencing	\$225,000	\$202,500	\$22,500
Runway 17-35: Overlay & Widen to 75-ft	\$880,000	\$792,000	\$88,000
Construct Runway 17 Extension by 860-ft	\$565,000	\$508,500	\$56,500
Construct Partial Parallel Taxiway (A1 to A3)	\$1,410,000	\$1,269,000	\$141,000
Construct Runway 35 Extension by 860-ft	\$565,000	\$508,500	\$56,500
Construct Partial Parallel Taxiway (A3 to A4)	\$375,000	\$337,500	\$37,500
Upgrade/Reconfigure Helicopter Landing Area	\$100,000	\$90,000	\$10,000
Runway 17-35: Install PAPI-2	\$150,000	\$135,000	\$15,000
Pavement Preservation (ADOT APMS)	\$465,000	\$418,500	\$46,500
Construct 10,000 SY Apron Expansion	\$825,000	\$742,500	\$82,500
Construct 2 Conventional Hangars	\$330,000	\$0	\$330,000
Construct 10-Unit T-Hangar Unit	\$300,000	\$0	\$300,000
Long Term Airport Improvements			
Construct GA Terminal Facility (3,000 SF)	\$450,000	\$0	\$450,000
Construct Fuel Storage Facility	\$350,000	\$0	\$350,000
Construct UAS Launch-Recovery Site	\$3,740,000	\$0	\$3,740,000
Extend Airport Perimeter Fencing	\$360,000	\$324,000	\$36,000
Install MITL on All Airport Taxiways	\$470,000	\$423,000	\$47,000
Runway 17-35, Parallel Taxiway and Itinerant Apron)	\$3,450,000	\$3,105,000	\$345,000
Pavement Preservation (ADOT APMS)	\$465,000	\$418,500	\$46,500
Establish GPS Approach to Runway 35 or 17	\$50,000	\$45,000	\$5,000
Expand Apron	\$825,000	\$742,500	\$82,500
Construct 3 Conventional Hangars	\$495,000	\$0	\$49,500
Pave Airport Access Road (On Airport Property Only)	\$1,060,000	\$954,000	\$106,000

*For Revenue Projects a Low Interest Rate Loan from ADOT has been assumed. YCAA Share is 100% for Loan Projects

Table 8.15 – Rolle Field Intermediate- and Long-Term Airport Improvements from Rolle Field Airport Master Plan (2015)

(Source: Rolle Field Airport, Airport Master Plan Final Report, May 2015)

Air Quality Conformity

The YMPO has the responsibility to ensure that the transportation plans and programs within the YMPO planning boundaries, generally the greater Yuma area, conform to the state and national air quality plans and standards. Specifically, the emissions generated from proposed projects in the YMPO's five-year Transportation Improvement Program (TIP) for 2018-2022 and this RTP must be consistent with and conform to national ambient air quality standards (NAAQS).

The YMPO is required to undertake an air quality conformity analysis for two reasons:

- ❖ to ensure that transportation investments (projects), strategies and programs, taken as a whole, have air quality impacts consistent with and conforming to state and national air quality plans and standards; and
- ❖ to ensure that neither the transportation system as a whole nor individual transportation projects cause new air quality violations or worsen existing conditions.

The air quality conformity process establishes the connection between transportation planning and emission reductions from transportation sources and is intended to ensure that integrated transportation and air quality planning occurs in areas designated as Non-Attainment or Maintenance Areas by the United States Environmental Protection Agency (EPA). A regional emissions analysis must be conducted to assess the impacts that transportation projects will have on emissions within an air quality planning area.

A Non-Attainment area is an area that has violated one or more of the National Ambient Air Quality Standards (NAAQS). A portion of the greater Yuma area is currently designated as a nonattainment area, as shown in *Figure 8.9*. The nonattainment area comprises 456 miles or 300,000 acres.

The purpose of the air quality conformity analysis is to demonstrate that the Yuma non-attainment area supports the implementation of the financially constrained YMPO RTP Update 2018-2041 by contributing to improved air quality and will therefore not jeopardize the Yuma region's attainment of the annual PM_{10} NAAQS.

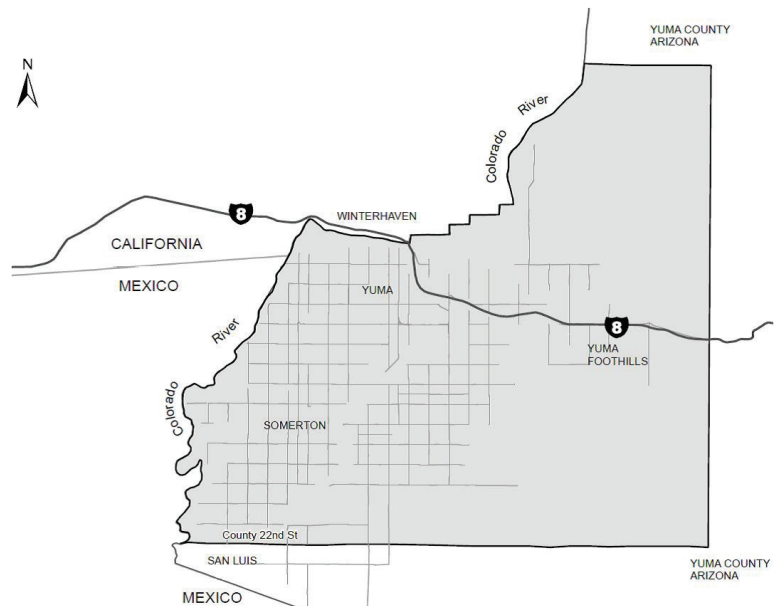


Figure 8.9 – YMPO PM_{10} Nonattainment Area
(Source: YMPO)

YMPO Travel Demand Model

The 2018-2041 RTP travel demand model provides the appropriate level of detail required by conformity regulations. It is the most recent and approved regional travel demand model for the YMPO region. The recommended roadway system projects are financially constrained for the 2018-2041 planning period, as well as for each of the four interim planning periods. The conformity analysis is based on assumptions derived from estimates of current and future population, employment, travel, and congestion contained in or produced by the travel demand model.

Pollutant Emissions Estimates

The conformity determinations were performed per procedures prescribed by federal, state, and local regulations; Arizona transportation conformity rules; and MPO planning regulations implementing the FAST Act and MAP-21 requirements. As part of the conformity determination, assumptions have been discussed with various local, state, and federal agencies for their continued validity and updated whenever necessary. EPA's MOVES2014a model was used to derive emissions as required by the EPA.

Paved and Unpaved Roads – The primary contributor to PM10 emissions is road dust from paved and unpaved roads. Emissions for road dust are calculated using a process referred to as AP-42, Compilation of Air Pollutant Emission Factors.

AP-42 was first published in 1972 as the primary compilation of EPA's emission factor information. The document, now in its fifth edition, contains guidance on how to determine PM₁₀ road dust emissions from both paved and unpaved roads. The methodology for determining paved and unpaved road dust emissions was confirmed following consultation with the FHWA Resource Center.

Reasonable Available Control Measures (RACMs) – In 1992, Transportation Control Measures (TCMs) were established for the YMPO nonattainment area. These TCMs were transportation improvements planned and implemented for the purpose of reducing pollutant emissions and improving air quality. At the same time, local governments adopted, implemented, and enforced RACMs.

Some of the RACMs implemented included:

- ❖ Paving, stabilizing, and/or reducing travel on unpaved streets, roads, and unpaved areas
- ❖ Watering unpaved streets, alleys, shoulders, and canal and levee roads
- ❖ Sweeping paved streets
- ❖ Reducing travel on canal roads
- ❖ Constructing improvements such as parking lots and landscaped areas to minimize the amount of undeveloped desert in developed areas that was exposed to the elements

Newly Paved Roads – In addition to the emissions reductions sources described above, there will be emissions reductions gained because of newly paved roads and widened roads that are recommended in the 2018-2041 RTP. Emissions reductions were estimated by analysis year for these paving improvements.

Results and Conclusions

Emissions estimates from MOVES and AP-42 were combined estimates of reductions from RACMs and newly paved roads to determine the overall impact of on-road mobile sources on PM₁₀ levels in the YMPO nonattainment area for the maintenance plan budget years of 2018, 2021, 2031 and 2041. The ADEQ Yuma PM Maintenance Plan (August 2006) establishes annual emissions maintenance budgets for use in conformity analyses. Results from this analysis are summarized in *Table 8.16*, along with comparisons to the established Motor Vehicle Emission Budgets (MVEBs).

Budget Year	PM ₁₀ Tons per Year	Maintenance Plan Budget Tons per Year*	Annual Reduction Tons per Year	Adjusted PM ₁₀ Tons per Year
2018	8,816.64	10,803	66.15	8,750.49
2021	8,946.03	10,803	403.15	8,542.88
2031	9,293.18	10,803	630.15	8,663.03
2041	9,690.56	10,803	1,015.15	8,675.41

*MVEBs were found adequate for use in conformity (75 FR 32295; effective June 27, 2007).

Table 8.16 – Motor Vehicle Emissions Budget Comparison
(Source: Kimley-Horn)

This air quality analysis documentation demonstrates conformity between the 2018-2022 Transportation Improvement Program, the 2018-2041 Regional Transportation Plan, and the State Implementation Plan.

The analysis indicates that the projected emissions levels based on projects contained in the YMPO RTP Update 2018-2041 meet the applicable conformity tests. Therefore, it is the determination of this analysis that this plan conforms under the PM₁₀ National Ambient Air Quality Standards.