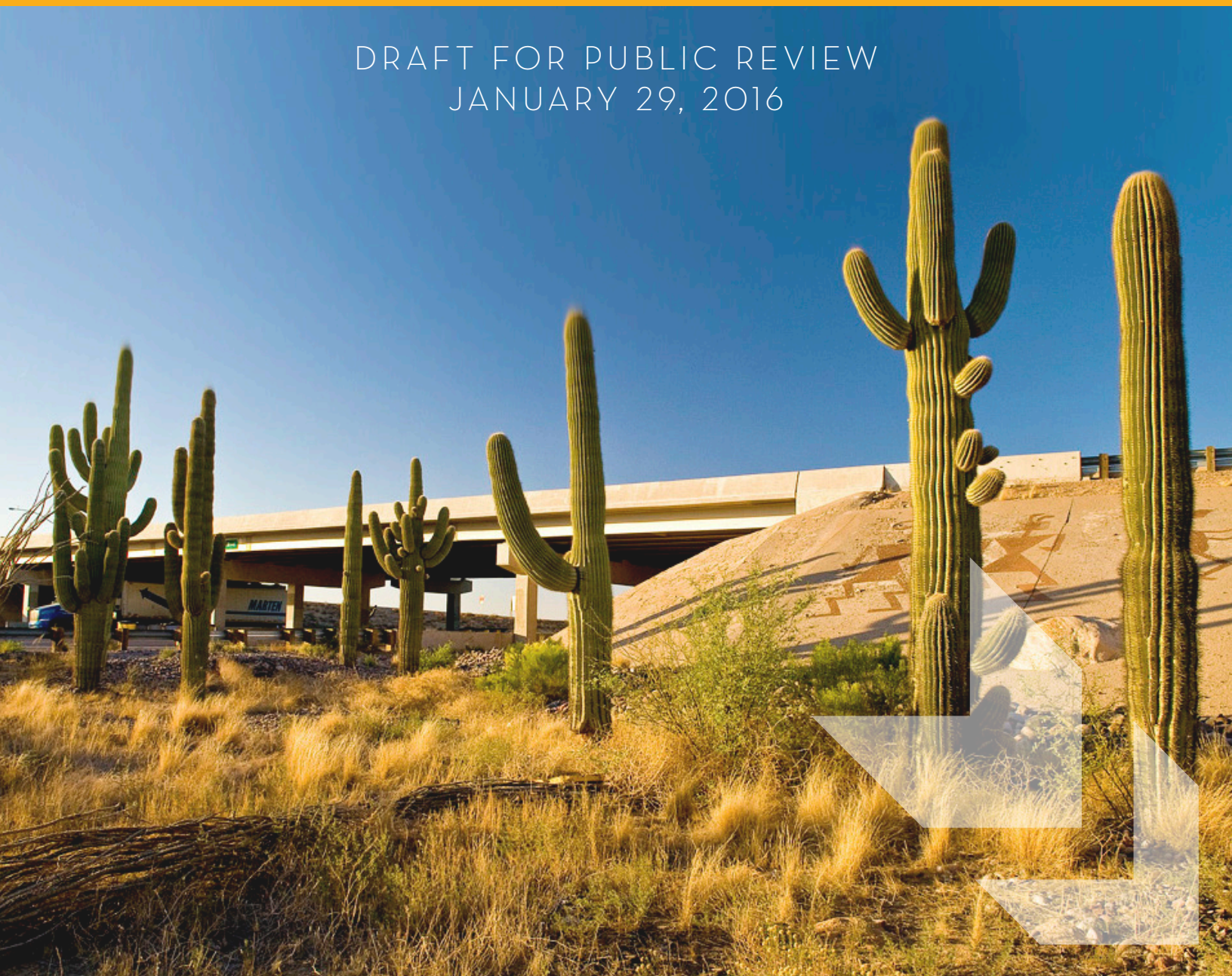
SunCorridor
Metropolitan Planning Organization

REGIONAL TRANSPORTATION PLAN 2040

CREATING CONNECTIVITY

DRAFT FOR PUBLIC REVIEW
JANUARY 29, 2016



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SUN CORRIDOR METROPOLITAN PLANNING ORGANIZATION

REGIONAL TRANSPORTATION PLAN 2040

CREATING CONNECTIVITY

DRAFT FOR PUBLIC REVIEW
JANUARY 29, 2016

Prepared by

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LETTER FROM SUN CORRIDOR MPO EXECUTIVE DIRECTOR

As the Sun Corridor Metropolitan Planning Organization's Executive Director, I am pleased to present the Sun Corridor's first Regional Transportation Plan. The Sun Corridor MPO was formed in 2013, after the 2010 U.S. Census determined that the City of Casa Grande had reached a population over 50,000. Our MPO represents portions of unincorporated Pinal County, and the cities of Casa Grande, Coolidge, and Eloy.

Our tagline, *Creating Connectivity*, embodies our vision for a robust regional transportation network that connects the Sun Corridor MPO agencies and communities to each other and the global economy. Achieving this vision require regional collaboration as we improve and maintain the region's transportation infrastructure, and position the region for sustainable economic growth.

This plan identifies an investment strategy and a project selection and prioritization process to guide how federal funds are spent on transportation improvements within the region. It provides an overview of transportation systems in the region, and a vision for how they will develop in the future, to connect and serve all residents and visitors.

Recognizing the very limited funding available for agencies and jurisdictions throughout the state, our recommended investment strategy emphasizes preserving our current infrastructure. Sun Corridor MPO member agencies will partner to select projects that improves access to employment centers, connects freight to major transportation corridors, and drives economic development in the region.

We look forward to partnering together to create connectivity for the future prosperity of the Sun Corridor MPO region.

Sincerely,

Sharon Mitchell, Executive Director

LETTER FROM CHAIRMAN OF RTP COMMITTEE

The Sun Corridor Metropolitan Planning Organization, in developing its first Regional Transportation Plan, worked hard to develop a future investment strategy for federal funds that will be expended in the region. Future spending priorities were developed based on technical analysis, input from the public, and input from the Sun Corridor MPO partner agencies.

This Plan focuses strongly on maintaining existing infrastructure, yet provides sufficient flexibility to modernize and expand the transportation system as needed.

As Chairman of the Sun Corridor MPO Regional Transportation Plan Technical Advisory Committee, I would like to thank the committee members for their hard work in developing the Plan, as well as members of the public who participated in public meetings for the plan.

Sincerely,

Duane Eitel, Chairman

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

DISCLAIMER

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

Table of Contents

TABLE OF CONTENTS

List of Figures

List of Figures

List of Tables

ACRONYMS

Acronym	Name	Description
AASHTO	American Association of State Highway Transportation Officials	Association representing highway and transportation departments
ADOT	Arizona Department of Transportation	State Transportation Agency
ADT	Average Daily Traffic Count	Traffic counts made every three years on all streets. FHWA requirement.
BQAZ	Building a Quality AZ	ADOT Study to identify multimodal needs and a transportation vision through 2050
CAG	Central Arizona Governments	Council of Governments serving Gila County and part of Pinal County
EIS	Environmental Impact Statement	Comprehensive public document that analyzes the impacts of a Federal action that will have a significant effect on the human environment
FAST Act	Fixing America's Surface Transportation (FAST) Act	Federal legislation for surface transportation programs. Enacted December 4, 2015
FHWA	Federal Highway Administration	Provides funding for planning
FTA	Federal Transit Administration	An agency within the Department of Transportation that provides financial and technical assistance to local public transit systems
HPMS	Highway Performance Monitoring System	Yearly road information system for functionally classified roads
HSIP	Highway Safety Improvement Program	Local and state funding for safety projects
HURF	Highway User Revenue Fund	State shared revenue funding
LRTP	Long Range Transportation Plan	Required planning document for MPO's
MAP-21	Moving Ahead for Progress in the 21 Century	Federal legislation for surface transportation programs. Enacted July 6, 2012
MPO	Metropolitan Planning Organization	Agency formed to provide transportation planning in a region or area that reaches 50K in population
OA	Obligation Authority	The amount of federal funds that can be spent from an apportionment (a percent)
PMS	Pavement Management System	ADOT's system for pavement preservation
PM10	Particulate Matter of 10 microns or less	Environmental gauge for clean air

ACRONYMS

Acronym	Name	Description
PM2.5	Particulate Matter of 2.5 microns or less	Environmental gauge for clean air
ROW	Right of Way	A type of easement granted or reserved over land for transportation purposes
RTP	Regional Transportation Plan	A long-term blueprint for the region's transportation system, which is a federal requirement for funding.
STIP	State Transportation Improvement Program	Statewide TIP. A five-year program of all construction projects (to include the TIP)
STP	Surface Transportation Program	Funds that are distributed through the COGs/MPOs for projects
TAC	Technical Advisory Committee	Sun Corridor MPO TAC comprises member agency representatives who provide insight into the planning needs of the region
TAP	Transportation Alternative Program	Program provides funding for projects such as pedestrian and bicycle facilities, improving non-driver access to public transportation; recreational trails; and safe routes to school projects.
TAZ	Traffic Analysis Zone	A unit of geography used in transportation planning models
TDMS	Transportation Data Management System	Software application available to all local governments to upload traffic data
TIP	Transportation Improvement Program	Projects that are funded must be on the TIP in order to be programmed for construction and reimbursement.
UZA	Urbanized Areas	Defined areas by ADOT/FHWA based on population census. Reviewed every 10 years.
UPWP	United Planning Work Program	MPO's Work Program

ACKNOWLEDGMENTS

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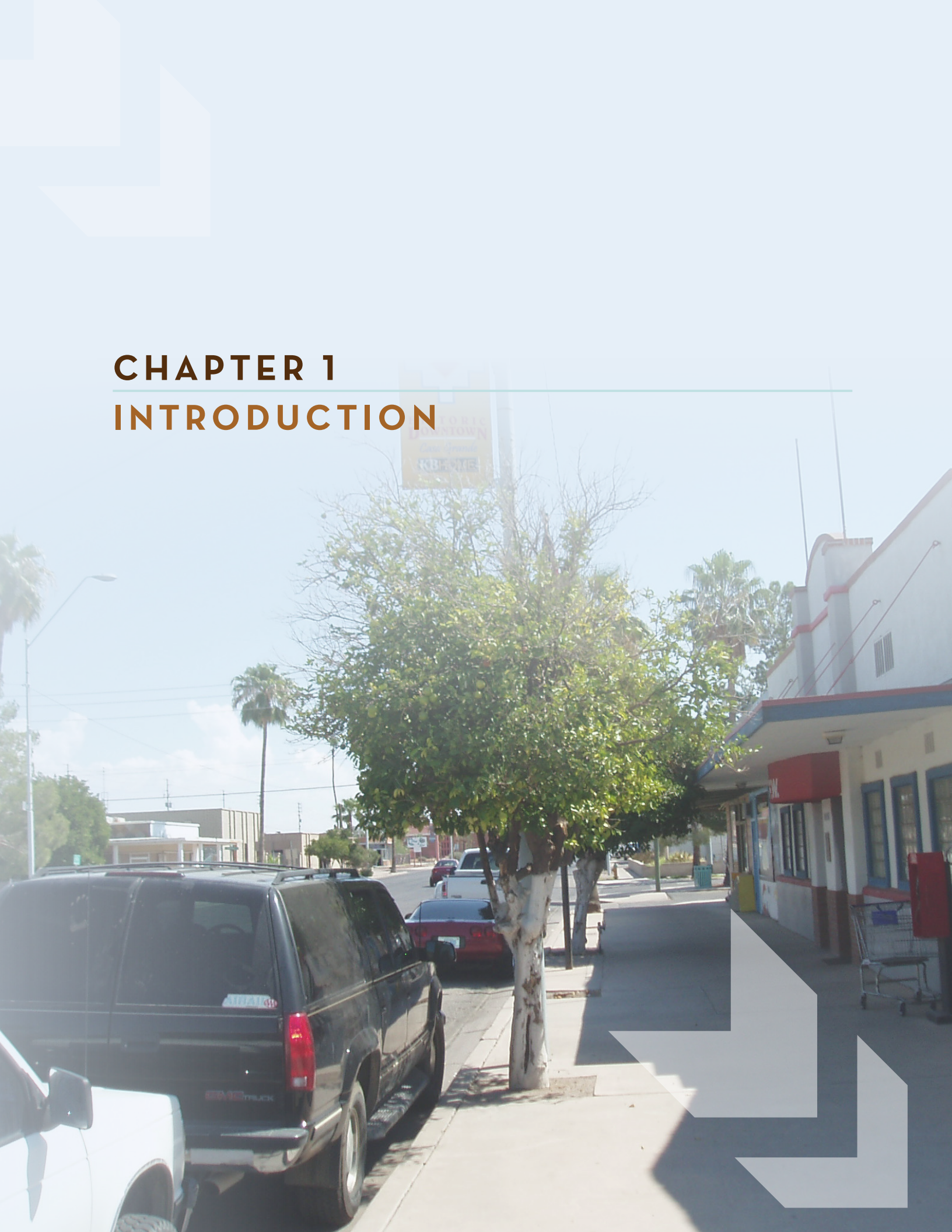
CHAPTER 1
INTRODUCTION



1. Introduction

The Sun Corridor Metropolitan Planning Organization (Sun Corridor MPO) was formed in 2013, after the 2010 U.S. Census determined that the City of Casa Grande had reached a population over 50,000. Federal law requires that a Metropolitan Planning Organization (MPO) be formed to provide transportation planning within designated boundaries. The Sun Corridor MPO encompasses 1,155 square miles, and provides transportation planning services to the region that includes the cities of Casa Grande, Coolidge, and Eloy, and adjacent rural portions of Pinal County. The 2015 population of the Sun Corridor MPO is 119,332. The Sun Corridor MPO region is shown in Figure 1.

Nestled between two major metropolitan areas (Tucson and Phoenix), two Native American communities, and one Native American nation, the Sun Corridor MPO is in a unique position to develop partnerships that will enhance the region's ability to provide goods, services, and economic development strategies; improve local and regionally significant roads and transit systems; and plan for transportation improvements along I-8, I-10, and the future I-11 Intermountain West Corridor. This region is an important gateway for regional, national, and international freight shipments.

What is a Metropolitan Planning Organization?

A metropolitan planning organization (MPO) is a federally mandated and federally funded transportation policy-making organization comprised of representatives from local government. The Federal-Aid Highway Act of 1962 requires the formation of an MPO for any urbanized area (UZA) with a population greater than 50,000.

Federal funding for transportation projects and programs are channeled through the MPO. Congress created MPOs to ensure that existing and future expenditures of governmental funds for transportation projects and programs are based on a continuing, cooperative, and comprehensive ("3 C") planning process. Statewide and metropolitan transportation planning processes are governed by federal law (23 U.S.C.§§ 134–135). As of 2015, there are 408 MPOs in the United States.

Sun Corridor MPO Regional Transportation Plan 2040, Creating Connectivity

This is the first Regional Transportation Plan (RTP) for the Sun Corridor MPO. The Sun Corridor MPO RTP defines the region's strategy for creating a regional transportation system that accommodates the current mobility needs of residents, while also looking to the future.

The RTP describes how federal transportation funds, provided to the Sun Corridor MPO, will be expended over the next 25 years, from now until 2040, within the Sun Corridor MPO planning area. The RTP is a financially constrained plan, meaning that projected expenditures are programmed consistent with anticipated revenue.

The RTP addresses all modes of transportation, including automobile, bicycle, pedestrian, transit, air, and rail movements. The RTP is updated once every four years, enabling the plan to evolve as the region continues to grow and develop.

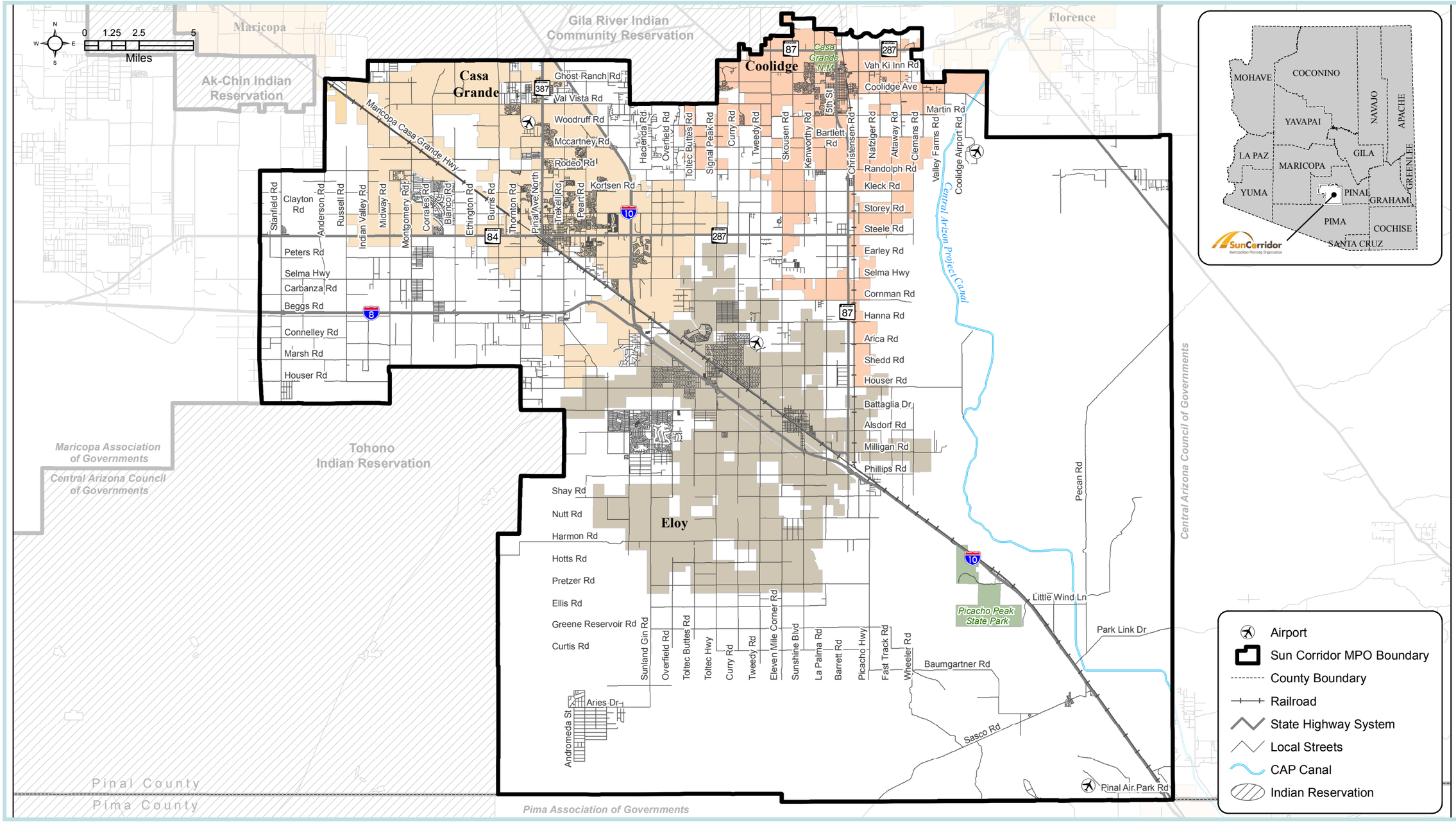


Figure 1 – Sun Corridor MPO Region

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Regional Context

The **Arizona Sun Corridor** megapolitan area is one of the fastest-growing conurbations[1] in the country. The Arizona Sun Corridor megapolitan area shown in Figure 2 extends from Prescott to Nogales, Arizona and is home to more than 5.5 million people (about the same population size as the state of Wisconsin). By 2050, the megapolitan area is projected to grow to more than 12 million people (about the current population size of Illinois or Ohio). The Arizona Sun Corridor comprises all of Maricopa, Pinal and Pima counties, along with parts of Yavapai, Santa Cruz, and Cochise counties. The Arizona Sun Corridor is home to over 86 percent of Arizona's population.

The rapidly growing Arizona Sun Corridor region has been referred to as part of the "new new west[2]" that requires new federal, state, and local partnerships. Recognizing the tremendous growth and opportunities that lie before them, as well as the current funding and fiscal challenges for transportation and other infrastructure, the Sun Corridor MPO, representing portions of unincorporated Pinal County, and the cities of Casa Grande, Coolidge, and Eloy, have developed this Regional Transportation Plan 2040 Creating Connectivity.

This Sun Corridor MPO RTP emphasizes the regional cooperation required to improve and maintain the region's transportation infrastructure to best position the region for sustainable economic growth.

What is a Regional Transportation Plan?

The Regional Transportation Plan is a long-term blueprint for the region's transportation.

The plan fulfills federal requirements and serves as the region's transportation vision.

Federal funding cannot be allocated to transportation projects and programs unless they are included in this financially constrained plan.

The Plan is updated every four years to ensure that it continues to meet the needs of the region.

Figure 2 – Arizona Sun Corridor

[1] *A conurbation is a region consisting of cities or towns that have grown so that there is very little room between them*
[2] *Mountain Megas: America's Newest Metropolitan Places and a Federal Partnership to Help Them Prosper, Brookings Institute, 2008*

What is the difference between a Regional Transportation Plan and other Transportation Planning Documents?

The RTP identifies an investment strategy and a project selection and prioritization process to guide how federal funds are spent on transportation improvements within the region. The RTP provides an overall transportation policy vision for the region, as shown in Figure 3. The direction provided in the RTP is a guide for the more detailed future work of specific project development. The RTP does not replace individual jurisdiction's transportation master plans, circulation plans, capital improvement plans, or modal plans such as bicycle, pedestrian, or transit plans. Figure 4 shows the primary elements of the RTP and the emphasis placed on them and in other planning documents.

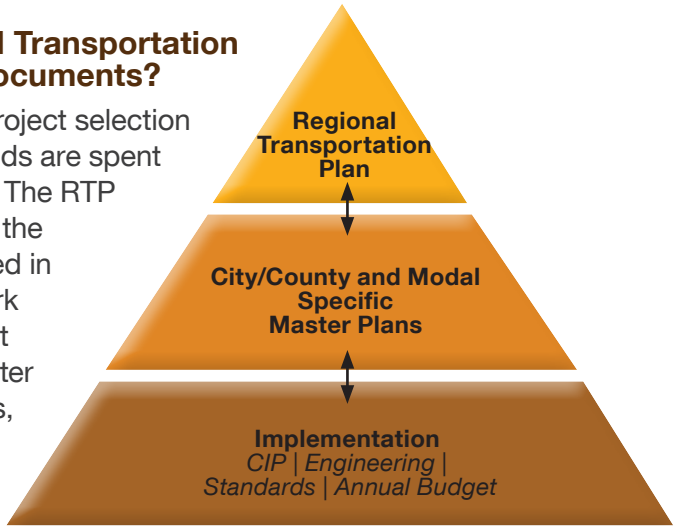

Figure 3 – RTP Provides Overall Regional Transportation Policy Vision

RELATIONSHIP OF RTP TO OTHER PLANNING PROCESSES

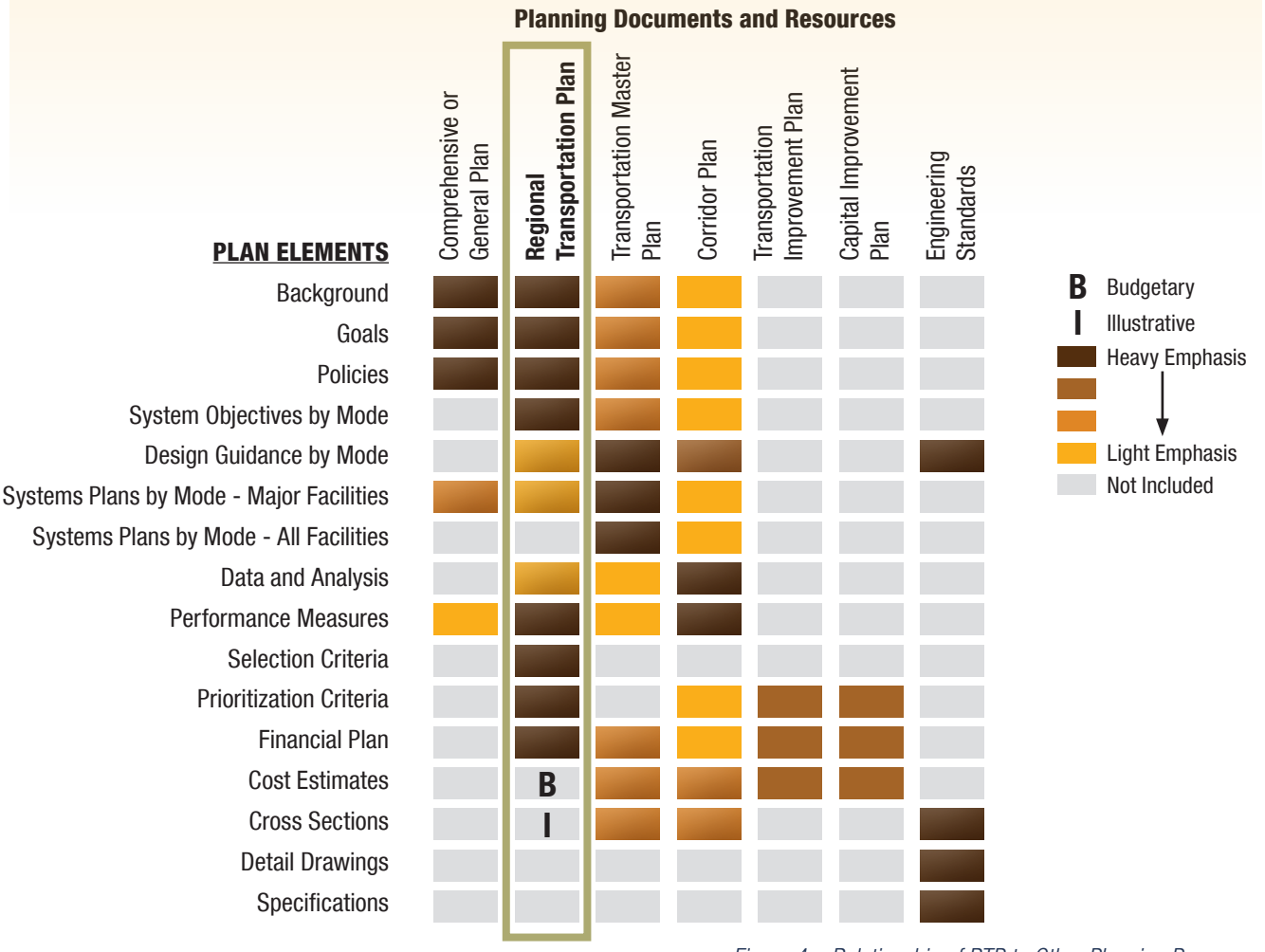

Figure 4 – Relationship of RTP to Other Planning Processes

The Planning Process

The Sun Corridor MPO RTP represents a collaborative effort to establish a vision for the region's transportation system. The RTP was developed collaboratively based on direction from the Technical Advisory Committee (TAC), while considering public and stakeholder input. The RTP planning process provides answers to four key questions, as illustrated in Figure 5.

1. **Where are we now?** The RTP summarizes 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 of how limited resources will be expended for transportation improvements.

Figure 5 – The Regional Transportation Planning Process

Sun Corridor MPO RTP Recommended Investment Strategy

The Sun Corridor MPO Regional Transportation Plan 2040, Creating Connectivity presents a recommended investment strategy (RIS) for expenditure of federal funds within the Sun Corridor MPO region.

The RIS priorities were developed based on technical analysis, public and stakeholder input received through stakeholder outreach, and Sun Corridor TAC member directives.

The RIS recognizes the public's and stakeholders' priority to maintain existing infrastructure, yet provides sufficient flexibility to modernize and expand the roadway system as needed. The RIS drives the allocation of resources and influences project selection, yet is sufficiently flexible to allow Sun Corridor MPO agencies to accommodate and respond to changing needs and emerging priorities.

The funding allocations defined in the RIS as presented in Figure 6 underscore the goals of Sun Corridor MPO agencies to both preserve the current system and to expand travel choices for residents and visitors, while also strategically investing to create/retain jobs.

The impact of the RIS on transportation system performance will be limited because of the realities of diminishing long-range revenues. However, the RIS allocations across categories show the commitment of Sun Corridor member agencies to:

- ⇒ Preserve the region's major roadways (arterial and collectors).
- ⇒ Improve mobility and safety through modest expansion as needed to address economic development needs.
- ⇒ Support economic development by investing in transportation corridors that improve connectivity to employment.
- ⇒ Increase safety and efficiency via system modernization.

Figure 6 – Recommended Investment Strategy

CHAPTER 2
COMMUNITY OUTREACH

2. Community Outreach

Citizen involvement—whether through direct contact or by the input of community representatives—is an important part of successful transportation planning. The Sun Corridor MPO is committed to inclusive and meaningful public involvement and open and honest communications with all individuals and entities. Another aspect of public involvement is forming partnerships between member entities and the public and private sectors to plan and implement transportation/congestion solutions. Community outreach is also critical for identifying community goals and context which provide insight on desired and appropriate transportation solutions.

The public involvement plan for this effort placed major emphasis on engaging the community early in the process. Early engagement allows potentially critical information provided by stakeholders to still influence decisions and also ensures widespread and inclusive outreach. Accordingly, the resultant stakeholder list had a wide variety of contacts including economic development interests such as area chambers of commerce and freight representatives, government and elected officials, property owners and school district transportation administrators, and bicycle and pedestrian representatives. Recognizing both the large amount of land suitable for future development and ongoing development in the planning area, the team made a special effort to engage the development community, including owners of large undeveloped land, builders, and engineers.

Throughout this project, public input was conducted in the following ways (Figure 7):

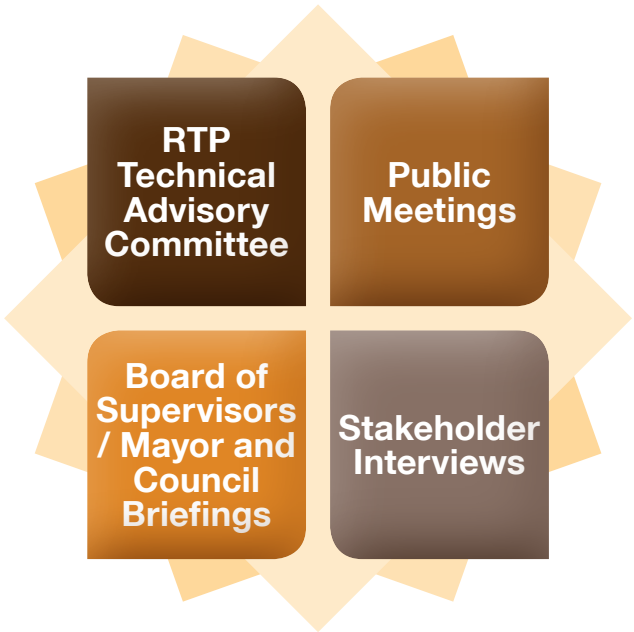

Figure 7 – Community Outreach Elements

⇒ **Public Meetings:** Public meetings were held in May 2015 to present information about the RTP and obtain input on transportation goals, priorities, and the recommended project list. Public meetings were held in Coolidge on May 18, 2015 from 5:30 to 7 p.m. and in Casa Grande on May 20, 2015 from 5:30 to 7 p.m. About 29 members of the public attended. In addition, a meeting for developers was held on May 20, 2015 in Casa Grande from 4 to 5:30 p.m. About 11 members of the development community attended. The May public meeting invitation was emailed to stakeholders on April 16, 2015 and May 8, 2015. An invitation to the developer meeting was emailed on April 27, 2015. Other advertising included a newspaper advertisement published in the Casa Grande Dispatch TriValley Newspaper and a news release to local media. Public meeting attendees were able to view information displays, participate in a goals prioritization exercise, and talk with team members. Large study area maps were provided at tables and attendees were encouraged to make notations and comment directly on the maps, indicating areas of possible concerns regarding current conditions, economic vitality, safety, mobility, and environmental protection. Additionally, developers

were specifically asked to indicate areas that may experience growth and development activity. Participants were encouraged to view the displays, ask questions, and provide feedback.

Public and stakeholder comments received at the May 2015 meetings indicated, through the goal prioritization exercise, that the most critical transportation issues in the Sun Corridor MP region relate to roadway and bridge condition (maintaining the road system in good repair), economic vitality, and roadway safety. Figure 8 demonstrates the relative priority of each of the RTP goal areas. Members of the public also provided specific comments related to the need for transit and rail service, regional connectivity such as the completion of the North-South Corridor and widening I-10 between Casa Grande and Phoenix. Improvements identified as needed included additional traffic signals, additional freeway access, and general connectivity. Requests for widening Hunt Highway and Attaway Road were also prevalent.

⇒ **RTP Technical Advisory Committee:** Representatives of the Sun Corridor MPO met regularly during the course of the project to discuss progress and issues, and to provide guidance for the plan.

⇒ **Board of Supervisors/Mayor and Council Briefings:** Briefings were held at key points in the study.

⇒ **Stakeholder Interviews:** Information was gathered through discussions with city and county staff and others. These meetings shed light on issues and needs of the transportation system relative to each organization's interests.

Stakeholder and Public Input on RTP Plan Goals and Priorities

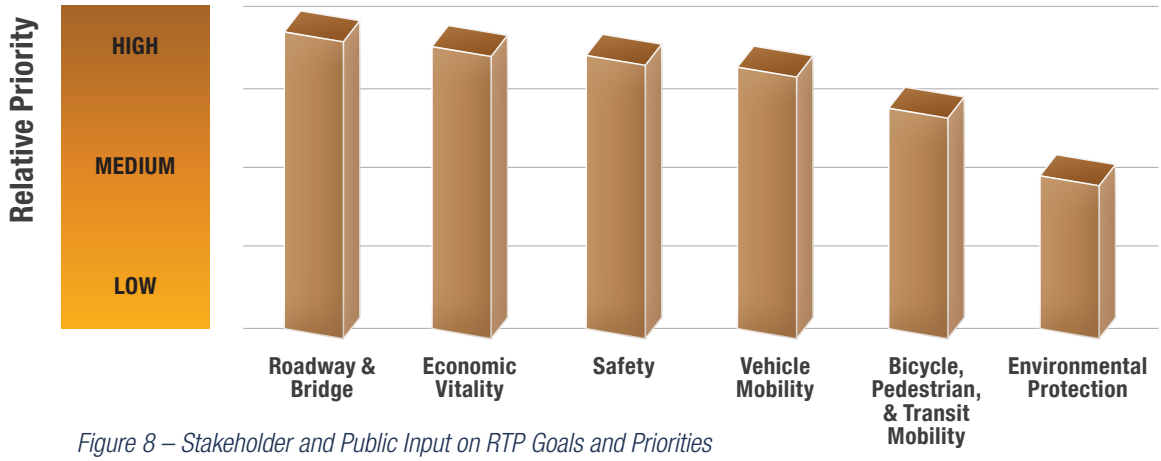

Figure 8 – Stakeholder and Public Input on RTP Goals and Priorities

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CHAPTER 3

GOALS, OBJECTIVES, AND PERFORMANCE MEASURES

3. Goals, Objectives, and Performance Measures

Moving Ahead for Progress in the 21st Century (MAP-21), the federal highway funding authorization signed into law on July 6, 2012, promoted a performance-based, and 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 Fixing America's Surface Transportation (FAST) Act, signed into law on December 4, 2015, maintained a performance-based approach to transportation planning.

MAP-21 and the subsequent FAST Act, outline funding and procedural requirements for multimodal 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. Emphasis on a performance-driven and outcome-based approach is reflected in this RTP.

Goals and Performance Measures

Performance-based planning methods help to 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. **Develop 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 and obtaining input on priorities at public meetings.
2. **Identify performance measures** – These are metrics that are used to assess progress towards meeting an objective.
3. **Establish performance targets** – Targets are measures of performance. In this plan, many of the targets involve exceeding the baseline conditions that are experienced today.
4. **Allocate resources** – This step involves determining the specific approaches that will be used to achieve the targets.
5. **Measure and report results** – This step involves measuring progress on a regular basis.

These steps are shown in Figure 9.

Performance-based planning helps to ensure that citizens receive results from their tax dollars.

Figure 9 – Steps in a Performance-Based Planning Process

For the RTP, the planning process led to development of goals in six areas:

- ⇒ Roadway and bridge
- ⇒ Safety
- ⇒ Vehicle mobility
- ⇒ Bicycle, pedestrian and transit
- ⇒ Economic vitality
- ⇒ Environmental protection

For each goal area, a description of the objective, 2015 baseline condition, and 2020 target is provided in the following sections. As this RTP is the region's first, the intent of the targets is to show progress in the right direction while recognizing there is not enough history to set specific targets. Specific targets will be established in future RTP updates.

Roadway and Bridge

The **roadway and bridge** goal is to maintain the road system in good repair. This goal has two objectives. One objective for this goal is to increase the percentage of roads in good condition. The 2015 baseline conditions include the following:

- ⇒ Arterial or collector roads in good, very good, or excellent condition – 82 percent of Casa Grande roads, 11 percent of Coolidge roads, 22.5 percent of Eloy roads, and 44 percent of Pinal County roads
- ⇒ Arterial or collector roads in fair condition – 16 percent of Casa Grande roads, 46 percent of Coolidge roads, 56 percent of Eloy roads, and 56 percent of Pinal County roads
- ⇒ Arterial or collector roads in poor or very poor condition – 2 percent of Casa Grande roads, 43 percent of Coolidge roads, 22 percent of Eloy roads, and zero percent of Pinal County roads

The 2020 target is to increase the percentage of roads in good condition.

The other objective is to increase the percentage of bridges classified in good condition. The 2015 baseline condition shows the percentage of bridges that are classified in good condition, which for the Sun Corridor MPO region is estimated to be 90.5 percent of all bridges. The 2020 target is to increase the percentage of bridges in good condition.

<table>
<tr><th colspan="4">Goal: Maintain the road system in good repair.</th></tr>
<tr><th>Objective</th><th colspan="2">2015 Baseline Condition</th><th>2020 Target</th></tr>
<tr><td rowspan="2">Increase the percentage of roads in good condition.</td><td colspan="2">Arterial and collector roadway condition (percentage of inspected segments)</td><td rowspan="2">Increase in percentage of roads in good condition.</td></tr>
<tr><td>Casa Grande
» 82.1% good, very good, or excellent
» 15.9% fair
» 2.0 % poor or very poor
Coolidge
» 11.3% good, very good, or excellent
» 46.3% fair
» 42.5 % poor or very poor</td><td>Eloy
» 22.5% good, very good, or excellent
» 55.9% fair
» 21.6% poor or very poor
Pinal County
» 44.3% good
» 55.7% fair</td></tr>
<tr><td>Increase the percentage of bridges classified as in good condition.</td><td colspan="2">Percentage of bridges that are not classified as functionally obsolete or structurally deficient – 90.5%</td><td>Increase in percentage of bridges in good condition.</td></tr>
</table>

Safety

The **safety goal** is to reduce the number of fatalities and serious injury crashes on all public roads. The objective for this goal is to improve the five-year rolling average for fatalities and serious injuries. The 2015 baseline condition shows the average number of fatalities for the five-year period from 2010 to 2014, which is 20 fatalities, and the average number of serious (incapacitating) injuries from 2010 to 2014, which is 45 serious injuries. The 2020 target is to decrease the five-year rolling average for both fatalities and incapacitating injuries.

Goal: Reduce the number of fatalities and serious-injury crashes on all public roads.		
Objective	**2015 Baseline Condition**	**2020 Target**
Improve the five-year rolling average for: » Fatalities » Serious Injuries	» Average number of fatalities, 2010 – 2014: 20 » Average number of serious (incapacitating) injuries, 2010 – 2014: 45	» Decrease the five-year rolling average for fatalities. » Decrease the five-year rolling average for incapacitating injuries.

Vehicle Mobility

The **vehicle mobility goal** is to reduce travel time in the region by providing new and improving existing roadway connections. One objective for this goal is to reduce the annual hours of delay on major arterials and collectors in the region. The 2015 baseline condition is the number of vehicle hours traveled, which is estimated to be 63,146 vehicle hours. The 2020 target is to decrease the annual vehicle hours traveled.

The other objective is to reduce the number of roadway segment miles with unacceptable level of service (LOS E or F) on major arterials and collectors. Since there are currently no road segment miles that perform at level of service E or F, the 2020 target is to continue to have zero miles of roadways operating at level of service E or F.

Goal: Reduce travel times in the region by providing new and improving existing roadway connections.		
Objective	**2015 Baseline Condition**	**2020 Target**
Reduce annual hours of delay on major arterials and collectors in the region.	2010 vehicle hours traveled = 63,146	» Decrease annual vehicle hours traveled.
Reduce roadway segment miles with unacceptable LOS (LOS E or F) on major arterials and collectors in the region.	There are currently zero road segment miles that perform at Level of Service (LOS) E or F	Zero miles of roadway operating at LOS E and F.

Bicycle, Pedestrian, and Transit

The **bicycle, pedestrian, and transit goal** is to provide more bicycle, pedestrian and transit options region wide. There are three objectives to address this goal. The first objective is to increase annual transit vehicle revenue miles and annual transit vehicle revenue hours. The 2015 baseline condition reports on the annual vehicle revenue miles and hours for the Cotton Express and the Central Arizona Regional Transit System (CART). The Cotton Express reported 76,221 vehicle revenue miles and 9,828 vehicle service hours for 2015, and the CART system reported 146,141 revenue miles and 4,788 revenue hours. The 2020 target is to increase these measures.

The second objective is to increase the annual transit passenger trips, specifically for the CART and Cotton Express systems. The 2015 baseline condition reports 26,224 passenger trips for the CART system and 27,687 passenger trips for the Cotton Express system. The 2020 target is to increase annual ridership. The third objective is to increase the number of miles of new bicycle infrastructure in the region. The 2015 baseline condition for this objective is the measurement of the number of miles of arterial and collector roadways with bike lanes in each jurisdiction, which currently includes 31.42 miles of striped bike lanes in Casa Grande, 8.17 miles of paved shoulder 4-foot wide or greater in Coolidge, and 6.49 miles of paved shoulder and 0.94 miles of striped bike lane in Eloy. Unincorporated Pinal County did not report any bike lanes. The 2020 target is to increase the number of collector and arterial roadways with bike lanes.

Goal: Provide more bicycle, pedestrian, and transit options region wide.		
Objective	**2015 Baseline Condition***	**2020 Target**
Increase annual transit vehicle revenue miles and annual transit vehicle revenue hours.	» Annual vehicle revenue miles CART: 146,141 revenue miles Cotton Express: 76,221 revenue miles » Annual vehicle revenue hours CART: 4,788 vehicle service hours Cotton Express: 9,828 vehicle service hours	» Increase annual vehicle revenue miles » Increase annual vehicle revenue hours
Increase annual transit passenger trips.	» Annual transit ridership CART: 26,224 passenger trips Cotton Express: 27,687 passenger trips	Increase in annual ridership.
Increase the number of miles of new bicycle infrastructure in the region.	Miles of arterials and collectors with bike lanes ***Casa Grande*** » 31.42 miles striped bicycle lane ***Coolidge*** » 8.17 miles of paved shoulder 4-foot wide or greater ***Eloy*** » 6.49 miles paved shoulder » 0.94 miles striped bike lane ***Pinal County*** » No designated bicycle facilities	Increase miles of principal arterials, major arterials, and major collectors with bike lanes.

**Transit data is for period October 2013 to November 2014*

Economic Vitality

The **economic vitality goal** is to provide more jobs in the region. The objective for this goal is to increase the number of jobs within the region. The 2015 baseline condition for this goal involves a number of indicators:

⇒ Total primary jobs – 21,754 persons

⇒ Persons employed and living in the Sun Corridor (MPO) region – 11,316 persons

⇒ Inflow employees – 10,438 persons

⇒ Outflow employees – 23,572 persons

It should be noted that the baseline condition is reported using 2013 U.S. Census data, which is the latest that is available for this type of information.

The 2020 target is to increase the total number of primary jobs in the region.

Goal: Provide more jobs in the region.		
Objective	**2015 Baseline Condition**	**2020 Target**
Increase number of jobs in the region.	» Total primary jobs*: 21,754 persons » Employed and living in Sun Corridor (MPO) region: 11,316 persons » Inflow employees: 10,438 persons » Outflow employees: 23,572 persons	Increase total primary jobs in the region.

2013 U.S. Census Data

Environmental Protection

The **environmental protection goal** is to protect and enhance the natural environment through measures such as paving more dirt roads to reduce dust, noise, and air pollution. The objective of this goal is to decrease the number of miles of unpaved roads, which will decrease dust pollution. The 2015 baseline condition is the miles of unpaved roads by jurisdiction, which include approximately 32 miles of roadway for Casa Grande, 69 miles of roads for Coolidge, 67 miles of roads for Eloy, and 225 miles of gravel/dirt roads and 113 miles of asphalt-rock dust palliatives for Pinal County. The 2020 target is to reduce the number of unpaved roads. The Pinal County Fugitive Dust Rule-making established a goal to pave 15 miles per year for 3-years.

Goal: Protect and enhance the natural environment through measures such as paving more dirt roads to reduce dust, noise, and air pollution.			
Objective	**2015 Baseline Condition**		**2020 Target**
Decrease the number of miles of unpaved roads, which will decrease dust pollution.	Miles of unpaved roads:		Reduce number of miles of unpaved roads.
	Casa Grande » Approximately 32 miles ***Coolidge*** » 69 miles of gravel/dirt roads	***Eloy*** » 67 miles of gravel/dirt roads ***Pinal County*** » 225 miles of gravel/dirt roads and 113 miles of asphalt-rock dust palliatives	

CHAPTER 4

ECONOMIC DEVELOPMENT AND TRANSPORTATION

4. Economic Development and Transportation

Economic development and transportation are closely intertwined. An efficient transportation system is essential to a market economy. Efficient transportation facilities provide economic benefits such as accessibility to markets and labor resources. An effective transportation network helps customers to easily reach markets, employees to get to work, and industry to ship goods faster. Businesses, ranging from shopping malls to industrial factories, make location and development decisions based on nearby transportation facilities.

Inefficient transportation facilities have an economic cost such as missed economic opportunities and lower quality of life that results from congestion or long commutes.

The RTP recognizes the intrinsic link between transportation and economic development. The Sun Corridor MPO and RTP TAC members are committed to selecting, prioritizing, and funding projects that maximize economic impact while serving other transportation purposes. To this end, economic development is considered throughout the RTP. The RTP established an economic development-focused goal and a 2020 target:

⇒ RTP Goal: Increase number of jobs in the region. In 2015, there are currently a total 21,754 jobs in the region.

⇒ RTP 2020 Target: Increase total primary jobs in the region.

To achieve this goal, during the annual Transportation Improvement Program (TIP) development, each project nominated by Sun Corridor MPO TAC member agencies will be evaluated for its potential to impact economic development according to the following criteria:

⇒ Project serves or improves connectivity and mobility to an existing or planned major regional employment/activity center

Application of these criteria to candidate projects will help to ensure that transportation investments are devoted to where they will have the most economic benefit.

Economic Development Areas of Interest

Over the next 25 years and beyond, the Sun Corridor MPO region is positioned to experience sustained economic development growth. Sun Corridor MPO and its member agencies are committed to promoting projects that improve access to existing employment centers, as well as to new and emerging centers.

One such area within the Sun Corridor MPO region that is emerging with major new developments is the Tractor Supply Company's 650,000-square-foot warehouse distribution center located in the rail-served Central Arizona Commerce Park, which is expected to have a staff of 250. A number of the existing manufacturers in the region are also expanding in the Casa Grande area including:

- Hexcel Corporation (structural systems manufacturing, primarily for aircraft)
- Food for Life (structural systems manufacturing)
- Commonwealth Dairy (manufacturing)
- Glass Inc. International (flat glass)

Expanding manufacturers in Coolidge include Stinger Welding (welding and expansion joint manufacturing) and Bright International (hair care product manufacturing).

Each of these expanding facilities is expected to add 50 or more employees to their workforce. These additions and expansions, because they are occurring in exporting ("basic") industries, will tend to produce a higher jobs-multiplier effect for the region than most other types of new economic activity. A number of these additions and expansions in Casa Grande are located in an area where major concentrations of industrial activity already exist.

Other major projects proposed for the region are:

- **The Union Pacific Classification Yard at Red Rock.** Implementation of this project depends on a number of approvals including acquisition of the property from the Arizona State Land Department (See Figure 10).
- **PhoenixMart, a business-to-business marketplace intending to serve markets at a global scale.** Phase I of this project is scheduled to open in Fall 2016. The project also involves a planned adjacent major industrial park (See Figure 10).
- **Pinal Airpark.** This existing facility is currently undergoing a master planning process. The primary goal of the plan is "to determine the extent, type, and schedule of development needed to accommodate existing needs and future aviation demand" (C&S Companies, Airport Master Plan, Draft Existing Conditions and Needs Report Appendices, June 2014). According to Timothy Kanaval, Pinal County Economic Development Program Manager, consideration will also be given to the concept of having the Airpark serve as a major cargo hub (See Figure 10).
- **Pinal Land Holdings Inland Port Arizona.** Another recent activity that will likely have an impact on future economic and other development in the Sun Corridor MPO region is the acquisition of an 11,400-acre former City of Mesa water farm by a single entity, Pinal Land Holdings. The property comprises several different parcels, not all of which are contiguous. This property includes land designated as the Inland Port Arizona—a 1,637-acre industrial park (see Figure 10). It is also logical to assume that the current owners, as investors, will seek to maximize the development potential of all of this property.

The Sun Corridor MPO region will benefit from the presence afforded by I-10 and I-8. The Sun Corridor MPO TAC is committed to implementing projects that maintain adequate performance so as to best support economic growth and development. The Sun Corridor MPO supports additional access to I-10 so that congested or limited access does not become a constraint to growth.

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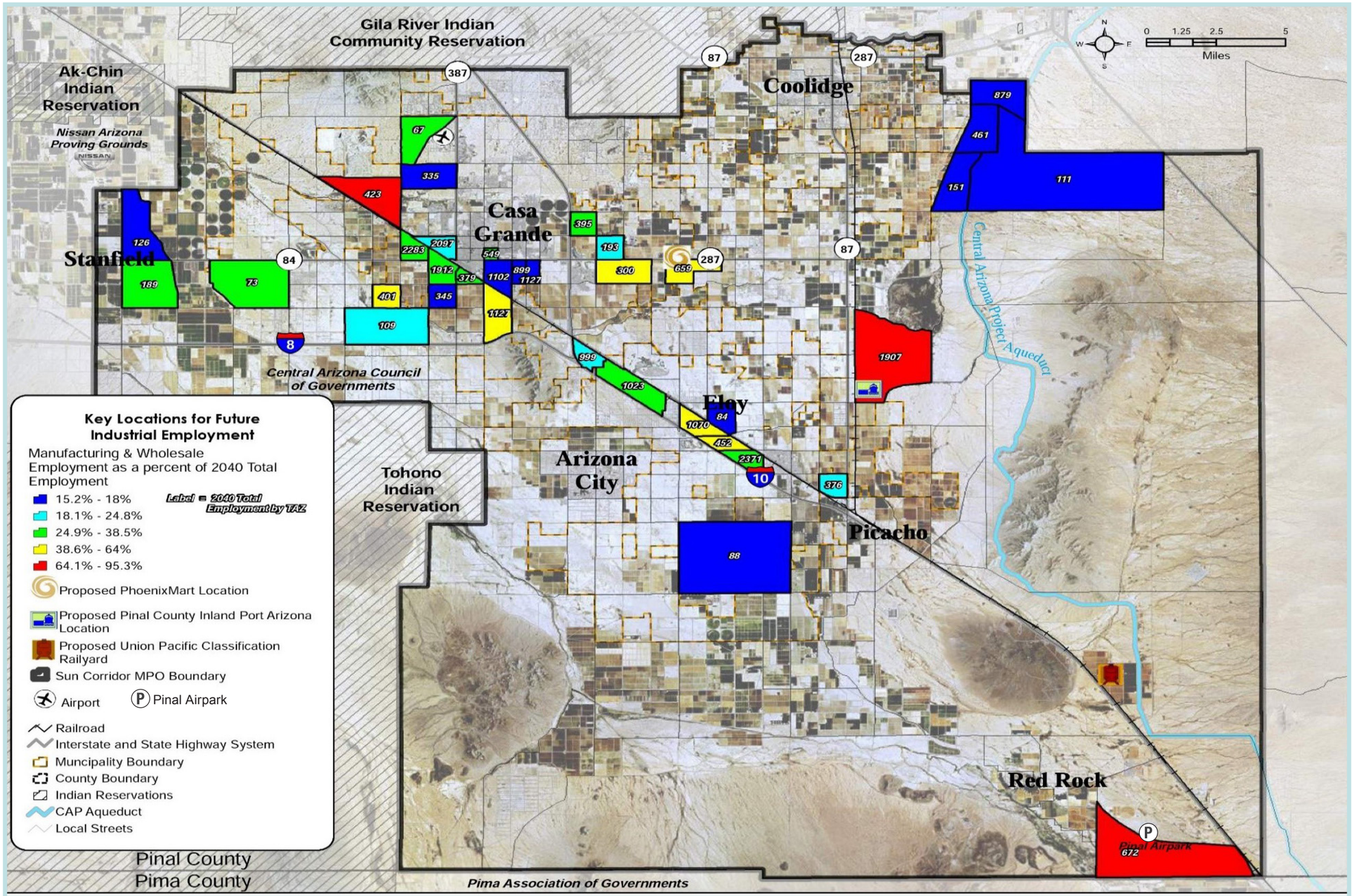

Figure 10 – Key Locations for Future Industrial Employment

Source: ALRIS, Arizona Builders Exchange "UPRR Switching Yard Being Studied for One Year," ESRI, US Census, US DOT, BN & UP Railroad, USGS

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CHAPTER 5

CURRENT AND FUTURE POPULATION AND EMPLOYMENT

5. Current and Future Population and Employment

Population, employment, demographics and where growth happens helps define transportation needs and choices. As the population grows, the need for roadways to facilitate travel and mobility needs will grow. This chapter summarizes current (2015) population and employment data, and provides a projection of future (2025 and 2040) population and employment.

Population and Employment

Current Population

The Sun Corridor MPO planning area 2015 population is estimated to be 121,979 persons[3]. The most densely populated areas are centered primarily in the incorporated cities of the region, as shown in Figure 12 on the next page.
The darker areas in the figure represent higher densities. 2015 population by community is estimated to be:

- ⇒ City of Casa Grande: 52,456 persons
- ⇒ City of Coolidge: 13,786 persons
- ⇒ City of Eloy: 20,339 persons
- ⇒ Pinal County (entirety): 415,000 persons

Future Population

Future population estimates were developed in collaboration with study stakeholders. The project team worked with Sun Corridor MPO jurisdictions, Arizona Department of Transportation (ADOT), Sun Corridor MPO, and Maricopa Association of Governments (MAG) to review population and employment projections. Population projections must also be consistent with those developed by the State Demographer's Office.

Population is anticipated to grow from today's 122,000 persons to approximately 330,000 persons in 2040. This represents an annual average growth rate of 4.06% per year over the next 25 years. Population projections for the region are shown graphically in Figure 11.

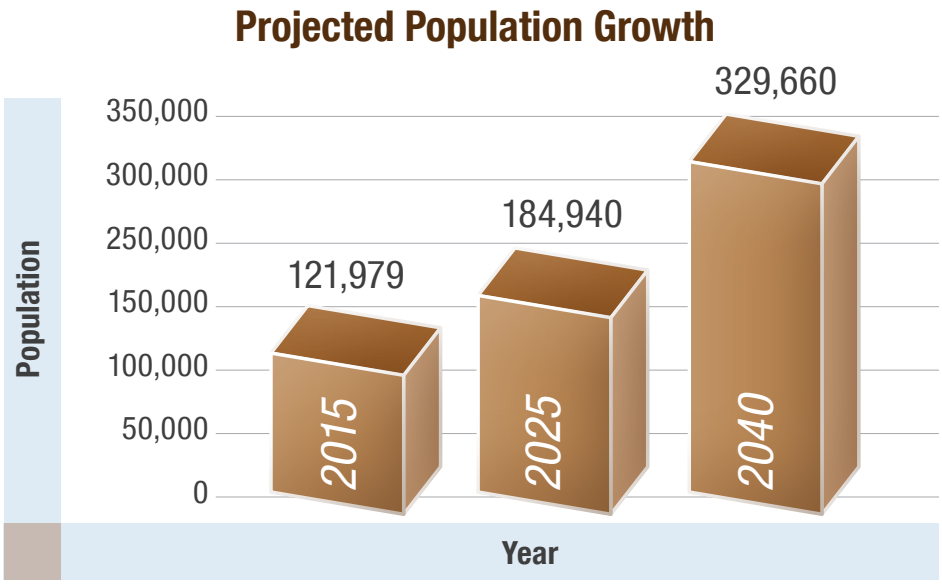

Figure 11 – Projected Population Growth in the Sun Corridor MPO Region

[3] *Source: Maricopa Association of Governments Travel Demand Model*

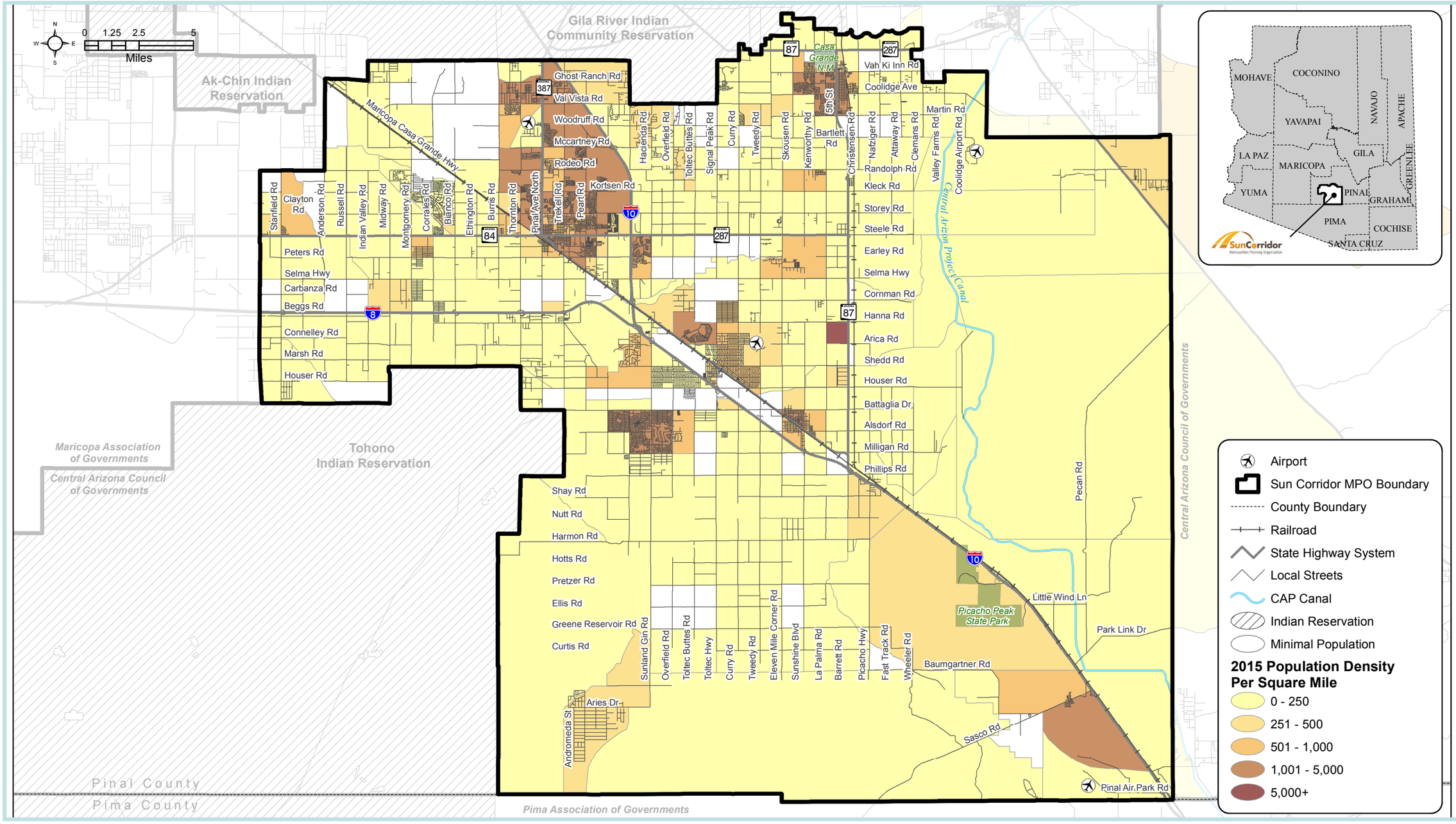

Figure 12 – 2015 Population Density in the Sun Corridor MPO Region

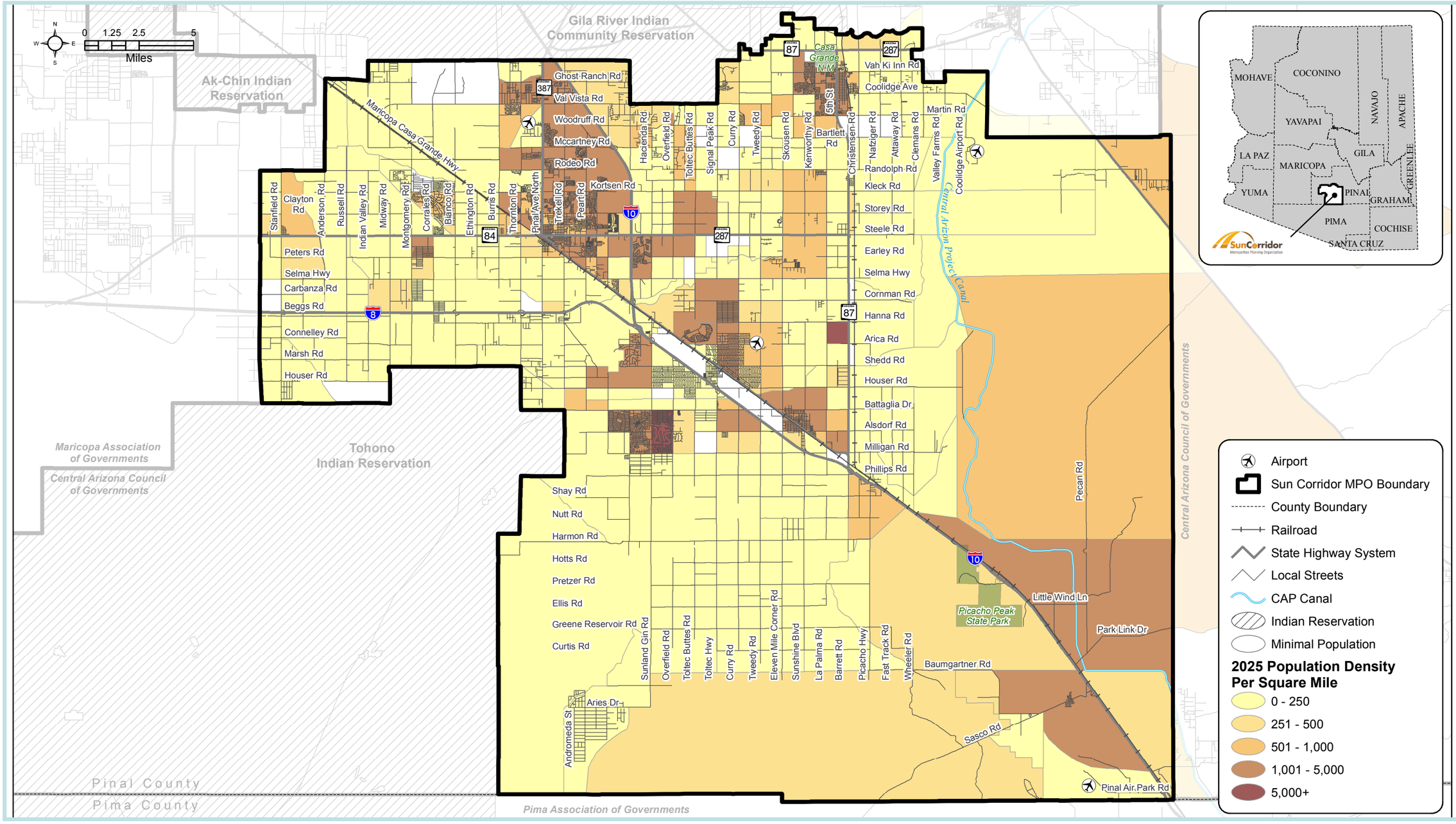

Figure 13 – 2025 Population Density in the Sun Corridor MPO Region

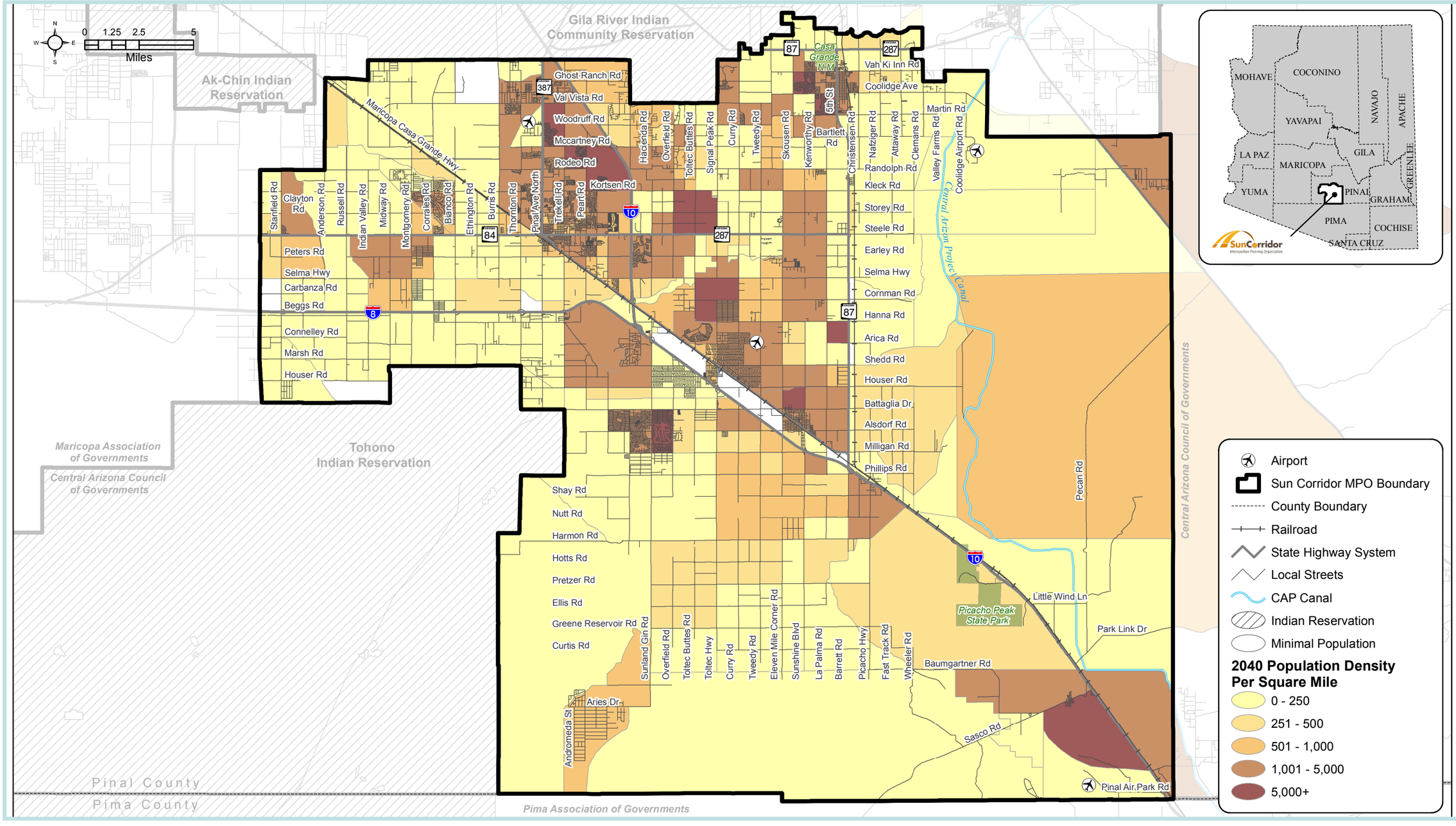

Figure 14 – 2040 Population Density in the Sun Corridor MPO Region

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Current Employment

As the region's transportation system is developed, and as projects are identified and prioritized for funding, access to major employment centers should be considered. Employment center access to safe and reliable transportation systems will enable and encourage these employers to expand and new employers to relocate to the Sun Corridor MPO region, consistent with the Sun Corridor MPO economic vitality goals.

Major Employers

Table 1 shows the 25 largest employers in the Sun Corridor MPO region. Top employers represent educational establishments, commercial, medical, and industries such as mining, manufacturing, and correctional institutions.

Table 1 – Major Employers within the Sun Corridor MPO Region

Company	General North American Industry Classification System (NAICS) Code Description	Estimated Employees
Corrections Corporation of America	Correctional Institution	1,600
Central Arizona College	Educational Services	913
Ray Mines Plant	Mining, Quarrying, and Oil and Gas Extraction	827
Banner Regional Medical Center	Health Care and Social Assistance	785
Florence Unified School District	Educational Services	774
Walmart Distribution Center	Retail Trade	650
Casa Grande Elementary School District	Educational Services	487
Abbott Laboratories	Manufacturing	485
Coolidge Unified School District	Educational Services	400
Walmart	Retail Trade	400
City of Casa Grande	Government	~350
Hexcel Corporation	Manufacturing	363
Sun Life Family Health Center	Health Care and Social Assistance	330
National Vitamin Company, Inc.	Manufacturing	325
Frito Lay, Inc.	Manufacturing	305
Marana Aerospace Solutions (MAS)	Aerospace Maintenance, Repair and Overhaul, Transportation	259
TIC Industrial Company	Construction	251
Tractor Supply Company	Manufacturing	250
Asset Protection Security	Waste Management and Remediation Services	229
Pinal Gila Community Child Services, Inc.	Health Care and Social Assistance	223
Casa Grande Union High School District	Educational Services	217
Mahoney Group	Finance and Insurance	212
Western Army National Guard Aviation Training Site (WAATS) Center	Military, Professional, Scientific, and Technical Services	201
Daisy Brand	Value Added Agricultural Manufacturing	200
Price Industries, Inc.	Manufacturing	182
Total Employees		**11,218**

Source: McClure Consulting

Future Employment

The region's transportation system is critical to help residents get to and from their place of employment. As additional jobs are created in the Sun Corridor MPO region, the need for new and improved roadways will also increase.

The study team met with each Sun Corridor MPO jurisdiction to discuss employment projections and areas which they projected to become major employment centers in the future. The study team then collaborated with MAG staff (who maintain the travel demand model for the region) to ensure that employment projections are accurately allocated within the Sun Corridor MPO planning area. 2040 projections of employment in the region recognize:

- ⇒ Current industry mix and targeted new industry in the region.
- ⇒ General and comprehensive plans and emerging employment nodes.
- ⇒ The continued maturation and diversification of employment opportunities that will occur over the next 25 years in the Sun Corridor MPO region.

The total number of jobs in the region is estimated to grow from approximately 37,000 employees today to 131,367 by 2040. This represents an annual average growth rate of 5.23% per year. A comparison of current and projected employment is shown in Figure 15.

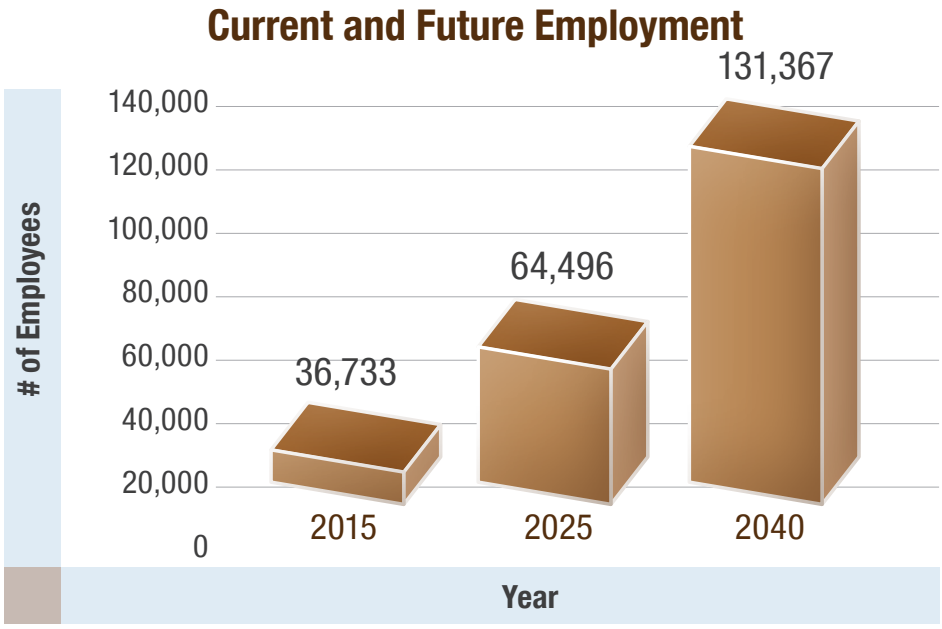

Figure 15 – Current and Future Employment in the Sun Corridor MPO Region

Source: Maricopa Association of Governments

Employment density, using Transportation Analysis Zone (TAZ) data, is depicted for the Sun Corridor MPO region on Figure 16. The map illustrates employment density per square mile and shows employment center concentrations along the I-10 corridor between Eloy and Casa Grande, as well as in Coolidge. Future transportation system investments should enhance access to these employment centers.

Title VI and Regional Demographics

Sun Corridor MPO RTP recommendations must comply with federal and state laws, regulations, and policies that apply to long-range transportation planning. Of particular note is Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, which established environmental justice as a federal government priority. Environmental Justice was initially established in Title VI of the Civil Rights Act of 1964.

Title VI of the Civil Rights Act of 1964 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations, issued February 11, 1994, require that federally-funded projects identify and address any disproportionately high and adverse human health effects from environmental impacts on minority and low-income people and that individuals are not excluded from participation in, denied the benefit of, or subjected to discrimination on the basis of race, color, age, sex, disability, income level, or national origin.

As the RTP is implemented, the potential adverse effects that projects may have on minority and low-income populations will be reviewed. Projects that place a disproportionate burden on minority or low-income populations will be identified and considerations that dictated this recommendation over alternative actions will be explained.

In accordance with the intent of these federal requirements, analysis was completed to identify disadvantaged populations within the Sun Corridor MPO boundary area. This analysis is summarized below.

The analysis reflects census tract (CT) level of data as it offers the most detailed and complete socioeconomic data. The CTs selected for this analysis cover the entire Sun Corridor MPO region. Due to the size of CTs, some expand beyond the boundaries of the Sun Corridor MPO but are included because they make up a portion of the region. The analysis compares 2010 U.S. Census data for the Sun Corridor MPO region and cities to similar data for Pinal County (entirety).

Racial and Ethnic Minorities

Racial and ethnic minority populations are summarized in Table 2. Racial and ethnic populations are shown graphically in Appendix A as a percentage of the census block population.

A majority of the population for the Sun Corridor MPO region is White (Non-Hispanic), at 64.1%. This percentage is higher than Pinal County (entirety), which is 58.7% White (Non-Hispanic). The largest minority group in the Sun Corridor MPO area is Hispanic or Latino of any race, at 41.9%, as compared to Pinal County (28%).

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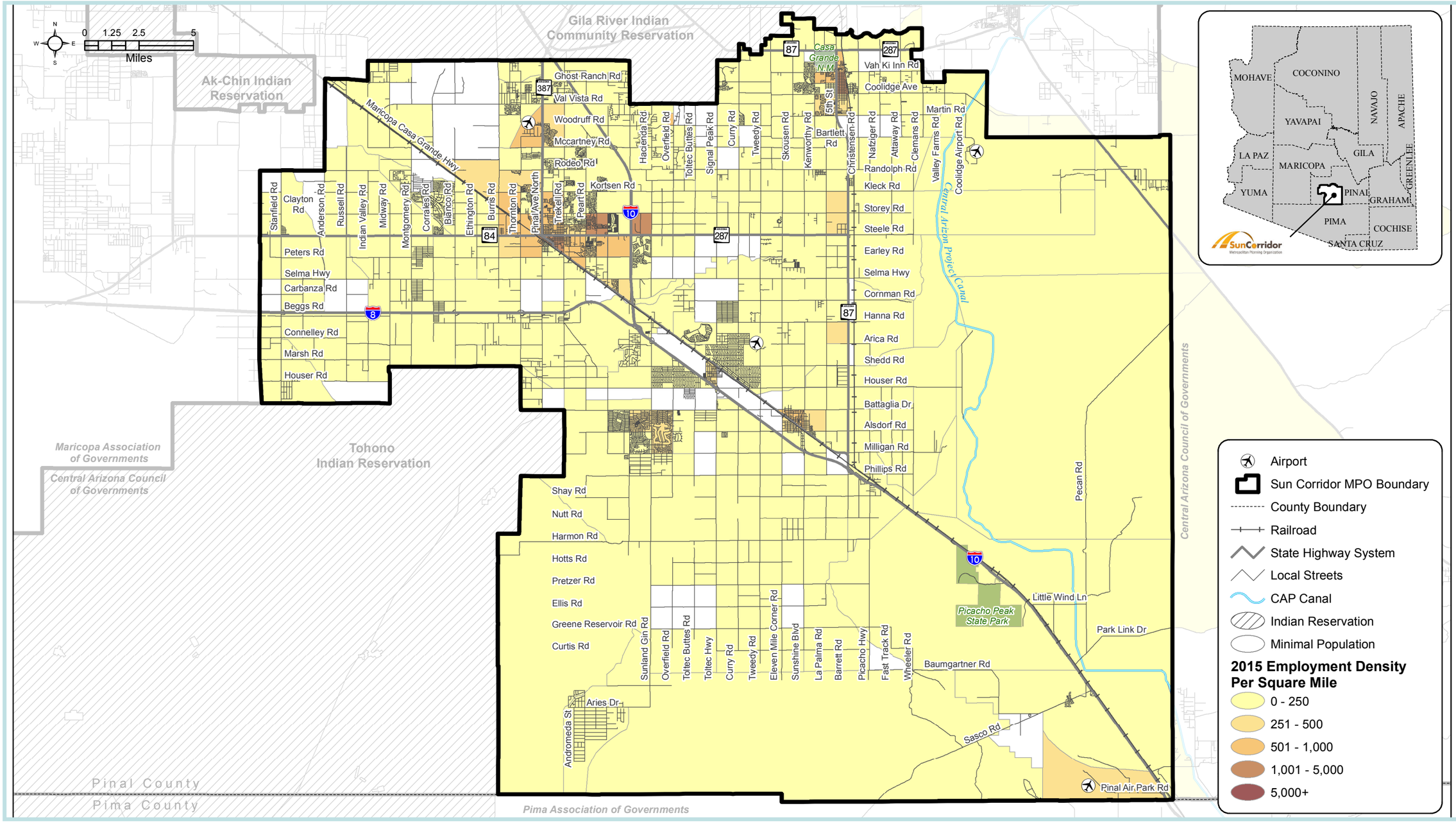

Figure 16 – 2015 Employment Density in the Sun Corridor MPO Region

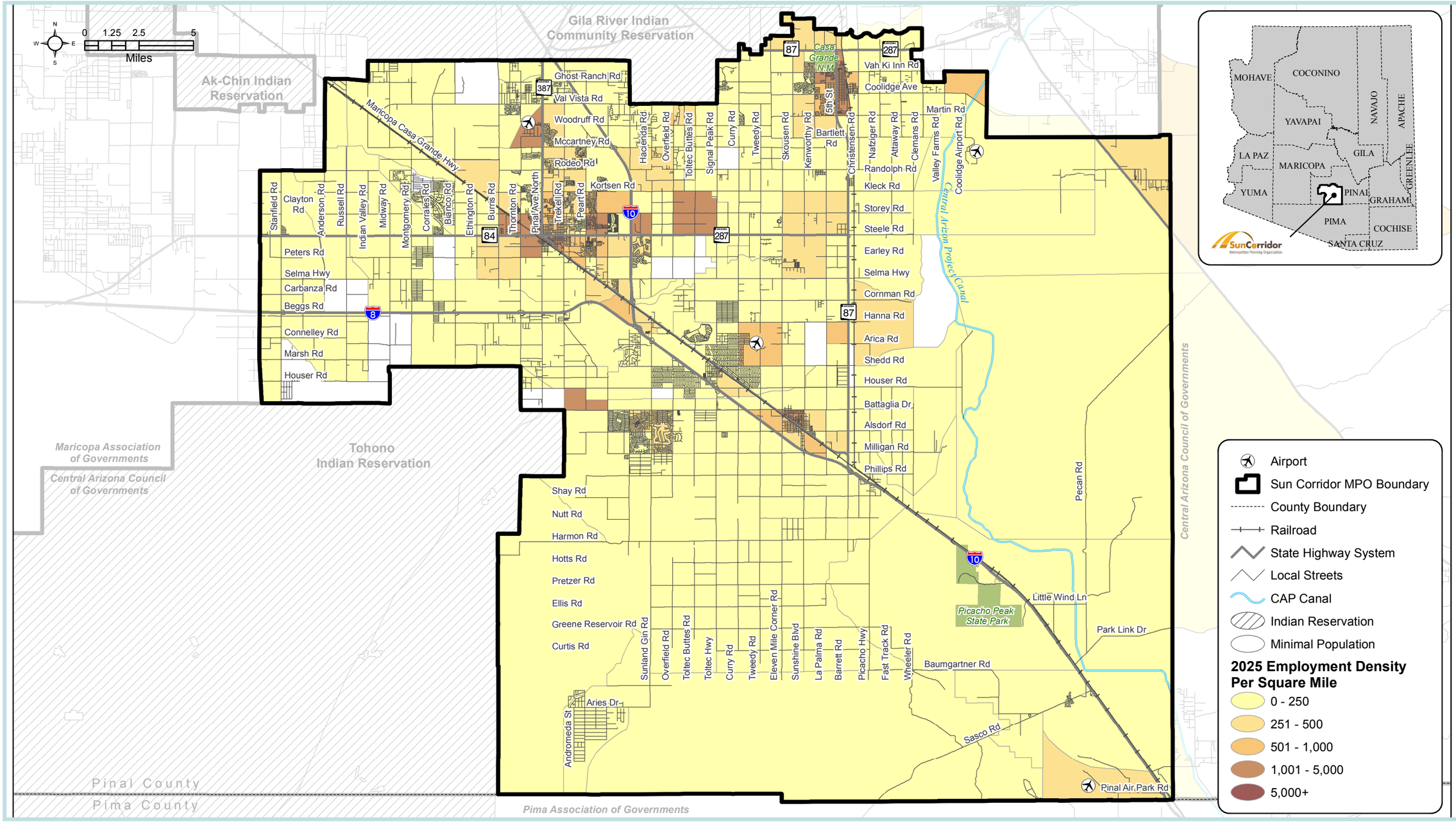

Figure 17 – 2025 Employment Density in the Sun Corridor MPO Region

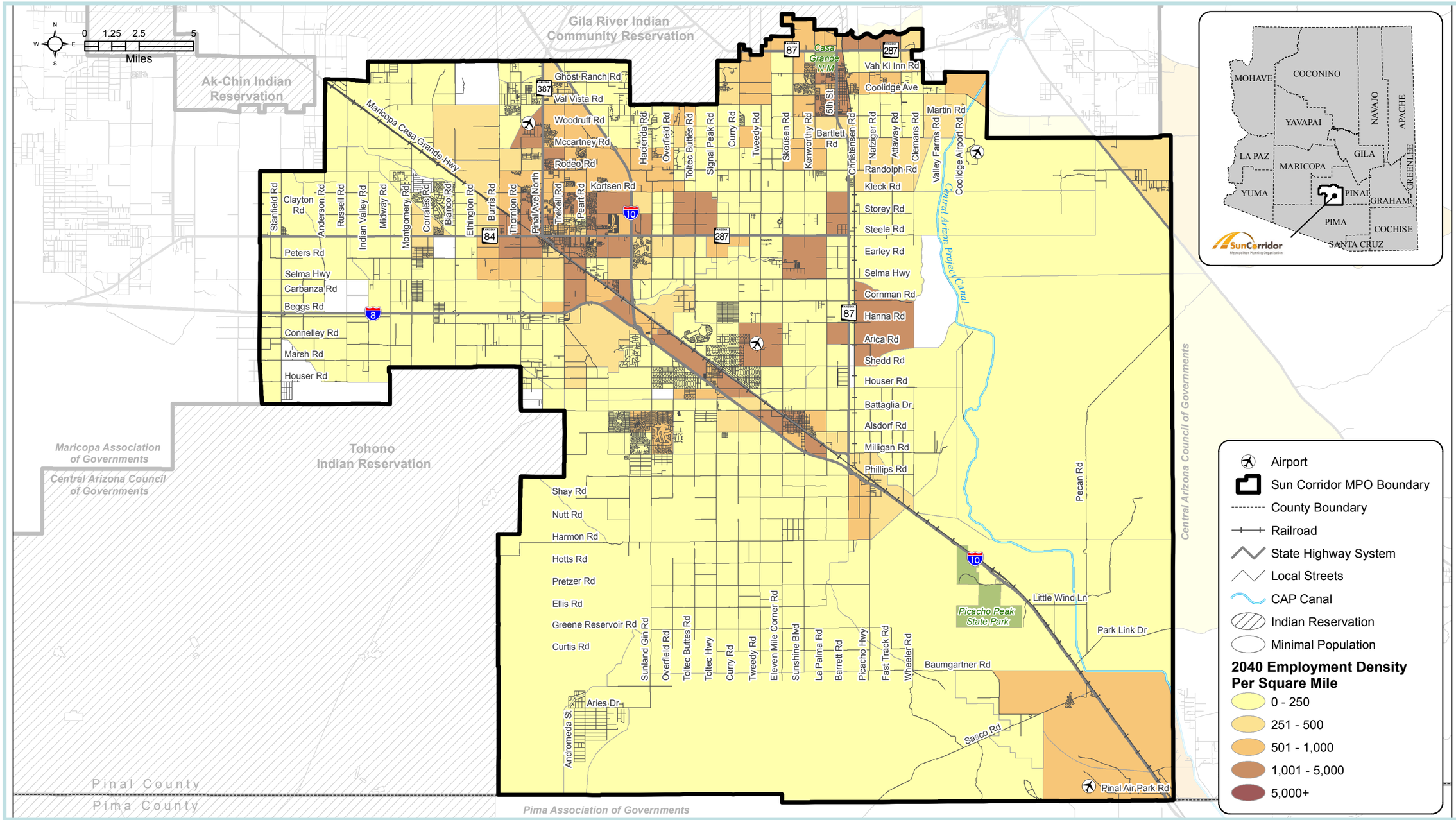

Figure 18 – 2040 Employment Density in the Sun Corridor MPO Region

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Elderly, Disabled, Below Poverty Level, Female Head of Household Populations, and Total Minority Population

Minority populations identified within the Title VI Related Statutes include individuals classified as elderly, disabled, female head-of-household, persons living below poverty level, and total minority population. These minority population groups are defined as:

- ⇒ Elderly: An individual 60 years of age or over
- ⇒ Disabled: A non-institutionalized civilian that has reported a sensory disability, physical disability, mental disability, self-care disability, go-outside-home disability, or employment disability
- ⇒ Female head-of-household: Any woman in which no husband is present and is either living alone or not living alone who acts as the primary income provider
- ⇒ Below Poverty Level: An individual of low-income is defined as a person whose median annual household income is at or below the U.S. Department of Health and Human Services (HHS) poverty guidelines. To determine poverty level the U.S. Census Bureau relies on the thresholds identified in the HHS poverty guidelines, which vary by family size and composition. 2010 HHS poverty thresholds for a four-person family are currently set at $22,050.
- ⇒ Total Minority: This category is composed of all people who consider themselves Non-White racially plus those who consider themselves White Hispanic

Census data on Total Minority, Age 60 Years and Over, Below Poverty Level, Disabled, and Female Head of Household are discussed below, summarized in Table 3, and shown graphically in Appendix A.

A summary of the findings of a comparison of this data with Pinal County (entirety of) data is summarized as follows:

- ⇒ Total Minority: The Sun Corridor MPO region has a higher percentage of total minority population (35.5%) as compared to the entirety of Pinal County (27.6%). All of the cities in the Sun Corridor region have higher total minority percentages than Pinal County as a whole, particularly Eloy (58.8%).
- ⇒ Elderly: The elderly population percentage for the Sun Corridor MPO region (19%) is comparable to that of Pinal County (19.7%). Casa Grande has a higher percentage of elderly persons (22.1%), and Coolidge and Eloy have lower percentages as compared to Pinal County (15.4% and 10.8%, respectively).
- ⇒ Disabled: The disabled population percentage for the Sun Corridor region (12.7%) is comparable to that of Pinal County (12.8%). The cities within the Sun Corridor MPO region have relatively similar percentages, ranging between 13.1 and 15.5 percent.
- ⇒ Female Head of Household: The Sun Corridor MPO region has a slightly higher percent of households with a female head of household (18.1%) than Pinal County (16.4%). The cities within the Sun Corridor region also have higher percentages, ranging from 24.8% in Eloy to 17% in Casa Grande.
- ⇒ Below Poverty Level: The Sun Corridor MPO region has a higher percentage of persons living below poverty level (19.9%) as compared to Pinal County (15.6%). Eloy and Coolidge have a higher percentage of the population living below the poverty level (37.5% and 26.3%, respectively).

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Table 2 – Racial and Ethnic Demographics

Area	Total Population	%	White Not Hispanic Number	%	African American Number	%	Native American Number	%	Asian Number	%	Native Hawaiian Number	%	Other Number	%	Two or More Races Number	%	Hispanic* Number	%
Pinal County (entirety)	375,770	100	220,486	58.7	17,215	4.6	20,949	5.6	6,492	1.7	1,565	0.4	43,213	11.5	14,323	3.8	106,977	28.5
Pinal County (unincorporated within Sun Corridor MPO), estimated	32,227	100	22,916	71.1	971	3.0	1,319	4.1	176	0.5	33	0.1	5,094	15.8	1,235	3.8	12,176	37.8
Sun Corridor MPO Area Census Blocks	109,254	100	70,034	64.1	5,832	5.3	4,804	4.4	1,921	1.8	1,091	1.0	20,469	18.7	4,824	4.4	45,776	41.9
City of Casa Grande Census Blocks	48,571	100	32,690	67.3	2,246	4.6	2,232	4.6	875	1.8	87	0.2	7,953	16.4	2,492	5.1	18,932	39.0
City of Coolidge Census Blocks	11,825	100	7,519	63.6	930	7.9	680	5.8	115	1.0	13	0.1	2,108	17.8	588	5.0	4,988	42.2
City of Eloy Census Blocks	16,631	100	6,909	41.5	1,685	10.1	573	3.4	755	4.5	958	5.8	5,314	32.0	509	3.1	9,680	58.2

**Hispanic refers to ethnicity and is derived from the total population, not as a separate race (e.g., it is calculated differently from the other columns in this table).*

Source: 2010 U.S. Census

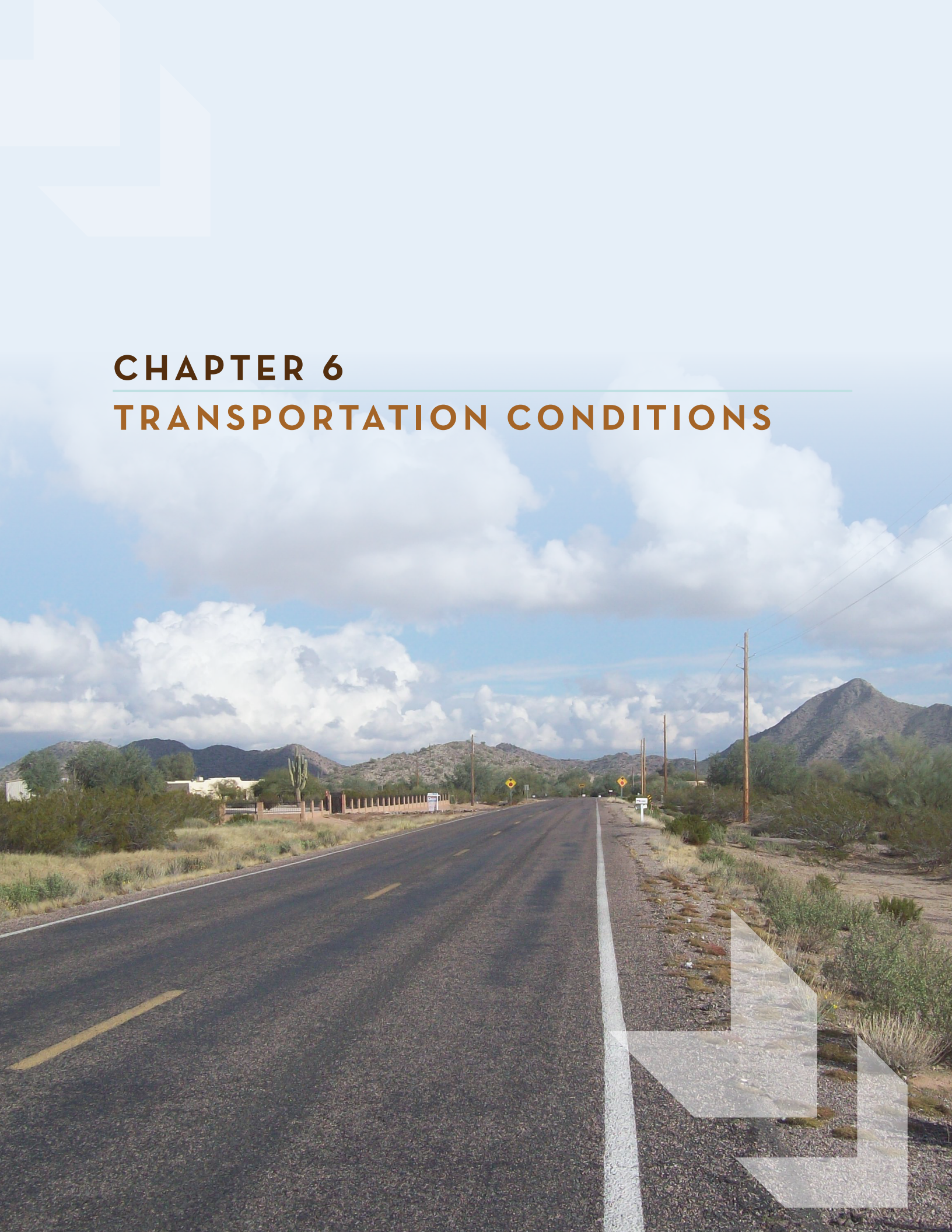
Table 3 – Total Minority, Age 60 Years and Over, Below Poverty Level, Disabled, and Female Head of Household

Area	Total Population	Total Minority*		Age 60 years and over		Total Population for whom Disabled is Determined	Disabled		Total Population for whom Poverty is Determined	Below Poverty Level		Households Number	Female Head of Household	
		Number	%	Number	%		Number	%		Number	%		Number	%
Pinal County (entirety)	375,770	103,757	27.6	74,125	19.7	368,056	47,219	12.8	353,747	55,245	15.6	159,226	26,069	16.4
Pinal County (unincorporated within Sun Corridor MPO)	32,227	8,661	26.9	6,429	19.9	38,040	4,141	12.8	37,483	6,959	21.6	13,810	2,317	16.8
Sun Corridor MPO Area	109,254	38,833	35.5	20,782	19.0	109, 404	13,867	12.7	108,507	21,554	19.9	44,797	8,084	18.1
City of Casa Grande	48,571	15,888	32.7	10,736	22.1	48,817	6,390	13.1	48,567	7,481	15.4	22,401	3,801	17.0
City of Coolidge	11,825	4,502	38.1	1,816	15.4	11,779	1,821	15.5	11,724	3,089	26.3	4,865	1,045	21.5
City of Eloy	16,631	9,782	58.8	1,801	10.8	10,768	1,515	14.1	10,733	4,025	37.5	3,721	921	24.8

**Total Minority is composed of all people who consider themselves non-White racially plus those who consider themselves White Hispanic.*

Source: 2010 U.S. Census

CHAPTER 6
TRANSPORTATION CONDITIONS



6. Transportation Conditions

The next step in developing an RTP is to understand the existing transportation conditions of the region. Understanding the trends and changes that made the region what it is today is essential before developing forecasts of future conditions and transportation needs. Chapter 3 provides an overall snapshot of current transportation conditions in the Sun Corridor MPO region, with a focus on the existing conditions most relevant to transportation planning. Conditions are described for roadways, transit, bicycling and walking, and aviation. The Sun Corridor regional transportation system consists of roadways, transit systems, bicycling and walking pathways, and airports as described in Figure 19 – Sun Corridor Transportation Systems.

Roadways

Roads serve as the foundation of the Sun Corridor MPO regional transportation network, accommodating motor vehicles, freight, transit users, and pedestrians and bicyclists. Roads are the main component of the transportation network throughout the MPO, and the primary public space in which MPO residents travel and recreate on a daily basis. In all, there are 2,522 miles of roads of various conditions and types. The efficiency, safety, and condition of the MPO's road and bridge network is essential to the functionality of the other transportation modes, and to the economic prosperity and quality of life of the Sun Corridor MPO region.

This section provides an overview of road types, traffic volumes, current and future traffic congestion levels, traffic safety, and pavement and bridge conditions.

Sun Corridor MPO Region's Transportation Systems

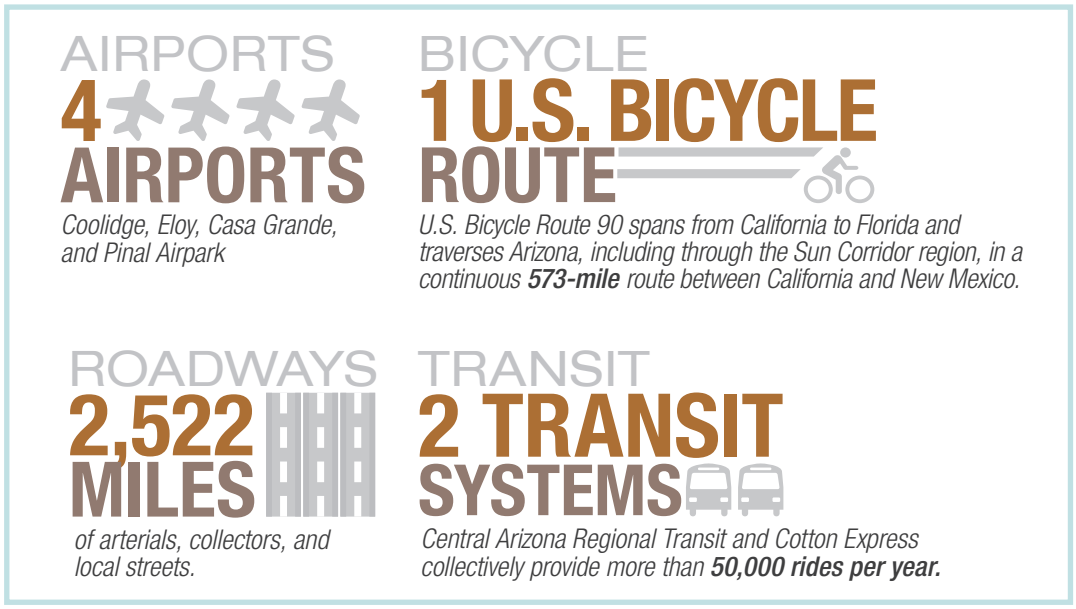


Figure 19 – Sun Corridor MPO Region's Transportation Systems

Functional Classification

Why is functional classification important?

A road must be functionally classified as an arterial or collector road to access federal funding.

Transportation planners and engineers categorize roadways based on the type of traffic they are intended to serve. For example, arterials move people for long distances at higher speeds within a city, or connecting cities. Collector streets are lower speed and shorter distance than arterials, and connect travelers to the arterials. Local streets are very low speed, extend for short distances, and provide direct access to residential and commercial property. This categorization is referred to as functional classification. Three main functional classes are defined by the Federal Highway Administration (FHWA): arterial, collector, and local based on speed, vehicular capacity, and relationships with adjacent existing and future land uses according to the character of service they are intended to provide. Functional classifications have an inverse relationship between access and mobility, as shown in Figure 20.

Federal funding and aid programs through the Federal Highway Administration (FHWA) use roadway functional classification to assist with funding eligibility. To access federal funding, roads have to be federally functionally classified as an arterial or collector. Local streets are not eligible for federal funding.

The Federal Functional Classification map for the Sun Corridor MPO region is shown in Figure 21.

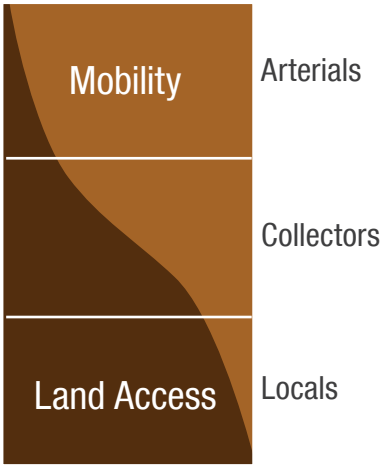


Figure 20 – Functional Classifications

Source: http://www.fhwa.dot.gov/environment/publications/flexibility/ch03.cfm

Functional Classification	Services Provided	Types
Arterial	Provides the highest level of service at the greatest speed for the longest uninterrupted distance, with some degree of access control.	» Principal Arterial – serves major activity centers; links urban areas; provides high connectivity » Minor Arterial – connects principal arterials; provides accessibility
Collector	Provides a less highly developed level of service at a lower speed for shorter distances by collecting traffic from local roads and connecting them with arterials.	» Major Collector – Generally, Major Collector routes are longer; have lower connecting driveway densities; have higher speed limits; are spaced at greater intervals; have higher annual average traffic volumes; and may have more travel lanes than minor collectors. » Minor Collector – These roadways collect traffic from the local roadway network and distribute them to the major collector or arterial system.
Local	Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.	» Consists of all roads not defined as arterials or collectors; primarily provides access to land with little or no through movement.

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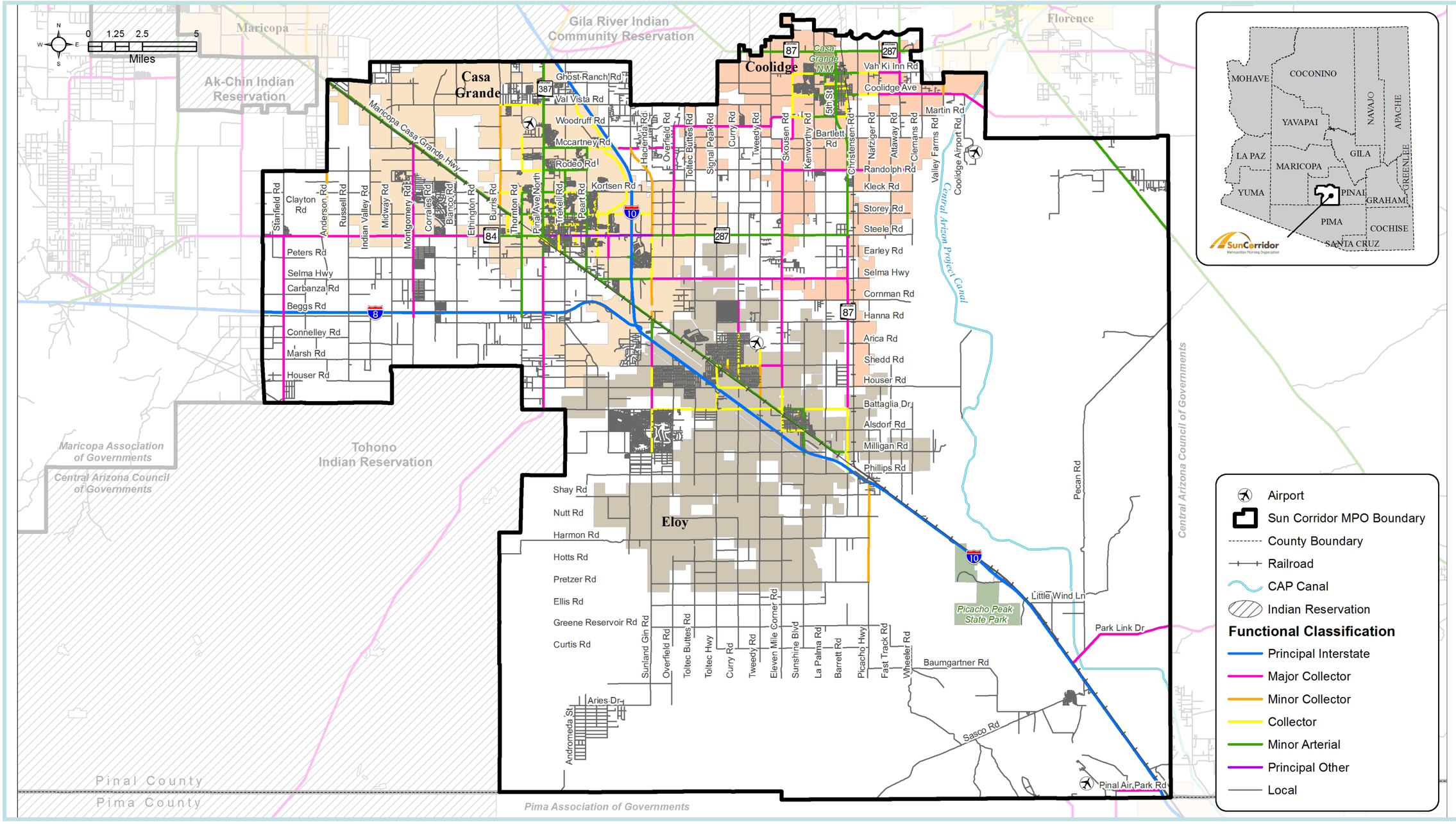

Figure 21 – Functional Classification in the Sun Corridor MPO Region

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2014 Daily Traffic Volumes

Annual average daily traffic (AADT) volumes are collected by the ADOT and also by local governments. Within the Sun Corridor MPO region, the 20 road segments with the highest 2014 AADT volumes (AADTs) are shown in Table 4. These locations are depicted in Figure 22.

Table 4 – 2014 Annual Average Traffic Volumes on Selected Road Segments

Road Name	Location	2014 Annual Average Daily Traffic Volume*
Florence Boulevard	West of Colorado Street	28,900
Florence Boulevard	West of Peart Road	25,400
Florence Boulevard	East of Colorado Street	23,300
Florence Boulevard	West of Cameron Avenue	19,700
Trekell Road	Cottonwood Lane	18,900
Peart Road	Cottonwood Lane	17,700
Cottonwood Lane	East of Morrison Avenue	16,800
Florence Boulevard	SR 387	15,700
Cottonwood Lane	East of Amarillo Street	15,200
Cottonwood Lane	West of Park Avenue	14,300
Trekell Road	Kortsen Road	13,600
Cottonwood Lane	West of Peart Road	13,000
Storey Road/Cottonwood Lane	West of Lena Lane	12,700
Cottonwood Lane	East of French Street	11,900
Peart Road	North of 9th Street	11,700
Old SR 84	Southeast of I-10 Exit 198	10,800
McCartney Road	West of Trekell Road	10,500
Peart Road	South of Kortsen Road	10,300
Peart Road	Florence Boulevard	9,900
McCartney Road	East of SR 387	9,500

*Note: Traffic volume counts are rounded to the nearest hundred vehicles.

Why are Traffic Counts Conducted?

A traffic count is a count of vehicular or pedestrian traffic, which is conducted along a particular road segment or intersection. Traffic counts are typically undertaken with automatic equipment or recording devices, or by observers who visually count and record traffic on handheld devices or tally sheets.

Traffic count data is used to identify which routes are used the most, and to inform what improvements are needed to the corridor, roadway, or intersection. Traffic counts are reported in terms of AADT.

ADOT Data Section annually prepares updates to the Highway Performance Monitoring System (HPMS). Required of each state and U.S. territory by the FHWA, the HPMS is the national database of highway information. Roadway extent, use, condition, and performance data are collected by and for the states and submitted to the FHWA on an annual basis. From a national perspective, the FHWA's primary intent with this program is to provide Congress with a policy tool for major highway legislation and funding decisions. The Sun Corridor MPO annually collects traffic count data and provides this data to ADOT for inclusion in the HPMS database.

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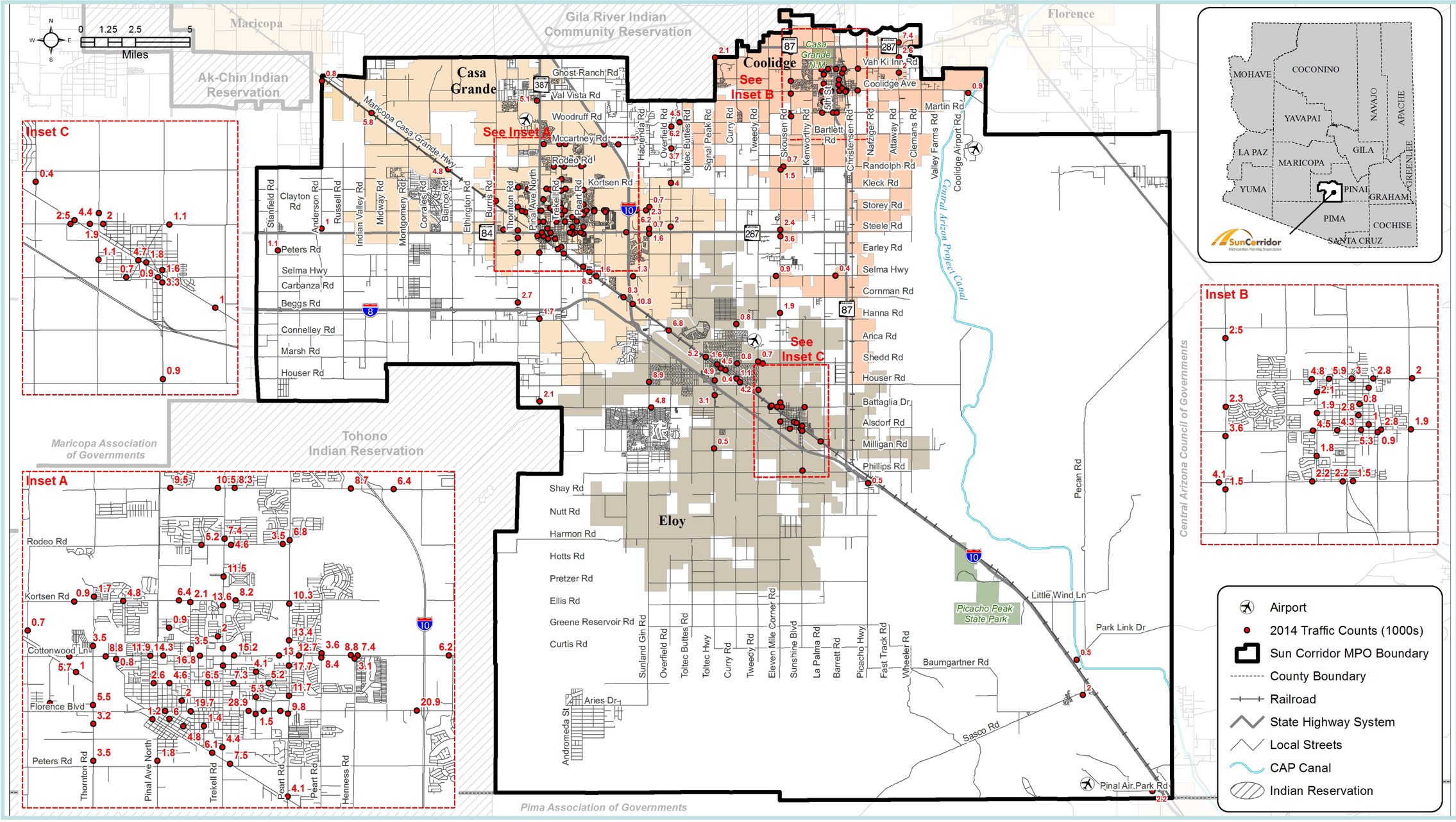

Figure 22 – 2014 Daily Traffic Volumes

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Current Roadway Performance (Level of Service)

Current traffic congestion levels in the Sun Corridor MPO planning area were analyzed using Level of Service (LOS), a measure which rates the performance of the roadway network in terms of the degree of congestion, using the Letters A through F with A being the best, and F being the worst (as depicted in Figure 23). 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 require 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 traffic's 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.

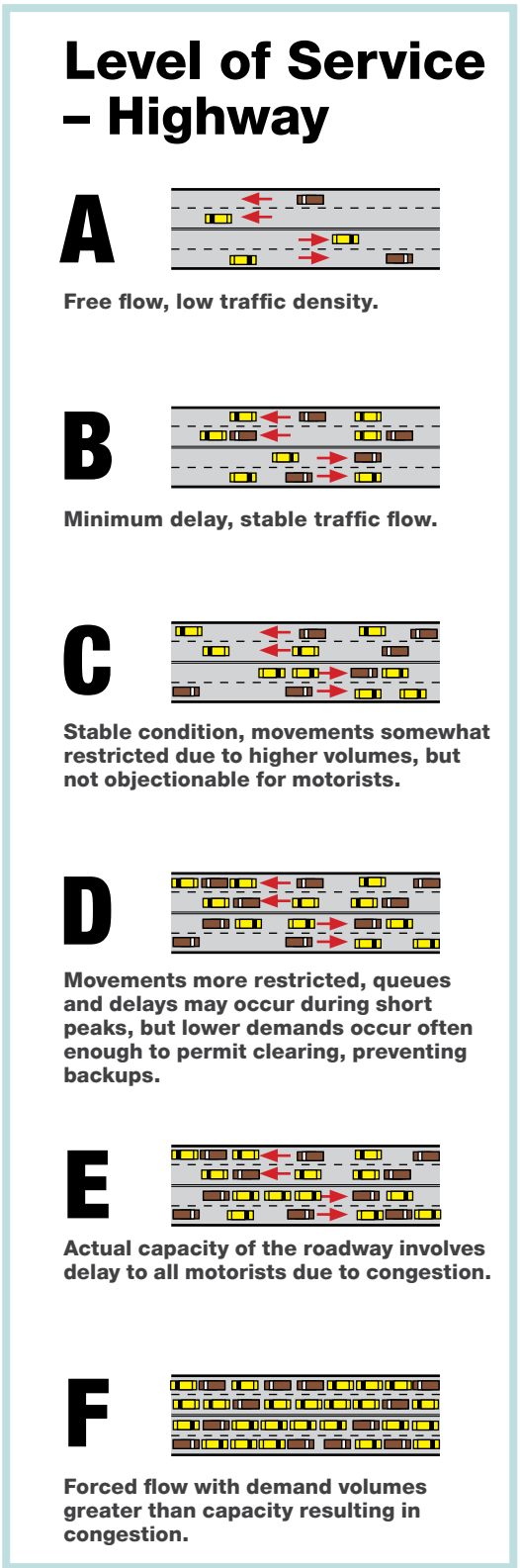

Figure 23 – Levels of Service

LOS F: Every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Travel time cannot be predicted, with generally more demand than capacity. This represents a traffic jam.

Figure 24 shows current LOS on major roads in the Sun Corridor MPO region. In general, the roads are operating in the LOS A to C range, with the exception of I-10, which operates at LOS D throughout much of the region.

Future Roadway Performance (Level of Service)

The MAG travel demand model was used to project future travel patterns in the Sun Corridor MPO region.

In 2025, congestion is projected to occur on Attaway Road, from Vah Ki Inn Road to the Sun Corridor MPO boundary. 2025 levels of congestion are shown graphically in Figure 25.

In 2040, more congestion is expected to occur, particularly on sections of SR 84, Maricopa-Casa Grande Highway, Sunland Gin Road, Bianco Road, Toltec Road, SR 287, and Attaway Road, which are projected to operate at either level of service F, or E-F. Other roads projected to operate at level of service E are sections of Kortsen Road, McCartney Road, Peters Road, Selma Highway, Houser Road, Tweedy Road, Val Vista Road, and Vah Ki Inn Road. 2040 levels of congestion are shown graphically in Figure 26.

Table 5 summarizes road conditions exhibiting congested conditions with 2025 and 2040 projected travel demands.

Table 5 – 2025 and 2040 Congested Roadways

Road	From	To	2025 LOS	2040 LOS
Gila Bend Highway/SR 84	Bianco Road	Burris Road	-	LOS F
Kortsen Road	Peart Road	Arizola Road	-	LOS E
Maricopa Casa Grande Highway	Sun Corridor MPO Boundary	Val Vista Road	-	LOS E-F
McCartney Road	Peart Road	I-10	-	LOS E
Sunland Gin Road	Battaglia Drive	I-10	-	LOS E-F
Bianco Road	SR 84	Storey Road	-	LOS F
Peters Road	Corrales Road	Ethington Road	-	LOS E
Toltec Highway	Batteglia Drive	I-10	-	LOS F
Selma Highway	Overfield Road	Toltec Buttes Road	-	LOS E
Houser Road	Toltec Highway	I-10	-	LOS E
Tweedy Road	Shedd Road	Arica Road	-	LOS E
SR 287	5th Street	Clemans Road	-	LOS E-F
Val Vista Road	Thornton Road	Pinal Avenue North	-	LOS E
Vah Ki Inn Road	Main Street	Nafziger Road	-	LOS E
Attaway Road	Vah Ki Inn Road	Sun Corridor MPO Boundary	LOS E-F	LOS E-F

Source: Maricopa Association of Governments Travel Demand Model

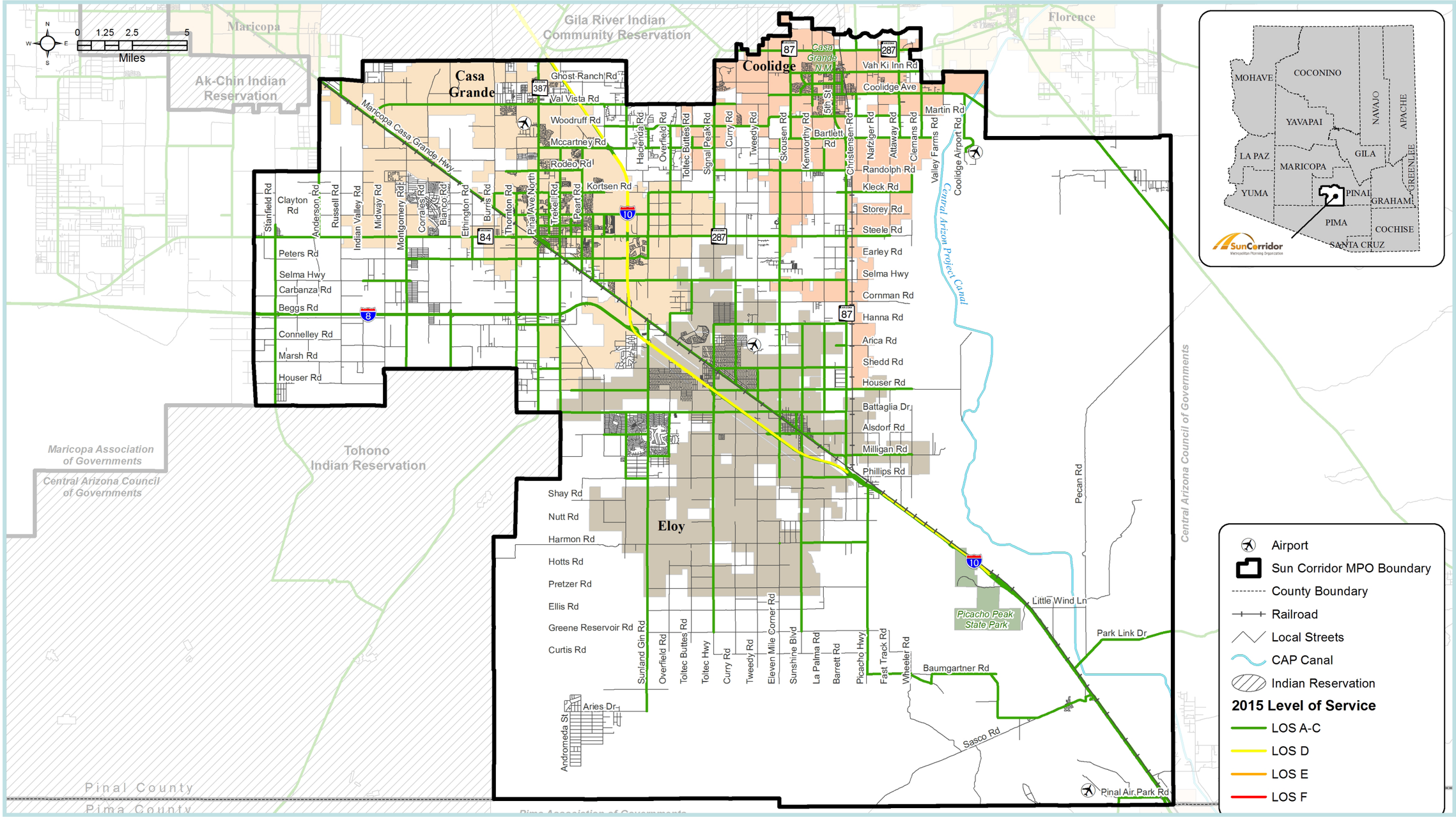

Figure 24 – 2015 Levels of Service

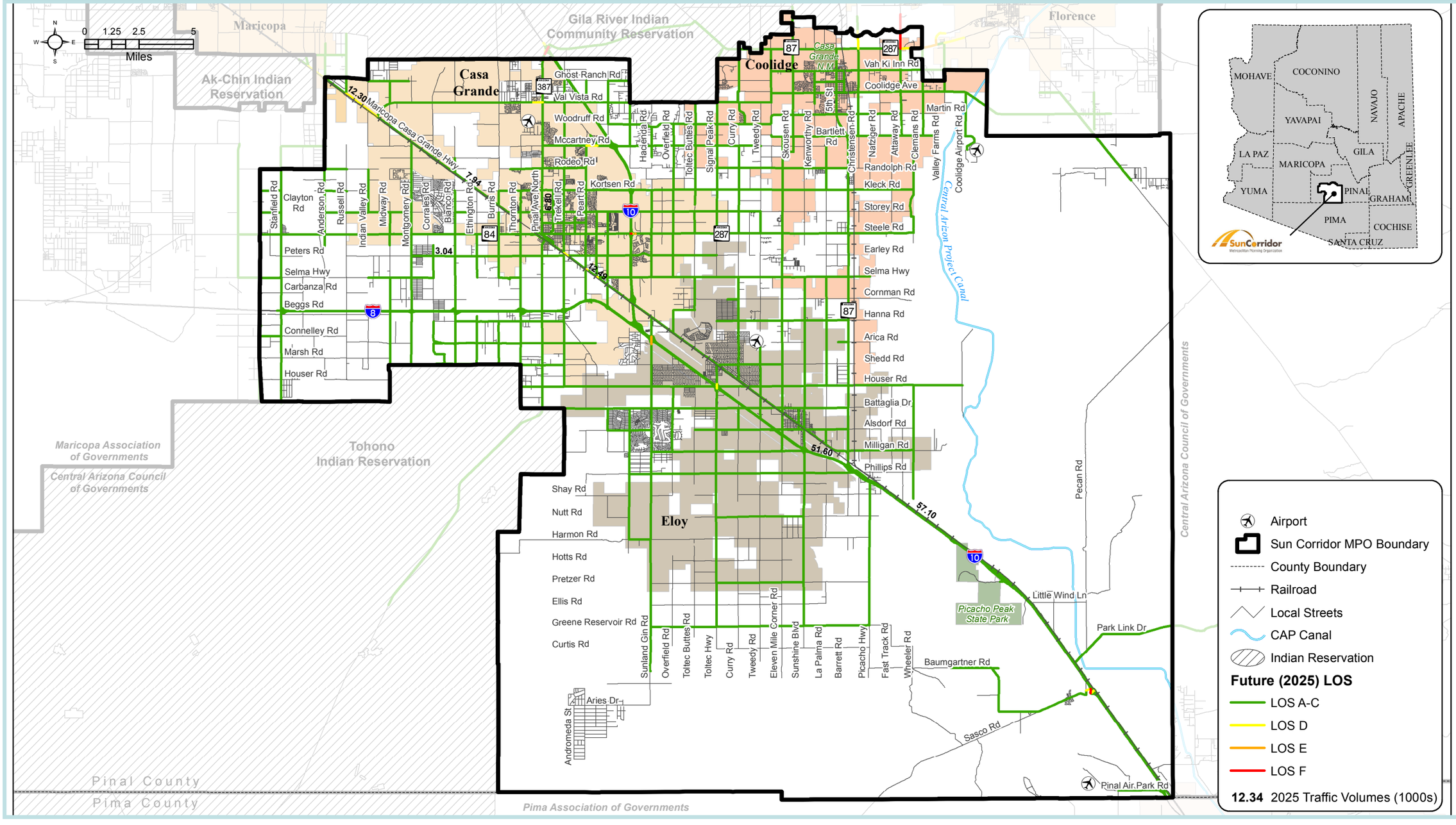

Figure 25 – 2025 Traffic Volumes and Level of Service

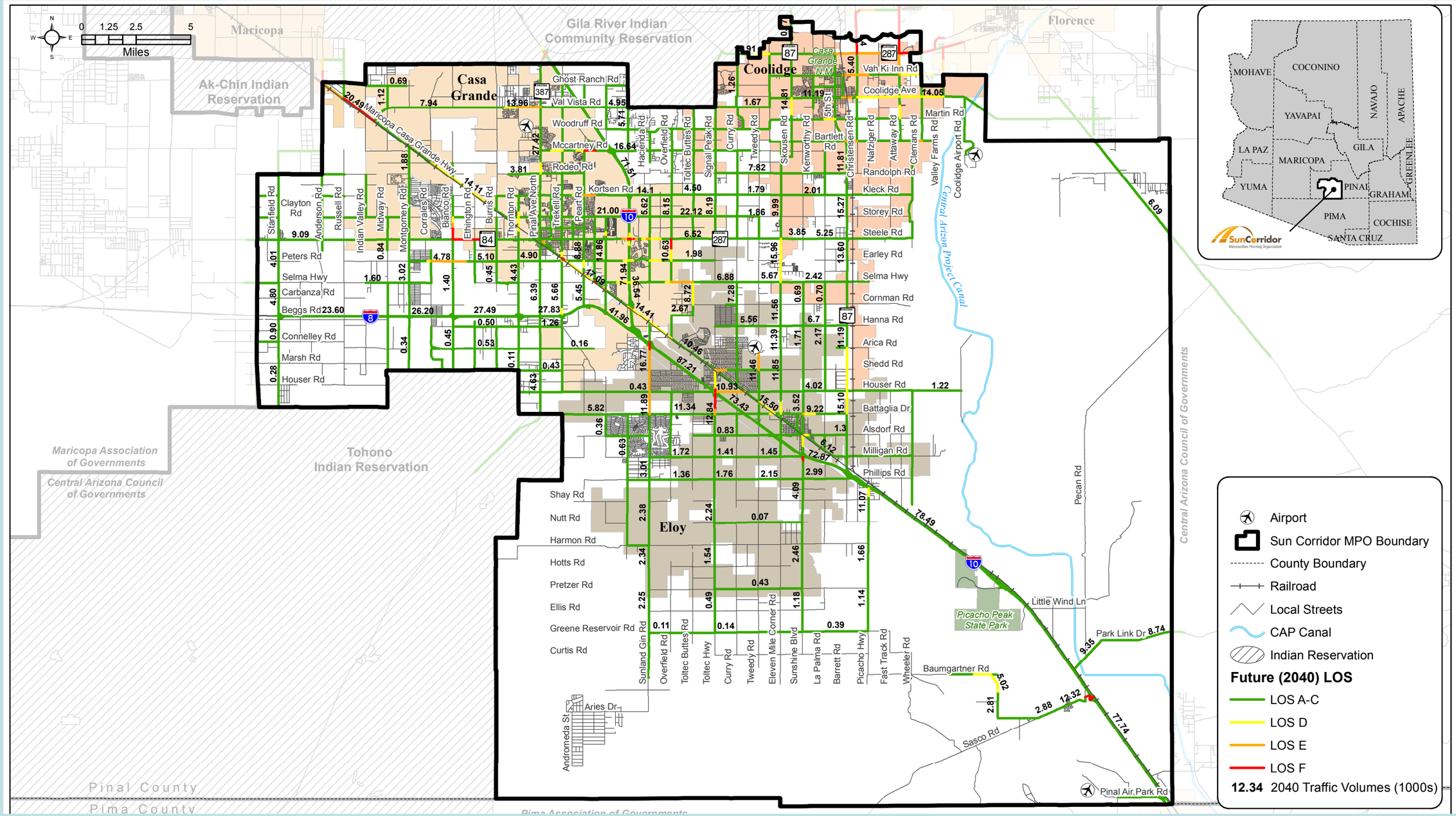

Figure 26 – 2040 Traffic Volumes and Level of Service

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Transportation Safety

ADOT provides crash data for all crashes within the Sun Corridor MPO region for the 10-year period from January 2005 to December 2014. In total, there were:

⇒ 246 fatal crashes

⇒ 655 incapacitating injury crashes

⇒ 17,026 crashes

Collisions that resulted in no injury were the most prevalent, accounting for nearly 69% of the total collisions. Fatalities accounted for 1.4% of study area crashes and possible injury or injury crashes accounted for approximately 30% of the total study area crashes. Crashes by injury type are shown in Table 6.

Single vehicle crashes have been the most predominant crash type in the region, followed by rear end crashes. Crash types are shown in Figure 27. Appendix D shows fatal and serious injury crash locations for Eloy, Coolidge, and Casa Grande.

A goal of the Sun Corridor MPO and member agencies is to reduce the five-year rolling average for fatalities and serious injuries. From 2010 – 2014, an average of 20 fatalities and 45 serious injuries occurred annually on Sun Corridor MPO area roadways.

Strategies to improve safety focus on both roadway improvements (speed control, roadway lighting, medians), as well as education of drivers, motorists, pedestrians, and bicyclists.

Table 6 – Crash Severity in the Sun Corridor MPO Region, 2005-2014

Collision Severity	Number of Collisions	Percent of Total
Fatal	246	1.4%
Incapacitating Injury	655	3.8%
Non-Incapacitating Injury	2,074	12.2%
Possible Injury	2,353	13.8%
No Injury	11,698	68.7%
Total	17,026	100.0%

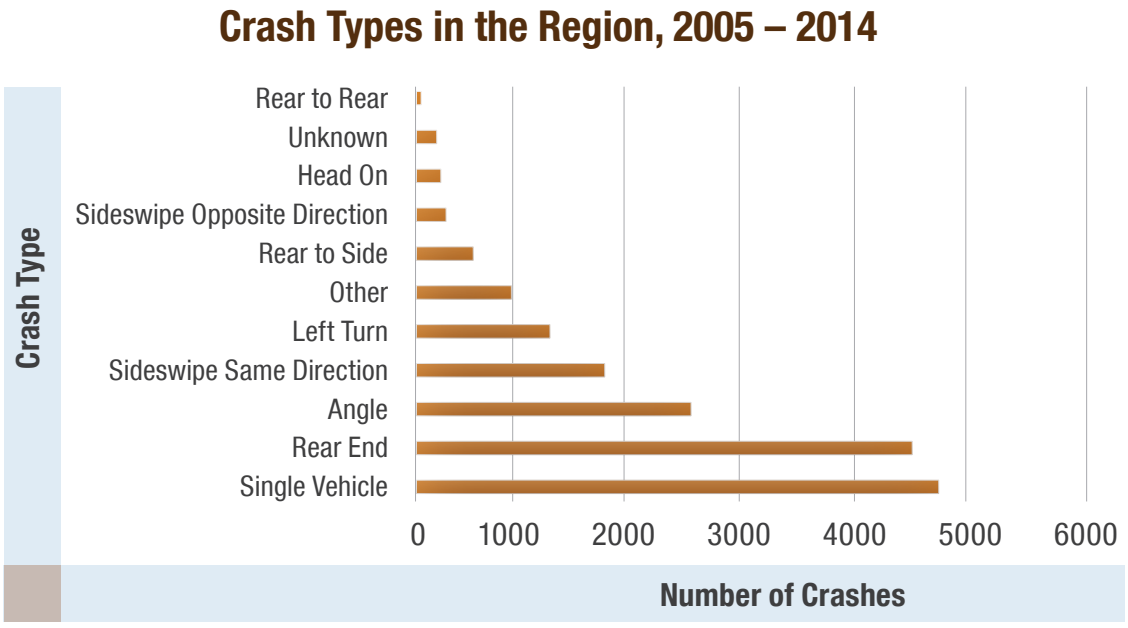


Figure 27 – Crash Types in the Sun Corridor MPO Region

Currently, the Sun Corridor MPO is conducting a Strategic Transportation Safety Plan. Once completed, recommendations from the Strategic Transportation Safety Plan will be referenced as part of the RTP.

The Sun Corridor MPO Strategic Transportation Safety Plan will be developed in recognition of the safety emphasis areas that were developed in the statewide Arizona 2014 Strategic Highway Safety Plan (SHSP).

The SHSP is a data-driven, multiyear plan that establishes statewide goals and objectives and identifies emphasis areas that must be addressed to reduce traffic fatalities and serious injuries. Twelve emphasis areas are identified as shown to the right. The emphasis areas in red are the top focus of the plan because they are associated with the highest number of injuries and fatalities.

The Strategic Highway Safety Plan will also look at safety improvements that emphasis the four E's of 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***

- ⇒ **Engineering** to deploy safety countermeasures (improvements);
- ⇒ **Education** on roadway safety;
- ⇒ **Enforcement** of safety laws and regulations; and
- ⇒ Effective **emergency medical services**

The four E's play an important part in road safety. Each component is essential and work together to provide a safer driving environment.

System Preservation

Roadway Pavement Conditions

Whether trips are taken by automobiles, transit, bicycle, or walking, everyone benefits when the streets are maintained in a safe and serviceable condition. Maintaining infrastructure condition is a key focus area nationally, particularly on National Highway System roads.

Pavement conditions on functionally classified arterial and collector roadways in the Sun Corridor MPO region were evaluated by each jurisdiction using a uniform rating system based on Asphalt Pavement Surface Evaluation and Rating (PASER) System Guidelines, which rate pavement surface conditions on a scale of 1 to 10, with 10 being excellent and 1 indicating pavement failure. Table 7 summarizes the rating system and typical maintenance procedures associated with various roadway conditions.

Table 7 – Pavement Ratings and Typical Maintenance Treatments

Rating	Typical Needed Maintenance Treatment
Rating 10 – Excellent	No maintenance required
Rating 9 – Excellent	No maintenance required
Rating 8 – Very Good	Little or no maintenance
Rating 7 – Good	Routine maintenance, crack sealing and minor patching
Rating 6 – Good	Preservative treatments (seal coating)
Rating 5 – Fair	Preservative treatments (seal coating)
Rating 4 – Fair	Structural improvement and leveling (overlay or recycling)
Rating 3 – Poor	Structural improvement and leveling (overlay or recycling)
Rating 2 – Very Poor	Reconstruction
Rating 1 – Failed	Reconstruction

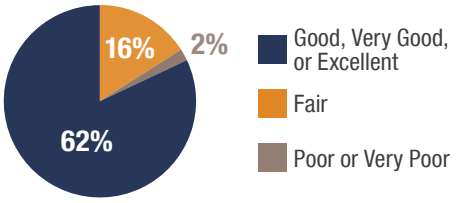
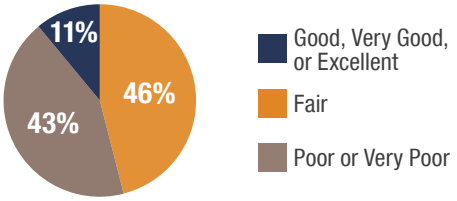
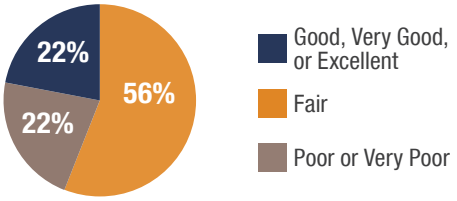
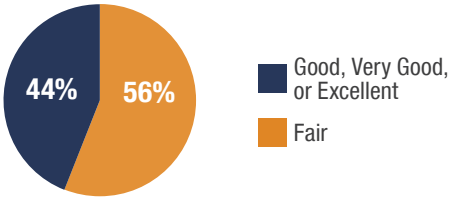
Source: Pavement Surface Evaluation and Rating (PASER) Asphalt Roads Manual, Transportation Information Center, University of Wisconsin-Madison, 2002.

A review of pavement condition in Table 8 shows that the City of Casa Grande does an excellent job at maintaining their arterial and collector roadways, with more than 80% of roadways in good, very good, or excellent condition. Within unincorporated Pinal County, 44% of arterial and collector roadways are in good, very good, or excellent condition. Within Eloy and Coolidge, less than 25% of arterial and collector roadways are in good, very good, or excellent condition.

Example of a roadway with very poor pavement condition

Example of a roadway with good pavement condition

Table 8 – Condition of Arterial and Collector Roadways in the Sun Corridor MPO Region

Percent of Arterial and Collector Roads*	Condition	
Casa Grande		
82.1%	good, very good, or excellent	**Casa Grande Arterial and Collector Road Condition** 
15.9%	fair	
2.0 %	poor or very poor	
Coolidge		
11.3%	good, very good, or excellent	**Coolidge Arterial and Collector Road Condition** 
46.3%	fair	
42.5 %	poor or very poor	
Eloy		
22.5%	good, very good, or excellent	**Eloy Arterial or Collector Road Condition** 
55.9%	fair	
21.6%	poor or very poor	
Pinal County		
44.3%	Good, very good, or excellent	**Pinal Arterial and Collector Road Condition** 
55.7%	fair	

Note: Percentages are calculated based on the number of inspected arterial and collector roads.

Bridge Conditions

The Sun Corridor MPO region includes bridges that meet the following definition:

A "Bridge" is defined as a structure including supports erected over a depression or an obstruction, as water, highway, or railway and having a track or passageway for carrying traffic or other moving loads, and having an opening measured along the center of the roadway of more than 20 feet between under copings of abutments or spring lines of arches, or extreme ends of openings for multiple boxes; it may include multiple pipes, where the clear distance between openings is less than half of the smaller contiguous opening.

Source: ADOT

ADOT maintains inventories for all bridges and grade-separated structures on state highways, and Sun Corridor MPO member jurisdictions have agreements with ADOT to maintain bridge inventories for bridges on local and county roads.

Functionally Obsolete – *A bridge can be labeled functionally obsolete if it has sub-standard 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.*

Each bridge and grade-separated structure has a sufficiency rating. This is expressed as a percentage in which 100% represents an entirely sufficient bridge and 0% represents an entirely insufficient bridge. If a structure is classified as "functionally obsolete" or "structurally deficient," the letter "F" or "S" would precede the rating number. It is important to note that the terms "structurally deficient" or "functionally obsolete" ratings do NOT mean a particular bridge is unsafe – many other factors help inspectors determine a bridge's overall condition.

Table 9 summarizes the most recently available state and local government bridge inventories for the Sun Corridor MPO region. Approximately 90.5% of all bridges and culverts are in good condition.

Table 9 – Bridge Conditions

Agency or Jurisdiction	Number of Bridges	Bridges Classified as Functionally Obsolete or Structurally Deficient
Casa Grande	4	0
Coolidge	10	0
Eloy	9	0
Pinal County (unincorporated)	86	6
ADOT	205	23

Source: Arizona Department of Transportation, C. Guest transmittal of 8/25/2015

Transit

The Sun Corridor MPO is responsible to coordinate transit systems funding and investment. The MPO TAC collaboratively ensures that transit investments serve to support regional transportation priorities and goals. The Sun Corridor RTP has established a goal to increase the number of residents and visitors served by transit in the region. Two public transit systems currently operate in the Sun Corridor MPO region. These services are described as follows:

Central Arizona Regional Transit

In August 2010, Central Arizona Regional Transit (CART) began service. This system operates Monday through Friday and provides regional service to Florence, Coolidge, and Casa Grande. There is an east and westbound route that includes a Central Arizona Signal Peak Campus stop. The entire loop is completed every two hours. A route map for the transit service is shown in Figure 28. The service provided 26,224 passenger trips for the period October 1, 2013 to September 30, 2014.

Cotton Express

The Cotton Express provides deviated fixed route bus service throughout the City of Coolidge. The service runs Monday through Friday from approximately 7 a.m. to 8 p.m. There are two routes, the red and the blue, which are shown in Figure 29. Persons requesting deviated service must call the transit dispatcher the day before. The service provided 27,687 passenger trips for the period October 1, 2013 to September 30, 2014.

Transit Funding Programs – Federal Transit Administration Formula Grant Programs

Section 5311 – Rural Areas:
This program provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations less than 50,000. Currently, the Cotton Express and Central Arizona Regional Transit use this funding program.

Section 5310 – Enhanced Mobility of Seniors and Individuals with Disabilities:
This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations.

Section 5307 – Urbanized Areas:
This program provides grants to urbanized areas (over 50,000 population) for public transportation, capital, planning, job access, and reverse commute projects, as well as operating expenses in certain circumstances. This may be a future source of transit funding in the Casa Grande area.

Transit Services for Seniors and Individuals with Disabilities

A number of organizations provide valuable transit services for seniors and individuals with disabilities. A listing of these services are summarized in Table 10. This table also shows agencies in the Sun Corridor MPO region that receive funding through the Federal Transit Administration 5310 Program – Enhanced Mobility of Seniors and Individuals with Disabilities.

Other 5310 providers for which information was not available include:

- ⇒ Arizona Foundation for the Handicapped, Casa Grande
- ⇒ Casa Grande Community Hospital, Casa Grande
- ⇒ Central Arizona College, Casa Grande
- ⇒ Eloy Adult Center, Eloy
- ⇒ DES/DDD, Coolidge
- ⇒ Dorothy Powell Senior Center, Casa Grande

Transit Planning Initiatives

The 2015 Coolidge Transit Plan began in Fall 2015 and will result in both a short range and a long range transit plan for the Central Arizona Regional Transit and Cotton Express transit services.

In 2016, the Sun Corridor MPO will conduct a Transit Feasibility Study for the City of Casa Grande. The study will evaluate the feasibility of establishing a transit system within the City of Casa Grande. The study is anticipated to begin in Spring 2016.

Table 10 – Section 5310 Funded Transit Services

Program	Clientele that are served	Federal Transit Administration Grant Program	Agency/ Jurisdiction	2014 Annual Trips	2014 Annual Hours	2014 Annual Miles
Horizon Human Services	The agency provides transportation services to registered participants to eligible (low-income) registered clients	5310	Casa Grande	32,433	15,627	316,050
Pinal-Gila Council for Senior Citizens	The Council works with senior centers in providing transportation services meeting nutritional, social, and medical needs	5310	Casa Grande	4,145	2,434	19,415
Pinal Hispanic Council	The Council provides transportation for members to medical appointments	5310	Eloy	15,772	2,080	118,813

Source: CAG Human Services Coordinated Transportation Plan

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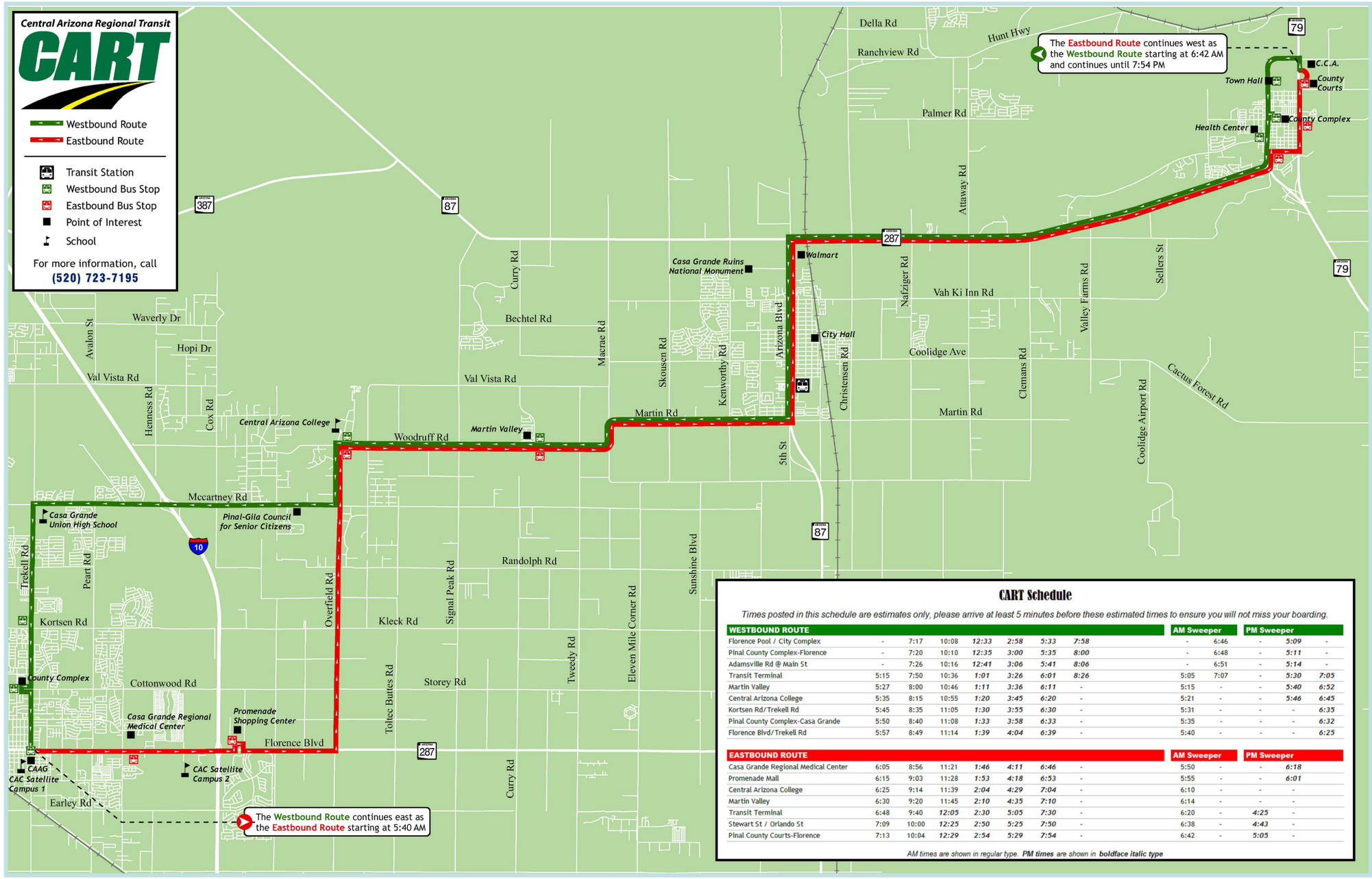


CART Schedule

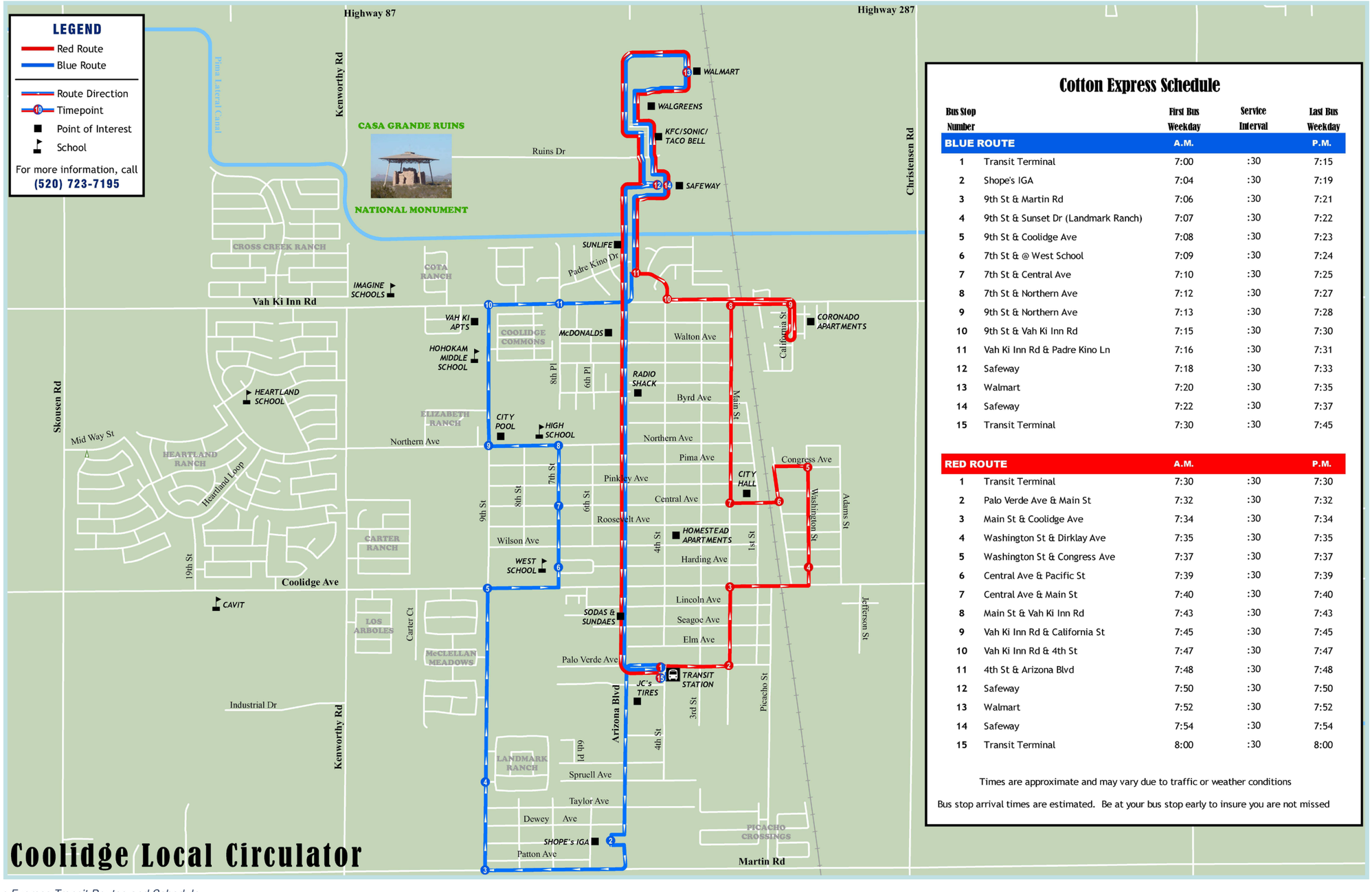
Times posted in this schedule are estimates only, please arrive at least 5 minutes before these estimated times to ensure you will not miss your boarding.

WESTBOUND ROUTE								AM Sweeper		PM Sweeper	
Florence Pool / City Complex	-	7:17	10:08	*12:33*	*2:58*	*5:33*	*7:58*	-	6:46	-	*5:09*	-
Pinal County Complex-Florence	-	7:20	10:10	*12:35*	*3:00*	*5:35*	*8:00*	-	6:48	-	*5:11*	-
Adamsville Rd @ Main St	-	7:26	10:16	*12:41*	*3:06*	*5:41*	*8:06*	-	6:51	-	*5:14*	-
Transit Terminal	5:15	7:50	10:36	*1:01*	*3:26*	*6:01*	*8:26*	5:05	7:07	-	*5:30*	*7:05*
Martin Valley	5:27	8:00	10:46	*1:11*	*3:36*	*6:11*	-	5:15	-	-	*5:40*	*6:52*
Central Arizona College	5:35	8:15	10:55	*1:20*	*3:45*	*6:20*	-	5:21	-	-	*5:46*	*6:45*
Kortsen Rd/Trekell Rd	5:45	8:35	11:05	*1:30*	*3:55*	*6:30*	-	5:31	-	-	-	*6:35*
Pinal County Complex-Casa Grande	5:50	8:40	11:08	*1:33*	*3:58*	*6:33*	-	5:35	-	-	-	*6:32*
Florence Blvd/Trekell Rd	5:57	8:49	11:14	*1:39*	*4:04*	*6:39*	-	5:40	-	-	-	*6:25*

EASTBOUND ROUTE								AM Sweeper		PM Sweeper	
Casa Grande Regional Medical Center	6:05	8:56	11:21	*1:46*	*4:11*	*6:46*	-	5:50	-	-	*6:18*	
Promenade Mall	6:15	9:03	11:28	*1:53*	*4:18*	*6:53*	-	5:55	-	-	*6:01*	
Central Arizona College	6:25	9:14	11:39	*2:04*	*4:29*	*7:04*	-	6:10	-	-	-	
Martin Valley	6:30	9:20	11:45	*2:10*	*4:35*	*7:10*	-	6:14	-	-	-	
Transit Terminal	6:48	9:40	*12:05*	*2:30*	*5:05*	*7:30*	-	6:20	-	*4:25*	-	
Stewart St / Orlando St	7:09	10:00	*12:25*	*2:50*	*5:25*	*7:50*	-	6:38	-	*4:43*	-	
Pinal County Courts-Florence	7:13	10:04	*12:29*	*2:54*	*5:29*	*7:54*	-	6:42	-	*5:05*	-	

*AM times are shown in regular type. **PM times** are shown in **boldface italic type***

Figure 28 – Central Arizona Regional Transit Routes and Schedule



Cotton Express Schedule

Bus Stop Number		First Bus Weekday	Service Interval	Last Bus Weekday
BLUE ROUTE		**A.M.**		**P.M.**
1	Transit Terminal	7:00	:30	7:15
2	Shope's IGA	7:04	:30	7:19
3	9th St & Martin Rd	7:06	:30	7:21
4	9th St & Sunset Dr (Landmark Ranch)	7:07	:30	7:22
5	9th St & Coolidge Ave	7:08	:30	7:23
6	7th St & @ West School	7:09	:30	7:24
7	7th St & Central Ave	7:10	:30	7:25
8	7th St & Northern Ave	7:12	:30	7:27
9	9th St & Northern Ave	7:13	:30	7:28
10	9th St & Vah Ki Inn Rd	7:15	:30	7:30
11	Vah Ki Inn Rd & Padre Kino Ln	7:16	:30	7:31
12	Safeway	7:18	:30	7:33
13	Walmart	7:20	:30	7:35
14	Safeway	7:22	:30	7:37
15	Transit Terminal	7:30	:30	7:45

RED ROUTE		**A.M.**		**P.M.**
1	Transit Terminal	7:30	:30	7:30
2	Palo Verde Ave & Main St	7:32	:30	7:32
3	Main St & Coolidge Ave	7:34	:30	7:34
4	Washington St & Dirklay Ave	7:35	:30	7:35
5	Washington St & Congress Ave	7:37	:30	7:37
6	Central Ave & Pacific St	7:39	:30	7:39
7	Central Ave & Main St	7:40	:30	7:40
8	Main St & Vah Ki Inn Rd	7:43	:30	7:43
9	Vah Ki Inn Rd & California St	7:45	:30	7:45
10	Vah Ki Inn Rd & 4th St	7:47	:30	7:47
11	4th St & Arizona Blvd	7:48	:30	7:48
12	Safeway	7:50	:30	7:50
13	Walmart	7:52	:30	7:52
14	Safeway	7:54	:30	7:54
15	Transit Terminal	8:00	:30	8:00

Times are approximate and may vary due to traffic or weather conditions

Bus stop arrival times are estimated. Be at your bus stop early to insure you are not missed

Figure 29 – Cotton Express Transit Routes and Schedule

Bicycle and Pedestrian Transportation

Bicycling and walking represent important modes of transportation. The Sun Corridor RTP encourages investments in bicycling and walking facilities. These investments encourage healthy lifestyles and physical fitness, as well as provide safe and comfortable transportation options to access jobs, schools, residences, recreation, and shopping. When walking and bicycling facilities are provided, particularly in downtown areas, they can mean fewer vehicles on the road.

A goal of the Sun Corridor RTP is to increase the number of miles of new bicycle infrastructure in the region. This can be implemented in conjunction with pavement preservation and rehabilitation projects or new roadway construction or reconstruction by agencies or by private development. A brief overview of bicycle and pedestrian facilities in the region is provided below:

Casa Grande

The City of Casa Grande is incrementally developing a pedestrian/bicycle trail system. Bicycle lanes have been incorporated into the construction of new arterials and collector streets. The City's roadway design standards include bike lanes for both arterial and collector streets. In addition, the City has implemented shared-use paths along canals and washes. Arterial and collector roadways that have striped bicycle lanes include:

- ⇒ Arizola Road
- ⇒ Burris Road
- ⇒ Casa Grande Avenue
- ⇒ Cottonwood Lane
- ⇒ Main Avenue
- ⇒ Peart Road
- ⇒ Thornton Road
- ⇒ Val Vista Boulevard
- ⇒ McCartney Road
- ⇒ McMurray Boulevard
- ⇒ Rodeo Road
- ⇒ Selma Highway
- ⇒ Trekell Road
- ⇒ Henness Road
- ⇒ Kortsen Road

Many of these roads also include sidewalks on one or both sides of the road.

Coolidge

Approximately 11 miles of Coolidge arterial and collector streets have sidewalks on either one or both sides of the road. Pedestrian enhancements were included in the 2014 reconstruction project on Coolidge Avenue between SR 287 and 1st Street. The project included striping a new pedestrian crosswalk between Fourth and Third Streets and reconstruction of curb, gutter, and sidewalk to meet Americans with Disabilities Act (ADA) requirements.

Coolidge Avenue Reconstruction Project

Other streets that have sidewalks include segments of:

- ⇒ 9th Street
- ⇒ Central Avenue
- ⇒ Northern Avenue
- ⇒ Main Street
- ⇒ Martin Road
- ⇒ Picacho Street
- ⇒ Vah Ki Inn Road

Coolidge has identified priority sidewalk corridors for future installation of sidewalks, as part of its transportation planning efforts.

With respect to bicycling, some roadways have striped shoulders suitable for bicycling. The most continuous route is Vah Ki Inn Road.

Eloy

Eloy has sidewalks on a number of residential streets as well as on segments of Main Street. Paved shoulders that are four feet wide or greater exist on Frontier Street and on Sunshine Boulevard, from I-10 to Frontier Street. Sections of Shedd Road and Giles Street have a striped bicycle lane. Future plans exist for a shared-use urban trail system, an irrigation canal trail system, and regional trails.

Pinal County

Pinal County residents and visitors have access to a wide variety of park, trail, and outdoor recreation opportunities. Pinal County is home to five State Parks, four Wilderness Areas, three National Monuments, two National Forests, and a National Scenic Trail.

Pinal County also provides several neighborhood/community parks and manages approximately 60 miles of regional non-motorized multi-use trails. Bicycles are permitted on all state roads in the county except I-10 and the segment of I-8 between Trekell Road and I-10.

Pinal County has an Open Space and Trails Master Plan (2007), which identifies almost 400,000 acres of existing or planned open space, 800,000 acres of proposed open space, 26,000 acres of restricted use open space, and 169,000 acres of regional parks. The plan reflects the vision of county residents and identifies goals and objectives for the attainments of open space, trails, and regional parks.

The Regionally Significant Routes for Safety and Mobility Study (December 2008) provides for alternative travel modes such as transit and bicycle and pedestrian facilities.

U.S. Bicycle Route 90

On September 24, 2015, Arizona became part of the U.S. Cycling Route System, an interstate network of designated cycling routes spanning 11,424 miles of roadway in 23 states and the District of Columbia. U.S. Route 90, which spans from California to Florida, traverses Arizona, including through the Sun Corridor region, in a continuous 573-mile route between California and New Mexico.

U.S. Bicycle Route 90, Source: Adventure Cycling Association (adventurecycling.org)

Aviation

Aviation represents another critical transportation mode in the Sun Corridor region. While airport investments (taxiways, runways, terminals, etc.) are guided by the Federal Aviation Administration, the Sun Corridor MPO is responsible for ensuring that investments in airport and aviation facilities become part of the region's intermodal transportation system by improving connectivity and access to them by other transportation modes including by vehicle and freight, walking, bicycling, or transit. Multimodal access to aviation facilities can promote economic development and tourism. The four municipal airports in the Sun Corridor region include:

- ⇒ Casa Grande Municipal Airport
- ⇒ Coolidge Municipal Airport
- ⇒ Eloy Municipal Airport
- ⇒ Pinal Airpark

These airports are shown in Figure 30.

Casa Grande Municipal Airport

Casa Grande Municipal Airport, Source: City of Casa Grande

The Casa Grande Municipal Airport is a general aviation facility owned and operated by the City of Casa Grande. Located on approximately 640 acres in the northern section of the city, the airport has one runway which is 5,200 feet long, and facilities include a terminal building, approximately 85 hangars, and over 100 airplane tie-downs, which the City of Casa Grande maintains and rents out. A restaurant is located inside the terminal building.

Pinal Avenue/State Highway 387 provides access to the Casa Grande Municipal Airport via Airport Road. An Airport Master Plan was prepared in March 1997.

Coolidge Municipal Airport

Coolidge Municipal Airport is a general aviation airport owned and operated by the City of Coolidge and is located approximately nine miles southeast of the city on approximately 1,300 acres of land. The airport has two runways; one is 5,562 feet long, and the other is 3,871 feet long. Landside facilities include aircraft storage hangars, an office for Coolidge Aviation, self-service fuel facilities, other aircraft hangar facilities, and facilities for two specialty operators that offer a variety of services. Coolidge Municipal Airport has become a base for aviation businesses that specialize in parachute training operations and aerial disaster relief.

Access to this airport is via Coolidge Airport Road and Coolidge Avenue. An Airport Master Plan was prepared in January 2011.

Eloy Municipal Airport

The Eloy Municipal Airport is owned and operated by the City of Eloy. The airport encompasses approximately 90 acres of land. The airport has one runway that is 3,900 feet long. The airport is the location for Skydive Arizona, which has grown into the world's largest skydiving center. This specialty aviation enterprise serves an average of over 135,000 jumps per year.

The Airport is accessed via Tumbleweed Road. Lear Drive extends along the south side of airport property and provides access to the T-hangar facilities. An Airport Master Plan was prepared in 2001.

Pinal Airpark

Pinal Airpark is a general aviation airport owned and operated by the Pinal County Airport Economic Development Department. Currently, its primary tenant is Marana Aerospace Solutions, Inc. (MAS), which is a maintenance, repair, and overhaul (MRO) operator. Airplanes are also stored at the airport with the expectation that the dry desert climate will mitigate corrosion. Other tenants at the airpark include the Silverbell Army Heliport, which trains hundreds of military pilots each year, and a U.S. Special Operations Commands Parachute Training and Testing Facility. Currently, the Airpark is in the process of updating its Master Plan.

Pinal Airpark Road provides access to the airpark. On Airpark property, the main access road that runs throughout the terminal area to the Army National Guard facility is named Del Smith Boulevard. The roadway that parallels and is closest to the flight line is named Evergreen Way. Roads running perpendicular to Del Smith Boulevard are numbered First through Eleventh Streets. An Airport Master Plan was prepared in 1991 with a master plan update completed in 2015. The draft plan is expected to be approved by the Board of Supervisors in January 2016.

Airport Activity Data

An overview of activity at these airports is summarized in Table 11. This table shows the number of aircraft housed or based at the airport on a regular basis, as well as the number of take-offs and landings, or "operations" at each airport.

Table 11 – Airport Operations and Number of Based Aircraft

Airport Name	Number of Based Aircraft	Annual Operations	Reporting Date
Casa Grande Municipal	106	119,680	4/29/14
Coolidge Municipal	18	4,250	4/28/14
Eloy Municipal	23	23,450	4/28/14
Pinal Airpark	4	56,857	4/28/14

Source: ADOT, Pinal Airpark Master Plan Update (2015)

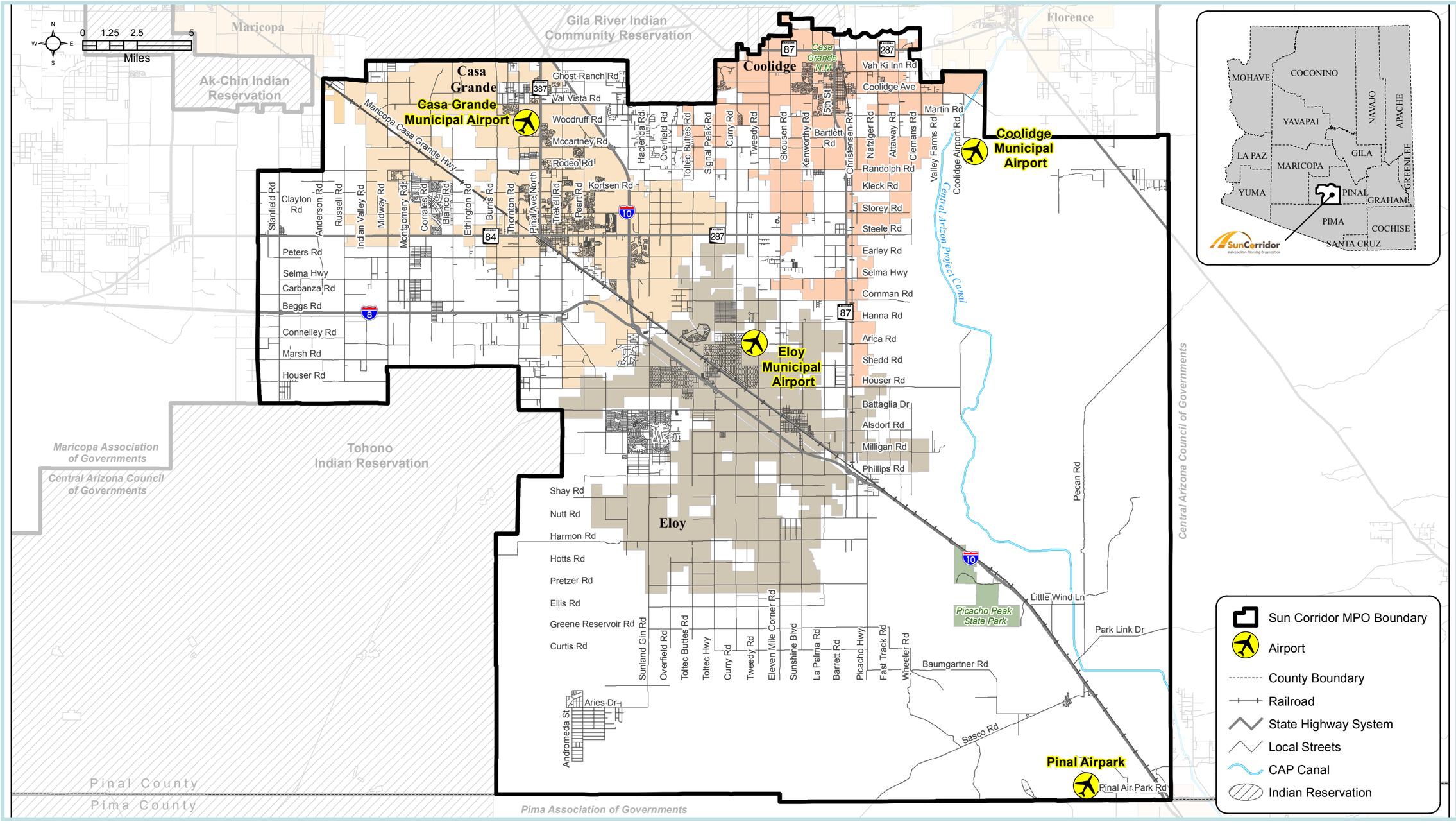


Figure 30 – Airports in the Sun Corridor Region

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Freight

Efficient, reliable, and strategically designed transportation infrastructure benefits businesses by lowering transportation and shipping costs and providing quicker access to markets and services. This leads to their improved economic competitiveness and growth, and that of the region.

Freight transportation represents a tremendous opportunity in the Sun Corridor MPO region. With access to two major interstates (I-8 and I-10), as well as the Union Pacific Railroad, the region is well-positioned to continue to attract freight-associated industries and their customers. This will require a unified approach by Sun Corridor MPO agencies and collaboration with freight providers and their industrial customers to protect, maximize, and expand freight-oriented commerce and economic activity.

The Sun Corridor MPO presents multiple objectives designed to improve freight accommodation within the region. These include keeping the region's roadways in good condition, improving safety, reducing travel times by improving connectivity, and investing in transportation improvements that provide for more jobs in the region.

MAP-21 and the subsequent FAST Act, requires that metropolitan planning processes provide consideration for projects and strategies to:

- ⇒ Increase the accessibility and mobility of people and for freight; and
- ⇒ Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.

The Sun Corridor MPO and member agencies recognize that maximizing and improving the ability to move materials and goods into, out of, and through the region effectively and efficiently is a key component of future economic success. This will require not only regional, but statewide and national coordination. The Sun Corridor MPO commits to collaborating with ADOT to promote and direct investments that improve freight mobility and access, leading to economic development and opportunity.

ADOT is currently developing a Statewide Freight Plan. The Statewide Freight Plan will define immediate and long-range investment priorities and policies that will generate the greatest return for Arizona's economy, while also advancing other key transportation system goals, including national goals outlined in MAP-21. It will identify freight transportation facilities in Arizona that are critical to the State's economic growth and give appropriate priority to investments in such facilities. The Sun Corridor MPO will support and help to advance the Plan's recommendations, helping not only the Sun Corridor region, but also Arizona to be competitive nationally and internationally.

Regionally, a key challenge for the Sun Corridor MPO and member agencies is balancing the need for truck-friendly road configurations to support industrial development, while also encouraging viable, modern commercial and residential development. Best practices for improving freight accommodation is included in Chapter 7.

Truck Routes

I-10 provides national road connectivity and I-8 offers connections to San Diego. Key truck routes in the Sun Corridor MPO region include SR 84 (Gila Bend Highway), SR 287 (Florence Boulevard), and SR 387 (Pinal Avenue), which are used by local industries as a connection between local routes and the interstate system. Previous studies have also identified Thornton Road, Cottonwood Lane, and Burris Road as regional truck routes.

Intermodal Facilities

Intermodal freight transport involves the use of multiple modes of transportation (rail, ship, and truck), without any handling of the freight itself when changing modes. Intermodal facilities closest to the Sun Corridor MPO region include two intermodal terminals located in Phoenix and Tucson that service Union Pacific Railroad, and one intermodal terminal in Glendale that services BNSF Railway.

Rail

The Union Pacific Railroad provides direct access to the Sun Corridor MPO region for rail-using industries. Union Pacific is considering the development of a classification yard at Red Rock. Classification yards are where railcars are combined into trains with common destinations.

Future Freight Route Needs

There is a need for a regional freight network to be defined within the Sun Corridor MPO region, as well as road design guidelines. Transportation plans need to consider alternative truck-traffic routing that will enhance connectivity between industrial investment areas and I-10, and protect the region's ability to have efficient and effective road designs promoting commercial and residential development in a livable community. For example, a loop road on the west side of Casa Grande would create a freight-friendly transportation corridor. The loop road could run north from the intersection of I-8 and South Burris Road, turn east about two miles south of the copper mine, cross State Highway 387, and join I-10 a little north of the Casa Grande Municipal Airport. Such a roadway would provide convenient, low-congestion access for trucks and separate industrial traffic from commercial and commuter traffic. Another freight planning consideration is designated truck routes to reach the proposed inland port in the Coolidge-Eloy area on Highway 87.

CHAPTER 7
BEST PRACTICES

7. Best Practices

Considerations in developing transportation improvements for the Sun Corridor MPO region are discussed in this section. Best practices are presented for:

- ⇒ Access Management
- ⇒ Complete Streets
- ⇒ Bicycle and Pedestrian Facilities
- ⇒ Travel Demand Management
- ⇒ Intelligent Transportation Systems
- ⇒ Integration of Land Use Plan / Economic Vitality / Transportation
- ⇒ Pavement Management

Access Management

The benefits of access management include improved movement of through traffic, reduced crashes, and fewer vehicle conflicts. According to the FHWA[4], key access management techniques include:

- ⇒ **Increasing spacing between signals and interchanges –** In general, increasing the distance between traffic signals improves the flow of traffic on major arterials, reduces congestion, and improves air quality for heavily traveled corridors.
- ⇒ **Improved design of driveway locations and spacing –** A large number of driveways increase the potential for conflicts on the road. The Pinal County Regionally Significant Routes for Safety and Mobility Access Management Manual provides guidelines for driveway spacing as discussed on the following page.
- ⇒ **Use of exclusive turning lanes –** Exclusive turn lanes remove stopped vehicles from the through traffic flow. Examples include left-turn lanes and right-turn lanes. Roundabouts have been used at intersections with many conflict points.
- ⇒ **Providing median treatments, including two-way left turn lanes (TWLTL) –** Median treatments and TWLTL allow turn movements in multiple directions from a center lane and raised medians that prevent movements across a roadway.
- ⇒ **Use of service and frontage roads and shared access –** Service and frontage roads reduce the number of direct driveway access points, thus increasing safety. An example of a frontage road is shown on the following page (Figure 31).

[4] *Source: http://ops.fhwa.dot.gov/access_mgmt/docs/benefits_am_trifold.htm*

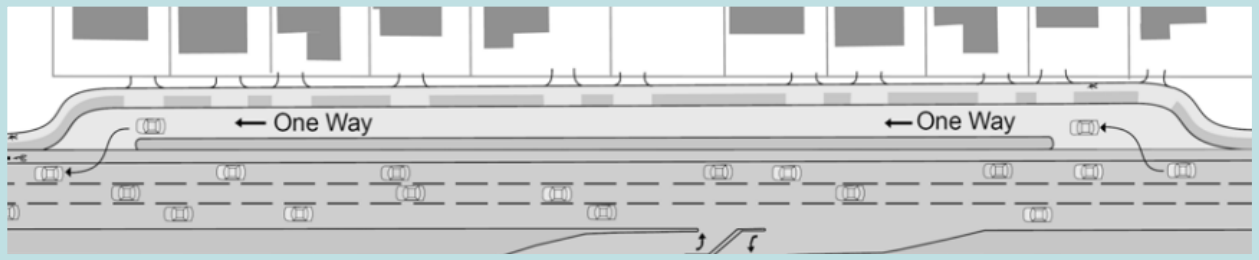


Figure 31 – Local Access Lane

Source: City of Tucson Transportation Access Management Guidelines for the City of Tucson, Revised, July 2010

It is recommended that each Sun Corridor MPO member agency develop and adopt an access management policy to guide roadway improvements within their respective jurisdiction. The access management policy should be consistent with the Pinal County Regionally Significant Routes for Safety and Mobility Access Management Manual (2008) recommendations. An overview of access management guidelines for principal arterials is summarized in Table 12.

Table 12 – Access Management Recommendations from the Pinal County Regionally Significant Routes for Safety and Mobility Access Management Manual

Item	Access Management Guideline
Publicly Dedicated Roadway	¼ mile to ½ mile spacing
Traffic Signal Spacing	¼ mile and ½ mile locations–fully coordinated and progressed where warranted
Typical Traffic Control	Signalized, two-way stop
Private Access/Driveways:	
Full Access Driveway from signal	660 feet
Partial Access Driveway from Signal	330 feet (for parcels with short frontage, proposed driveways with less than 330 feet will be considered)
Driveway Spacing	330 feet
Grade-Separated Interchanges Spacing	One mile locations where warranted
Grade-Separated Interchanges Type	May include SPUI or tight diamond if warranted and feasible
Frontage Roads	Possible
On-Street Parking	Prohibited

Source: Pinal County Regionally Significant Routes for Safety and Mobility Access Management Manual (2008), page 25.

Complete Streets Policies

Complete streets is a term used to describe roads that are designed and operated to enable safe access for all users. People of all ages and abilities are able to safely move along and across streets in a community, regardless of how they are traveling. Complete streets make it easy to cross the street, walk, and bicycle to work.

A complete street in a rural area will look quite different from a complete street in a highly urban area, but both are designed to balance safety and convenience for everyone using the road.

Within an urban area, a complete street may include sidewalks, bike lanes, median treatments, and frequent pedestrian crossing opportunities. Within a rural area, a complete street may simply include a wide paved shoulder for use by bicyclists and pedestrians. Both examples of complete streets respond to the needs of the roadway users within the community.

It is recommended that each Sun Corridor MPO member jurisdiction develop and adopt a Complete Streets policy. Additional information about a complete streets policy can be found at: http://www.smartgrowthamerica.org/complete-streets.

By adopting a complete streets policy, communities within the Sun Corridor region will promote the implementation of additional bicycle and pedestrian facilities. Figure 32 is an example of how a complete streets approach can improve conditions for motorists, bicyclists, pedestrians, and transit riders. Figure 33 proposes additional considerations for transportation planning and roadway design that lead to projects that meet the needs of all roadway users.

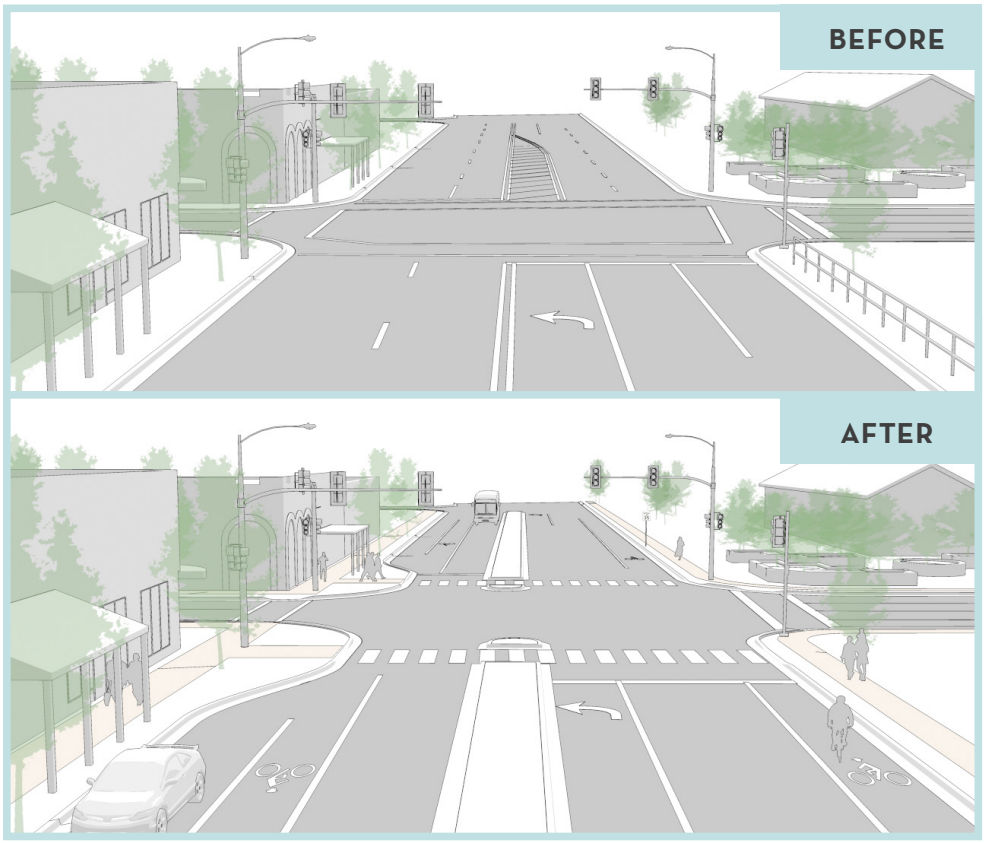
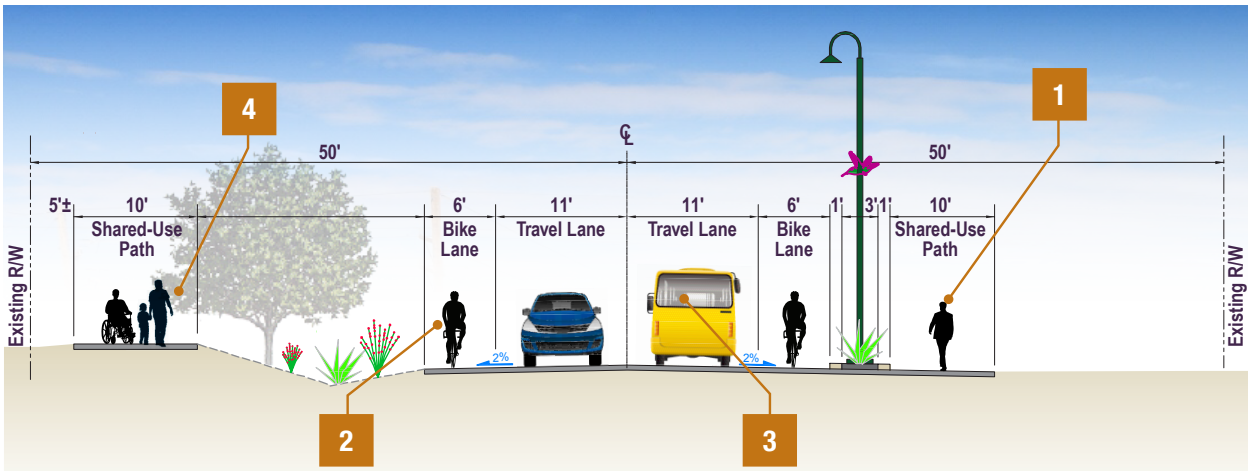


Figure 32 – Example of Complete Streets: Before and After

Source: Kimley-Horn



CONSIDERATIONS

1 Pedestrians	◆ Are any current or planned land uses or destinations in the corridor within reasonable walking distance of one another? ◆ How will the project improve walking conditions along the state highway? Can nearby existing sidewalks be connected through the project? ◆ Are state highway crossings needed? Are destinations located on opposite sides of the roadway? ◆ Are community facilities (parks, schools) located within one-half mile to 1 mile of the project? Will children and others walk along or across the roadway to access the destinations?
2 Bicyclists	◆ Is the roadway identified as a bicycle route within a local bicycle and pedestrian plan? ◆ Does the project include elements to encourage people of all ages to bicycle, or will the project only serve the needs of experienced and advanced bicyclists? ◆ What project elements can be incorporated to enable people of all ages to bicycle on or near the project/corridor?
3 Transit users	◆ Are existing bus routes within the project/corridor limits? ◆ Are proposed bus routes within the project/corridor limits? ◆ Do transit users need to walk along or cross the state highway to access bus routes? ◆ Are transit facilities such as sheltered bus stops and bus pull outs needed?
4 Other users	◆ Equestrians? ◆ Heavy machinery or agricultural equipment? ◆ Military vehicles? ◆ Recreational vehicles? ◆ Oversize/overweight vehicles?

Figure 33 – Example of Transportation Planning for Complete Streets

Source: Kimley-Horn

Bicycle and Pedestrian Facilities

Bicycling and walking are key elements to a healthy community's transportation system. When an environment is conducive to active transportation, these modes offer a practical transportation choice that provides benefits for individuals and their communities.

Walking and biking provide a variety of benefits including the following:

- **Health benefits –** Walking is a form of physical activity that can be accomplished by most citizens. Regular physical activity helps prevent or reduce the risk of heart disease, obesity, high blood pressure, type 2 diabetes, osteoporosis, and can improve mental health.
- **Environmental/Energy benefits –** Walking or biking instead of driving can improve air quality.
- **Economic benefits –** Walking and biking are affordable forms of transportation.
- **Quality of life benefits –** The walkability and bikeability of a community is an indicator of its livability. This factor has a profound impact on establishing and growing tourism-related activity as well as attracting businesses and workers.
- **Social justice –** When providing pedestrian and bicycle facilities such as sidewalks and bike lanes, communities allow people a choice in travel mode opportunities. For those who do not have the option to drive, such as adolescents, the elderly, those unable to afford a car, and people with certain disabilities, a lack of choice in transportation creates a barrier to mobility.

Transportation infrastructure can be planned and designed to encourage more walking and bicycling. Features that contribute to a more convenient, comfortable, and safe walking and bicycling environment include encouraging mixed-use development; appropriately sized and located sidewalks, shared-use paths, and on-street bike lanes; accessibility features such as curb ramps; buffers between vehicular traffic and non-motorized modes (where feasible); and trees to shade walking routes where possible.

Slowing traffic, reducing unnecessary exposure to vehicles, and incorporating features such as signage, crosswalks, and adequate pedestrian phasing at signals into future roadway design plans also enhance bikeability and walkability.

Types of Bicycle and Pedestrian Facilities

It is recommended that all new roadway projects include, to the extent feasible and practical, bicycle and pedestrian facilities. Examples of bike and pedestrian facilities that can be incorporated into major improvement and new construction projects are listed in Table 13.

Table 13 – Examples of Bicycle and Pedestrian Facilities

Striped Bike Lane

» Exclusive-use area adjacent to the outermost travel lane
» Typical width: 5' (minimum)
» Recommended on all arterial and collector roadways with speed limits 25 mph or higher

Striped Paved Shoulder

» Additional pavement adjacent to travel lane
» Extends service life of road and provides greater safety and comfort for bicyclists
» Typical width: 5' (minimum recommended to accommodate bicyclists)
» In rural areas with low traffic, can be used by pedestrians

Table 13 – Examples of Bicycle and Pedestrian Facilities

Shared Lane Markings

» Pavement markings on lanes to indicate a shared space for bicyclists and motorists

» Should be used on roads (35 mph or less) where bicycle lanes are desirable but not feasible due to pre-existing constraints; most appropriate in constrained urban environments such as downtown business districts

» Typical spacing: 100-250 feet along a corridor

Sidewalk

» Dedicated space within right-of-way for pedestrians

» Should include a landscaped buffer from roadway

» Typical width: 5’ minimum (6’ preferred)

Table 13 – Examples of Bicycle and Pedestrian Facilities
Shared-Use Path
» Separated from traffic and located in open space or adjacent to road with more setback and width than sidewalks » Typical width: 10-14' preferred » Most suitable in suburban or rural environments where roadway will include limited intersections with sidestreets or driveways

Travel Demand Management

Travel Demand Management (TDM) refers to a set of strategies aimed at reducing the demand for roadway travel, particularly in single occupancy vehicles. Some TDM strategies are designed to reduce total travel demand, some are designed to reduce peak period demand, and some encourage a shift to alternate modes. TDM strategies can improve and expand transportation choices.

As the region grows and develops, and as major new employment centers are constructed, it is recommended that Sun Corridor MPO member jurisdictions encourage employers and developers to consider TDM strategies and approaches. Examples of strategies that can be considered in the Sun Corridor MPO region are summarized in Table 14.

Table 14 – Travel Demand Strategies

Category	Strategy
Alternative Work Schedules/Telecommuting	» Flexible and compressed work weeks. » Telecommuting – strategies include working from home, video conferencing, and use of satellite offices.
Bicycle Incentives	» Bicycle parking – provision of bicycle parking racks near businesses. » Education programs – maps of bicycle routes. » Improved safety for bicyclists – through traffic calming, streetscaping, and complete streets.
Parking Strategies to Encourage Use of Alternate Modes	» Smart growth – encourage more compact, mixed, multimodal development to allow more parking sharing and use of alternative modes. » Preferential parking for carpools/vanpools. » Park-and-ride lots.
Pedestrian Improvements	» Improve sidewalks, crosswalks, and paths – construction to connect gaps in sidewalk system, repairing broken sidewalk segments, and pedestrian crossing improvements. » Universal design – transportation systems that accommodate people with disabilities and other special needs. » Pedestrian-oriented land-use and building design. » Traffic calming – includes streetscape improvements, traffic speed reductions, and vehicle restrictions.
Ridesharing/Vanpooling	» Encouraging carpooling and vanpooling – carpooling typically uses a person's own vehicle. Vanpooling uses rented vans often supplied by employers, profit or non-profit organizations, or government agencies. As more people use these services, the chances of finding a suitable carpool or vanpool increase significantly. As a result, success depends on promotion programs that encourage a significant portion of potential users to register for possible participation. Financial incentives, such as employee subsidies, also increase participation.
Transit Encouragement Programs	» Improved transit service – including additional, more frequent, and more comfortable service. » Improved transit stops and access to stops – including shelters, seating, transit user information and wayfinding guidance, park-and-ride lots, and other amenities. Improve sidewalk system to reach stops. » Improve rider information and marketing programs.

Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) refers to electronics, communications, and information systems to improve the efficiency and safety of the transportation system. Some of the many areas in which ITS is used are described below.

Coordinated Traffic Signal Systems

A key source of delay and congestion along arterial streets and roadways are traffic signals. Too often motorists are required to make unnecessary stops because adjacent traffic signals are not coordinated. This results in longer travel times and increased vehicle emissions and fuel consumption. A well-timed, coordinated traffic signal system permits continuous movement along an arterial or throughout a network of major streets with minimal stops and delays, which reduces fuel consumption and improves air quality.

Establishing coordination is most critical when the intersections are in close proximity and there is a large amount of traffic on the coordinated street. An example in the Sun Corridor region is Florence Boulevard/SR 287. The Manual on Uniform Traffic Control Devices provides guidance that traffic signals within one-half mile of each other along a corridor should be coordinated. It is recommended that the Sun Corridor region invest in communications infrastructure (wireless or fiber optic cable) to better enable traffic signal coordination.

Safety Infrastructure

ITS technology can help to improve driver, passenger, and pedestrian safety. Sensors, cameras, and warning devices embedded in roads on traffic signals, or placed roadside at strategic locations, can be used to inform vehicles and driving conditions. For example, road weather sensors can deliver information about conditions on bridges or roads. ADOT continues to investigate options for dust-warning systems on I-10. The Sun Corridor MPO should encourage and support this effort to reduce crashes associated with dust and low-visibility conditions.

Transit

The Cotton Express Transit Service and the Central Arizona Regional Transit Service have webpages on the City of Coolidge website, which provide route and schedule information.

An effective way to improve bus ridership is to make route information as accurate, accessible, and convenient as possible. Smartphone applications can provide schedule updates or real time transit information (next bus arrival). Flagstaff's Mountain Line offers smartphone applications that may serve as a model for future enhancements in the Sun Corridor region, particularly as the region's transit system grows in the upcoming years.

Pavement Management

Pavement management is the process of planning and prioritizing the maintenance and repair of a network of roadways or other paved facilities to optimize pavement conditions over the entire network.

Many jurisdictions, including Phoenix and Tucson, use an Automatic Road Analyzer (ARAN) pavement data collection vehicle equipped with survey systems and software to perform pavement data collection tasks. The ARAN van collects consistent and accurate roadway data, such as pavement condition, roadway ride quality, and detailed location information of specific road features. The ARAN van uses a variety of sensors that measure roughness and irregularities, and includes a global positioning system, video cameras, and computers. The ARAN is a modular design that can be built on a van chassis that meets specifications with respect to power and weight.

Source: Tranview, City of Tucson, http://www.transview.org/aran/

The region may consider purchasing a pavement data collection vehicle for use by all jurisdictions

Information from the ARAN van is used to identify locations where preservation measures can extend the life of an existing pavement. Data from the ARAN van is fed into a pavement management system to determine a condition rating for each arterial street section. The system provides member agencies with the appropriate tools and data to assess the deterioration of publicly owned roadways and other roadway infrastructure. Other applications of the ARAN include accident investigations/forensics, signs, roadside asset inventory, and safety enhancement.

It is recommended that the Sun Corridor MPO region consider acquisition of an ARAN van that can become a shared and valuable resource for the Sun Corridor MPO member agencies. Acquisition of an ARAN or contracting for this type of service would provide consistent collection of pavement conditions throughout the entire Sun Corridor MPO region.

Designated Truck Routes

Freight represents a significant economic activity within the Sun Corridor MPO region. Nearly 45,000 vehicles utilize I-10 every day, of which 9,000 are trucks. New distribution centers, warehouses, and manufacturing facilities continue to be developed along the I-10 and I-8 corridors. To access these facilities, commercial trucks utilize the regions' arterials and collector streets, many of which are not designed to handle the volume of heavy loads.

It is recommended that the Sun Corridor MPO jurisdictions collaboratively develop a regional truck route and freight network.

A designated freight network should include arterial and collector street connections between I-8, I-10, and industrial and commercial areas in the region. The freight network should also consider connections to other freight transportation modes such as rail terminals, airports, and inland ports. Development of a freight network should consider current freight movements as well as future planned developments.

A starting point for the development of a freight network are the routes identified in the Regionally Significant Routes for Safety and Mobility (2008) study. The freight network should identify roadways that should be constructed to higher design standards to accommodate the heavy truck traffic. Standards for road design for freight networks include the following considerations:

- ⇒ Increased pavement sections to accommodate heavier weight loads
- ⇒ Sufficient turning radii at road intersections, appropriately wide curb cuts at facility ingress/ egress points
- ⇒ Traffic signaling that is timed for large vehicles
- ⇒ Highway accessibility that allows the trucks to enter and exit safely

In addition, the freight network should be accompanied by:

- ⇒ Ability to enforce truck restrictions by City and County Ordinance, including definition of the types of trucks to which the ordinance applies, and to whom (for example, vehicles over X tons in gross vehicle weight).
- ⇒ Regulatory signage (e.g. "Truck Route", and "Weight Limit 10 Tons"), consistent with the Manual of Uniform Traffic Control Devices.
- ⇒ Enforcement planning to ensure that at all necessary agencies understand the truck regulations and how the agencies should work together to effectively enforce them.

Freight network identification, development and implementation will require the collaboration of all Sun Corridor MPO agencies and jurisdictions, and departments. Each agency will need to understand the goals and needs outlined in the freight network program and the role of each agency in the program's execution.

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CHAPTER 8
IMPLEMENTATION

8. Implementation

This chapter summarizes the recommended transportation system investment approach proposed for the Sun Corridor MPO planning area within the RTP horizon year (2040).

A roadway transportation system investment approach was selected in collaboration with the Sun Corridor MPO TAC and is fiscally constrained: that is, the level of investment serves as a "budget" for federal transportation funding that is projected to be available to the Sun Corridor MPO over the next 25 years.

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 2040 RTP, as the roadway element is the most comprehensive of the three elements and Sun Corridor MPO member jurisdictions have control over the allocation of the revenues associated with the roadway element.

Roadway System Implementation Plan

Revenue Projections

A roadway transportation system investment approach was selected in collaboration with the Sun Corridor MPO TAC and is fiscally constrained: that is, the level of investment serves as a "budget" for federal transportation funding that is projected to be available to the Sun Corridor MPO region over the next 25 years.

The Surface Transportation Program (now renamed by the FAST Act to Surface Transportation Block-Grant Program) and the Highway Safety Improvement Program (HSIP) represent the primary federal funding sources for transportation system improvements in the Sun Corridor MPO region.

The federal Surface Transportation Program is allocated to states and MPOs for projects to preserve and improve the conditions and performance on Federal-aid roadways, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects. STP funds are obligated in proportion to their relative share of the state's population. STP funds vary by year, but for the 25 year period, the Sun Corridor MPO anticipates to receive approximately $577,760 per year. STP funds that are projected to be available in the Sun Corridor MPO region are identified in Table 15.

The Sun Corridor MPO is not assuming that HSIP funds will be available beyond those currently programmed, as the program transitions to a statewide competitive process. However, the Sun Corridor will continue to pursue HSIP projects consistent with the Sun Corridor Strategic Transportation Safety Plan.

The HSIP funds highway safety improvements with the purpose to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. The HSIP emphasizes a data-driven, strategic approach to improving highway safety that focuses on results.

Note that Table 15 does not include other local or state revenue that is anticipated to be available to local agencies for transportation investments.

Table 15 – STP and HSIP Revenues, 2015-2040

Time Period	Surface Transportation Program Funds	Highway Safety Improvement Funds
2016- 2020	$ 2,888,802	$1,955,278
2021-2025	$ 3,109,868	0
2026-2030	$ 3,416,747	0
2031-2035	$ 3,753,909	0
2036-2040	$ 4,124,342	0
Totals	**$ 17,293,668**	**$1,955,278**

Source: ADOT

Roadway Recommended Investment Strategy

A primary purpose of the RTP is to identify how federal Surface Transportation Program (STP) funds will be expended over the next 25 years. Roadway improvements can be categorized into three general categories of investments. Consistent with the ADOT Long Range Transportation Plan, these are: preservation, modernization, and expansion, as defined in Figure 34.

PRESERVATION: Activities that protect transportation infrastructure by sustaining asset condition or extending asset service life; preservation includes regular maintenance and resurfacing of pavements.

MODERNIZATION: Roadway improvements that upgrade efficiency, functionality, and safety without adding capacity; examples of modernization activities include widening of narrow lanes, access control, bridge replacement, hazard elimination, lane reconstruction and sidewalks.

EXPANSION: Improvements that add transportation capacity through the addition of new facilities and or services; expansion activities include adding new roadway lanes and construction of new roadway facilities.

Figure 34 – Investment Strategy Categories

Source: ADOT

The RTP TAC was presented with a list of dozens of potential roadway expansion and modernization projects that could be considered for funding within the RTP. The projects were drawn from travel demand modeling results (presented earlier in this document), as well as potential project listings compiled previously by Sun Corridor MPO to support air quality modeling coordination.

Project selection criteria and prioritization criteria (Table 16) were applied to the project listing. Project cost estimates were developed for the top-performing projects, which exceeded $50M. Cost estimates to implement all of the potential projects were in the hundreds of millions of dollars.

RTP TAC workshops were held during which the project lists were reviewed. During the workshops, the RTP TAC emphasized their recognition of the limited funding that is available to the region ($17M over a 25-year period). Their desire was to ensure, consistent with MAP-21 performance-based planning, that funding is allocated in the most efficient manner possible. They recognized that the limited available funding would only allow them to fund construction of one or two major capacity or modernization projects within a 25-year horizon of the RTP. These few projects would not help them to address their significant roadway preservation and maintenance needs.

Recognizing these limitations, and cognizant of stakeholder and public desire to “maintain what we have” as reflected in the RTP goals, the RTP TAC determined that the best course for the Sun Corridor MPO is to focus their RTP’s financially-constrained improvement program on preservation projects.

This focus on preservation is consistent with the national FHWA performance management goal to “maintain the highway infrastructure asset system in a state of good repair.”

MAP-21 emphasizes maintaining our current infrastructure condition

https://www.fhwa.dot.gov/map21/summaryinfo.cfm

MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. These challenges include improving safety, **maintaining infrastructure condition**, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery.

The Surface Transportation Program (STP) 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.

Statutory citation(s): MAP-21 §1108; 23 USC 133

STP Eligible Activities include:

1. Construction, reconstruction, rehabilitation, resurfacing, restoration, preservation, or operational improvements for highways
2. Replacement, rehabilitation, preservation, and protection for bridges

Public involvement input also emphasized that maintenance of the existing road system was an important priority for the region.

The RTP TAC recommended that STP funding be distributed approximately consistent with the below percentages (Figure 35):

- ⇒ 60% preservation
- ⇒ 30% modernization
- ⇒ 10% capacity

Figure 35 – Recommended Investment Strategy

Project Selection Approach

The project selection approach is tied to the goals established in the study:

- ⇒ Roadway and Bridge
- ⇒ Safety
- ⇒ Vehicle Mobility
- ⇒ Bicycle, Pedestrian, and Transit
- ⇒ Economic Vitality
- ⇒ Environmental Protection

This approach focuses investment choices into actions that move the Sun Corridor MPO closer to these goals.

Rather than identify the specific preservation projects within the RTP, the RTP TAC decided to develop a performance-based project selection approach. This will allow maximum flexibility for the MPO to annually select those projects for funding which respond to new and emerging regional needs. However, the approach represents a new way of doing business within the Sun Corridor MPO, as projects will be selected based on performance-based evaluation, selection, and prioritization process.

The approach to select, prioritize, and fund roadway projects for the Sun Corridor MPO Regional Transportation Plan is described as follows:

- ⇒ Each year, the Sun Corridor MPO will issue a call for projects.
- ⇒ Each agency will submit their proposed listing of project recommendations by completing a project nomination form. The form will reflect prioritization criteria as listed in Table 16. The form will also require budgetary cost estimates to be produced. An example form is included in **Appendix B**. The prioritization criteria are based on the RTP goals presented earlier in this document and include:
  - ⇘ **Infrastructure Condition** – Project improves pavement condition.
  - ⇘ **Safety** – Project improves the safety of the transportation system by implementing one of the FHWA proven safety countermeasures (*http://safety.fhwa.dot.gov/provencountermeasures/*) or recommendations from the Sun Corridor Strategic Transportation Safety Plan.
  - ⇘ **Vehicle Mobility** – Project is on a roadway of regional significance and improves regional connectivity (e.g., completing a corridor or filling a gap in the road system).
  - ⇘ **Bicycle, Pedestrian, and Transit Mobility** – Project benefits bus, bicycle, or pedestrian operations, safety, convenience, and comfort.
  - ⇘ **Economic Vitality** – Project serves or improves connectivity and mobility to an existing

or planned employment/activity center.

- **Environmental Protection** – Project includes elements that demonstrate sustainability as championed by FHWA.

⇒ The Sun Corridor MPO staff will evaluate and rank the projects consistent with the project prioritization criteria listed in Table 16.

⇒ The Sun Corridor MPO TAC will review the rankings and approve those projects to be included in the upcoming 5-Year Transportation Improvement Program.

Table 16 – Project Prioritization Scoring Criteria

Scoring Category	Available Points	Scoring Guidelines	Data Source
Infrastructure Condition	**20**		
Project improves pavement condition	20	Project is on roadway with FAIR pavement condition: **10 points**	Project narrative, local agency pavement condition inventory/rating/input
		Project is on roadway with POOR pavement condition: **20 points**	
Safety	**20**		
Project improves safety of the transportation system by implementing one of the FHWA proven safety countermeasures (http://safety.fhwa.dot.gov/provencountermeasures/) or recommendations from the Sun Corridor Strategic Transportation Safety Plan	20	Project incorporates one or more of the FHWA or STSP safety countermeasures AND addresses a specific location with identified safety deficiencies. **20 points**	Project narrative, Sun Corridor MPO Strategic Transportation Safety Plan
		Project incorporates one or more FHWA safety countermeasures (but not at location identified in STSP as having known safety deficiency): **10 points**	
		Project will have no discernible positive effect on safety: **0 points**	
Vehicle Mobility	**20**		
Project improves regional connectivity (e.g., completing a corridor or filling a gap in the road system)	10	Project is located on a route that provides direct connectivity to I-10 or I-8, or project completes a missing link/segment: **10 points**	Project narrative, visual inspection
		Project improves access to or is on a state route: **5 points**	
		Project does not increase system continuity: **0 points**	
Project is on a roadway of regional significance	10	Principal Arterial or Interstate: **10 points**	ADOT Functional Classification Maps
		Minor Arterial: **7 points**	
		Major Collector: **5 points**	
		Minor Collector: **3 points**	
		Local: **0 points**	

Table 16 – Project Prioritization Scoring Criteria			
Scoring Category	**Available Points**	**Scoring Guidelines**	**Data Source**
Bicycle, Pedestrian, and Transit Mobility	**10**		
Project benefits bus, bicycle, or pedestrian operations, safety, convenience, and comfort	10	Project includes a combination of two or more multimodal elements to improve bus, bicycle, or pedestrian facilities, safety, comfort, or convenience. Examples include bike lanes, bus stops, ADA ramps, sidewalks, etc.: **10 points**	Project description/ scope
		Project includes a single multimodal element to improve bus, bicycle, or pedestrian facilities, safety, comfort, or convenience: **5 points**	
		Project does not improve bus, bicycle, or pedestrian facilities, safety, comfort, or convenience: **0 points**	
Economic Vitality	**20**		
Project serves or improves connectivity and mobility to an existing or planned major regional employment/activity center	20	Project serves an existing regional or major mixed-use or employment center: **20 points**	Planned growth area/economic development areas mapping, review of traffic analysis zones (Regional Travel Demand Model)
		Project serves a developing/planned regional mixed-use or employment center: **15 points**	
		Project does not serve a mixed-use or employment center or redevelopment area: **0 points**	
Environmental Protection	**10**		
Project includes elements that demonstrate sustainability as championed by FHWA such as INVEST. Resources are available at https://www.sustainablehighways.dot.gov/ and https://www.sustainablehighways.org/	10	Project includes sustainable elements such as those as described by INVEST: **10 points**	Project narrative from project nomination form
		Project does not include sustainable elements such as those as described by INVEST: **0 points**	
Total Available Points	**100**		

Projects of Opportunity

Transportation needs in the Sun Corridor MPO region exceed federal STP funds that are anticipated to be available over the next 25 years (2040). The Sun Corridor MPO will continue to explore and pursue any available opportunity to fund needed transportation improvements.

As described, funding for projects will be allocated consistent with the Recommended Investment Strategy of:

- ⇒ 60% preservation
- ⇒ 30% modernization
- ⇒ 10% capacity

This investment strategy will allow for very few capacity projects to be funded. Those that are selected for funding will likely also demonstrate a significant preservation or modernization need.

The RTP TAC recognizes that transportation needs far exceed available revenues. **Appendix C** contains a list of potential RTP projects that may be considered for funding within the 2016-2040 planning period. These projects are termed "Projects of Opportunity," and are not considered part of the recommendations of the 2016-2040 RTP. These projects, also known as Reserve Projects, represent projects that can be considered for implementation if funding becomes available from other sources. These could include grants, local funds, or developer-driven projects.

Projects of Opportunity are summarized into the following categories:

- ⇒ **Appendix C, Table C1, ADOT Projects:** Desired to be implemented in collaboration with ADOT; intent is to seek programming of these projects within the ADOT Five-Year Transportation Facilities Construction Program.
- ⇒ **Appendix C, Table C2, Local City/County Projects:** May be funded by local CIP funds, Highway User Revenue Funds (allocated to local jurisdictions) in collaboration with development or other local funded sources.

Strategic Projects

A number of transportation planning initiatives will have a major impact on transportation within the Sun Corridor MPO region as well as adjacent planning areas and jurisdictions. These include:

- ⇒ East-West Corridor
- ⇒ North-South Corridor
- ⇒ I-11 Project
- ⇒ Phoenix-Tucson Passenger Rail Study

The Sun Corridor MPO supports these studies and will continue to collaborate with ADOT and other regional planning partners to implement these projects.

East-West Corridor

The East-West Corridor Study is a study by Pinal County (joint sponsoring with the cities of Casa Grande and Maricopa) to improve the mobility and connectivity of the Pinal County regional transportation network in providing a new, high-capacity facility that can handle the projected east-west travel demand from SR 347 to I-10.

A depiction of the proposed East-West Corridor is provided in Figure 36.

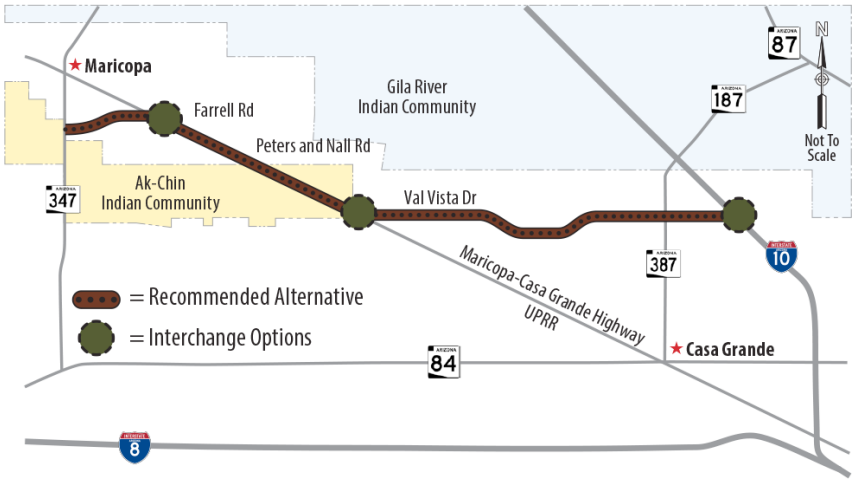

Figure 36 – Proposed East-West Corridor

Source: Pinal County

North-South Corridor

A new transportation route is needed to provide a continuous north-south route through central Pinal County. ADOT and FHWA are studying the area between U.S. Route 60 in Apache Junction and I-10 near Eloy and Picacho. The purpose of the study is to identify and evaluate a possible route to provide a connection between these two areas.

The project will:

- ⇒ Relieve traffic on I-10, as well as on Hunt Highway and Ironwood/Gantzel Roads
- ⇒ Improve access to future activity centers
- ⇒ Enhance transportation system linkages
- ⇒ Create a more direct connection to the eastern portion of the Phoenix metropolitan area
- ⇒ Perform functions and provide services identified in local, regional, and statewide plans
- ⇒ Address lack of capacity
- ⇒ Improve the efficiency of existing freeway and arterial street networks
- ⇒ Provide right-of-way to accommodate a passenger rail line between Tucson and Phoenix

ADOT and FHWA are working with stakeholder agencies and the public to evaluate reasonable and feasible route alternatives and to prepare environmental documents and preliminary design plans for a phased implementation of the project. Route alternatives that have been explored are shown in Figure 37.

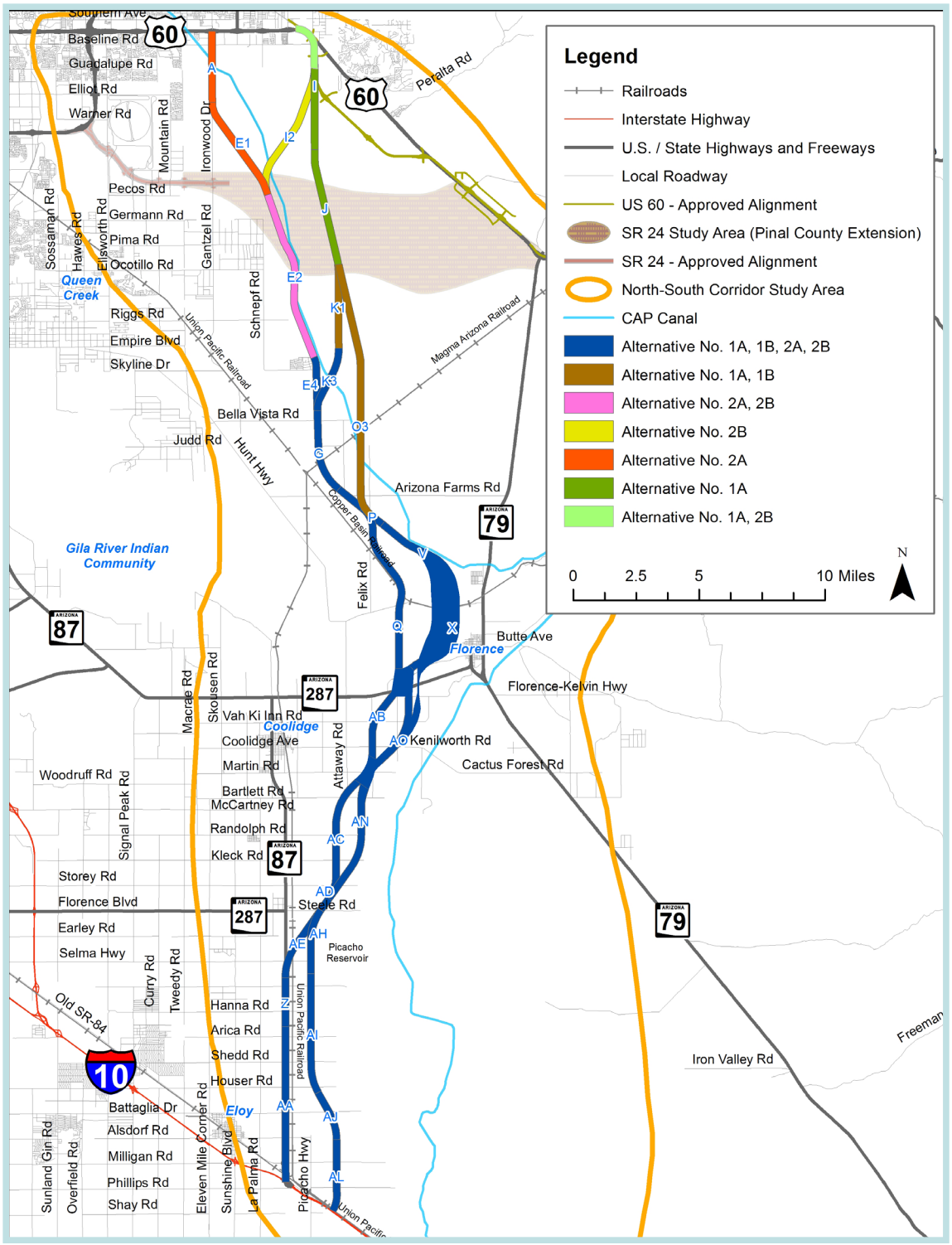

Figure 37 – Proposed Route Alternatives for North-South Corridor Study

Source: ADOT North-South Corridor Study, Alternatives Selection Report, October 2014

I-11 Project

ADOT and the Nevada Department of Transportation (NDOT) completed the I-11 and Intermountain West Corridor Study in November 2014. The future I-11 may ultimately become part of a critical trade linkage connecting Mexico to Canada.

Throughout the course of the I-11 and Intermountain West Corridor Study, ADOT focused on and supported an I-11 concept that runs border to border throughout Arizona, beginning at the Hoover Dam Bypass Bridge and ending at the Arizona-Mexico border.

The goal of the study was not just to find a way to directly connect Phoenix and Las Vegas, but also to develop a plan and the necessary infrastructure to position the two states for broader success in the global marketplace.

Potential routes run through the center of the Sun Corridor MPO region and western Pinal County. The Sun Corridor region – and particularly where I-10 and I-8 meet — may become a critical junction for freight movement to and from southern California, Mexico, and Canada. A map of the I-11 study area is shown in Figure 38.

The I-11 and Intermountain West Corridor Study is now complete and points to the need for a new multimodal freight corridor and a manufacturing belt that will drive trade, commerce, job growth, and economic development for the two states and facilitate strong connections to other major regional markets.

The next stage of development is to begin a Tier I EIS and Conceptual Engineering Document that will be structured to select a preferred corridor alignment (approximately 2,000 feet in width) and preferred transportation mode choice for accommodating future traffic needs from Nogales to Wickenburg, Arizona as recommended in the Final I-11 and Intermountain West Corridor Study. There is currently no schedule or funding to build I-11.

The Sun Corridor MPO supports development of the I-11 Corridor. Sun Corridor MPO staff and TAC member agencies will continue to participate in technical advisory committee meetings and other activities required to support corridor definition and development. Sun Corridor MPO is a member of CAN-DO: The Interstate 11 Coalition. The membership includes business representatives, developers, trucking companies, and cities and counties, among others.

Figure 38 – Proposed I-11 Corridor

Source: Corridor Concept Report, I-11 and Intermountain West Corridor Study, November 2014

Phoenix-Tucson Passenger Rail Study

Statewide and regional transportation planning efforts undertaken from 2007 to 2010 ("Building a Quality Arizona" or bqAZ) have recommended implementing passenger rail to add travel capacity to what highways already provide. For this reason, ADOT is studying passenger rail service options between the cities of Tucson and Phoenix to provide more travel choices in this 115-mile-long corridor. Passenger rail service would provide an alternative travel mode and reduce travel times over highway travel.

ADOT has been working closely with the Federal Railroad Administration and other federal agencies as well as local governments and planning organizations in Maricopa, Pinal, and Pima counties to determine which routes will move forward for further study. To support that effort, a Draft Tier 1 Environmental Impact Statement (EIS) has been prepared and is now available for public review. The proposed passenger rail line will be designed as a blended service: an express service would have few stops between Tucson and Phoenix, and a local service would stop at several communities along the way.

There is currently no construction schedule and no funding identified for a project to build a rail system between Tucson and Phoenix. It will be up to the public and policymakers to decide if the project is feasible and determine how to generate the funding to pay for the project.

Figure 39 shows the Yellow Corridor Alternative, including the route options, which together constitute ADOT's locally preferred alternative.

Recommended Changes to Federal Functional Classification

The functional classification of a road carries expectations about roadway design, including its speed, capacity, and relationship to existing and future land use development.

Federal legislation utilizes functional classification to determine eligibility for funding under the Federal-aid program. Federal funding is available for collector roads and higher. Federal funding programs assign a substantial share of resources to the Principal Arterial system, in comparison to lower functional classifications. Federal functional classification categories are:

- ⇒ Interstates
- ⇒ Other Freeways and Expressways
- ⇒ Other Principal Arterials
- ⇒ Minor Arterials
- ⇒ Major and Minor Collectors
- ⇒ Local Roads

FHWA, ADOT, Sun Corridor MPO, and local jurisdictions collaboratively establish and periodically review functional classification of roadways within the Sun Corridor MPO region, consistent with the character of travel service they provide.

As part of this RTP, the federal functional classification on Sun Corridor MPO roadways was reviewed. Proposed updates to functional classification categories in the Sun Corridor MPO region are summarized in Table 17.

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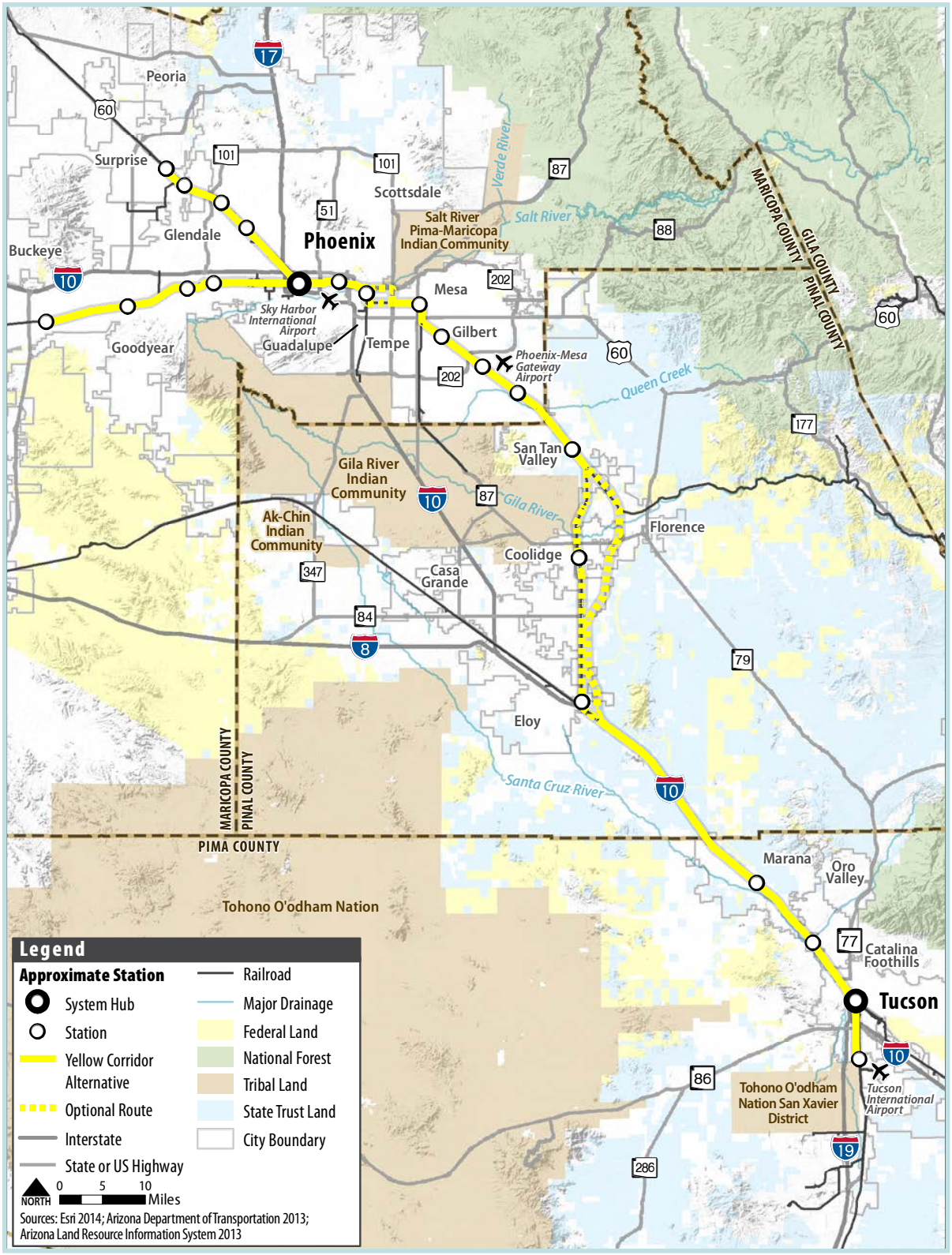

Figure 39 – Phoenix Tucson Passenger Rail Study, Yellow Corridor Alternative

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Table 17 – Proposed Functional Classification Changes

Road Name	Current Federal Functional Classification	Proposed Change	Justification	2014 Annual Average Daily Traffic Volume	Comments / Other support for this functional classification change
Casa Grande					
Kortsen Road, Maria Avenue to Arizola Road	Local Road	Minor Collector	» Extends the collector designation further west » Provides access to residential areas » Provides link to Arizola Rd (a minor collector)	Kortsen Road at Trekell Road (west of this link) carries approximately 8,200 vehicles per day	Shown as a future Principal arterial in the Casa Grande Small Area Transportation Study
Arizola Road, Earley Road to Jimmie Kerr Boulevard	Local Road	Minor Collector	» Extends the collector designation further south » There is access to residential streets in this area	No counts available	Not classified in Casa Grande Small Area Transportation Study
Coolidge					
Kenworthy Road, between Martin Road and Vah Ki Inn Road	Local Road	Minor Collector	» Continuous North-south road between Bartlett and Vah Ki Inn Rd » Provides access to a number of local roads, most notably Northern Avenue » It is a mile spacing from SR 87 and Skousen Rd	No 2014 counts available	Coolidge Comprehensive Feasibility Study shows this road as a minor arterial
Northern Avenue, between 9th Street and Kenworthy Road	Local Road	Minor Collector	» This would extend the collector classification further west as development occurs	No 2014 counts in this area, 786 vpd in vicinity of SR 87	Coolidge Comprehensive Feasibility Study shows this road as a residential/minor collector
Eloy					
11th Street, Phoenix Avenue to Sunshine Boulevard	Unclassified	Minor Collector	» Street has lengthy east-west connectivity » Street connects many access points in this area	Unclassified in Eloy 2010 General Plan	
North Curiel Street, Battaglia Drive to Frontier Street	Unclassified	Minor Collector	» Street has lengthy north-south connectivity » Intersects numerous residential streets	Unclassified in Eloy 2010 General Plan	
Martin Luther King Jr. Street, 11- Mile Corner Road to Main Street	Unclassified	Minor Collector	» Street has lengthy east-west connectivity within the developed area of the city	Unclassified in Eloy 2010 General Plan	

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Transit Implementation Plan

In October 2015, a 2015 Coolidge Transit Plan was begun that will evaluate current operations of the Cotton Express and the Central Arizona Regional Transit System.

The study is anticipated to be completed in April 2016, and findings from this study will be included in the next update of the Sun Corridor MPO Regional Transportation Plan.

In early 2016, the Sun Corridor MPO will begin a transit feasibility study for the Casa Grande area.

Transit Revenue Forecasts

Key sources of transit funding are provided through Federal Transit Administration Formula Grant Programs:

Section 5311 – Rural Areas: This program provides capital, planning, and operating assistance to states to support public transportation in rural areas with populations of less than 50,000. Currently, the Cotton Express and Central Arizona Regional Transit use this funding program.

Section 5310 – Enhanced Mobility of Seniors and Individuals with Disabilities: This program is intended to enhance mobility for seniors and persons with disabilities by providing funds for programs to serve the special needs of transit-dependent populations. Since this is a discretionary program and is based on a competitive process, estimates for this source are not provided.

Section 5307 and 5340 – Urbanized Areas: This program provides grants to urbanized areas (over 50,000 population) for public transportation, capital, planning, job access and reverse commute projects, as well as operating expenses in certain circumstances. Currently, Sun Corridor MPO does not receive 5307 or 5340 funds. The City of Casa Grande is eligible for this transit funding. The Sun Corridor MPO will be conducting a Transit Feasibility Study in the Spring of 2016. This study will assist the City of Casa Grande in examining the potential opportunities to better coordinate and partner with the other transit programs within the Sun Corridor MPO and leverage local, state and federal dollars to operate an intra-transit service within the City of Casa Grande planning boundaries.

Estimates of available funding for the Sun Corridor MPO area for transit from the Section 5311 and 5307 programs for the period 2015-2040 are summarized in Table 18.

Table 18 – Transit Funding Sources, 2015-2040

Source	Total Funding FY 2015 – FY 2040
Section 5307 and 5340	$23,077,801
Section 5311	$23,323,531
Total	**$46,401.333**

Source: ADOT

Programmed Projects

Transit projects programmed in the 2015-2019 Transportation Improvement Program are summarized in Table 19.

Table 19 – Programmed Projects in the Sun Corridor MPO 2016-2020 Transportation Improvement Program

Sponsor Name	Project Location	Urban, Small Urban Or Rural System	Project Description	FTA Funding Type	FTA Funding	Local Match	Total Cost
Cotton Express/ CART	Coolidge/ MPO	Rural	Administration, Intercity, Operating and Capital	5311	$812,812	$344,314	$1,157,126
Horizon Human Services, Inc	Casa Grande/ MPO	Small Urban	Maxivan No Lift to replace VIN #3340	5310	$25,200	$2,800	$28,000
Horizon Human Services, Inc	Casa Grande/ MPO	Small Urban	Maxivan No Lift to replace VIN #3792	5310	$25,200	$2,800	$28,000
Horizon Human Services, Inc	Casa Grande/ MPO	Small Urban	Maxivan No Lift to replace VIN #3945	5310	$25,200	$2,800	$28,000
TOTALS					**$888,412**	**$352,714**	**$1,241,126**

Aviation Implementation Plan

Aviation Revenues

In conjunction with Arizona's public airports and the Federal Aviation Administration (FAA), ADOT develops the Five-Year Airport Capital Improvement Program (ACIP) to parallel the FAA's Airport Capital Improvement Program. The ACIP includes projects that are recommended in the Airport Master Plans for each airport. The ACIP has the dual objective of maximizing the use of State dollars for airport development and maximizing FAA funding for Arizona airports. Federal monies are derived mainly from taxes on airline tickets and are distributed by the FAA directly to local airports through the national Airport Improvement Program.

State funding comes mainly from flight property tax, aircraft lieu tax, aircraft registration, and aviation fuel tax. The State's programs are designed to provide half of a sponsor's share of a federally funded project.

Planned Aviation Improvement Projects

The project list in Table 20 represents project requests that airports in the Sun Corridor MPO region have submitted over the five-year program period, and are in the ADOT 2016-2020 Five-Year Transportation Facilities Construction Program. These projects represent all Federal/State/Local and all State/Local funding desires on the part of the airport sponsors, such as local governments. Actual award grants will be made by the federal agencies, with matching grants issued by the State of Arizona upon approval.

Regional Aviation System Plan

Currently, the Sun Corridor MPO region does not have a formal Regional Aviation System Plan (RASP). A RASP is developed to provide an independent analysis of future aviation trends in a region. Identified airport facility and system requirements are used together with the airport planning process to establish a proposed set of improvements for enhancing the regional airport system. Preparation of a RASP includes derivation of forecasts of future operations at each airport. The RASP is primarily an advisory and informational document. Development of the RASP is coordinated with the State Aviation System Plan (SASP).

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Table 20 – Summary of Airport Projects in ADOT Five-Year Transportation Construction Program					
Fiscal Year	**Project Description**	**State Share ($)**	**Local Share ($)**	**Federal Share ($)**	**Project Total ($)**
Casa Grande Municipal Airport					
2016	Design/construct helicopter apron and vehicle access/parking and utilities. ALP addition in progress	12,516	12,516	254,968	280,000
2017	Expand terminal area parking lot, relocate security fencing and utilities	22,350	22,350	455,300	500,000
2017	Conduct Environmental Assessment for planned runway displacement, drainage ditch relocation	2,235	2,235	45,530	50,000
2018	Conduct Environmental Assessment for Runway 05/23 extension, Taxiway B, ILS, and MALSR	1,564	1565	31,871	35,000
2018	Design displacement/shift of Runway 23	2,012	2,011	40,977	45,000
2018	Design and construct AC Wash rack within West Apron area	14,304	14,304	291,392	320,000
2018	Complete design for relocation of drainage ditch	3,218	3,219	65,563	72,000
2018	Purchase approximately 55 acres for planned runway displacement /shift	45,058	45,057	917,885	1,008,000
2018	Design/construct expansion of SW Apron	38,442	38,442	783,116	860,000
2019	Relocate drainage ditch from NE to SW portion of airport	3,218	3,219	65,563	72,000
2019	Purchase approximately 150 acres required for planned runway extension, parallel taxiway construction, and drainage ditch and Instrument Landing System	122,925	122,925	2,504,150	2,750,000
2019	Construct displacement/shift of Runway 23	20,115	20,115	409,770	450,000
2020	Design/construct perimeter service road and security fence	62,982	62,983	1,283,035	1,409,000
2020	Apron pavement preservation	506,453	56,273	0	562,726
2020	Design rehabilitation of old portion of Runway 5/23 and Terminal Apron	44,700	44,700	910,600	1,000,000
2020	Relocate drainage ditch running from NE to SW portions of airport	32,184	32,184	655,632	720,000
	Sub-Totals, Casa Grande Municipal Airport	**934,276**	**484,098**	**8,715,352**	**10,133,726**
Coolidge Municipal Airport					
2018	Design and construction of security fencing	28,608	28,608	582,784	640,000
2019	Update Master Plan, including Airport Layout Plan Update	8,940	8,940	182,120	200,000
2020	Reconstruct Apron. The airport apron is the area of an airport where aircraft are parked, unloaded or loaded, refueled, or boarded.	44,700	44,700	910,600	1,000,000
	Sub-Totals, Coolidge Municipal Airport	**82,248**	**82,248**	**1,675,504**	**1,840,000**

Table 20 – Summary of Airport Projects in ADOT Five-Year Transportation Construction Program					
Fiscal Year	**Project Description**	**State Share ($)**	**Local Share ($)**	**Federal Share ($)**	**Project Total ($)**
Eloy Municipal Airport					
2016	Design and construction of drainage improvements as determined by the Airport Drainage Study	180,000	20,000	0	200,000
2016	Miscellaneous improvements to taxiway lighting, signage and markings	6,705	6,705	136,590	150,000
2017	Design of miscellaneous drainage improvements as determined by the Airport Drainage Study	2,235	2,235	45,530	50,000
2017	Prepare an Environmental Assessment for a 500=foot extension to Runway 2, including land acquisition	13,410	13,410	273,180	300,000
2017	Acquire approximately 15 acres for taxiway relocation and associated drainage improvements	13,410	13,410	273,180	300,000
2018	Construct miscellaneous drainage improvements including approximately 2,600 lineal feet (LF) of drainage channel and a box culvert as determined by Airport Drainage Study (Phase 1)	44,700	44,700	910,600	1,000,000
2018	Relocation of Taxiway A to meet or exceed current FAA design standards. The project also includes Middle Intensity Taxiway Lighting, Phase 2	111,750	111,750	2,276,500	2,500,000
2018	Runway pavement preservation - crack seal and rubberized asphalt emulsion seal	140,727	15,636	0	156,363
2018	Installation of approximately 3,600 LF of security fence, including two new automatic vehicle gates	90,000	10,000	0	100,000
2019	Construction of miscellaneous drainage improvements including approximately 2,000 LF of drainage channel and culverts as determined by the Airport Drainage Study (Phase 2)	44,700	44,700	910,600	1,000,000
2020	Reimbursement for the acquisition of approximately 20 acres of land for the extension of Runway 4.	17,880	17,880	364,240	400,000
	Sub-Totals, Eloy Municipal Airport	**665,517**	**300,426**	**5,190,420**	**6,156,363**
Pinal Airpark					
2016	Rehabilitate Runway	2,025,000	225,000	0	2,250,000
2018	Reconstruct Taxiways I, II,III,IV and a portion of Taxiway A	100,575	100,575	2,048,850	2,250,000
2018	Design MIRL/HIRL Runway 12/30	117,000	13,000	0	130,000
	Sub-Totals, Pinal Airpark	**2,242,575**	**338,575**	**2,048,850**	**4,630,000**
	TOTAL	**3,924,616**	**1,205,347**	**17,630,126**	**22,760,089**

CHAPTER 9
AIR QUALITY

Photo: Travis Ashbaugh

9. Air Quality

The Sun Corridor MPO has the responsibility to ensure that the transportation projects, plans and programs within the Sun Corridor region conform to state and national air quality plans and standards. Specifically, air quality impacts of proposed projects in the Sun Corridor MPO's Five-Year TIP and RTP must be consistent with and conform to National Ambient Air Quality Standards (NAAQS).

Conformance with Air Quality Standards

NAAQS have been established through the Clean Air Act for six principal pollutants, which are called "criteria" pollutants. Two areas within the Sun Corridor MPO region have been designated as nonattainment areas:

- ⇒ West Pinal PM10 Nonattainment Area – This area is in nonattainment status for particulate matter (dust) smaller than ten micrometers (PM 10).
- ⇒ West Central Pinal PM2.5 Nonattainment Area – This area is in nonattainment status for particulate matter (dust) less than 2.5 micrometers in diameters. It should be noted that since the U.S. Environmental Protection Agency (EPA) or the Arizona Department of Environmental Quality have not determined whether nitrogen oxide (NOx) emissions are an insignificant contributor to the PM-2.5 attainment problem, NOx analysis must be included in the build/no-build analysis for the Pinal PM-2.5 nonattainment area.

Dust particles of these sizes can be drawn into the lungs and cause respiratory or other health problems.

The Nonattainment Areas are shown in Figure 40. Both the Sun Corridor MPO planning area boundary and the MAG planning area boundaries include portions of these Nonattainment Areas.

Air Quality Conformity Analysis

The Sun Corridor MPO is required to undertake an air quality conformity analysis for two specific reasons:

1. 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
2. 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 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.

Because Sun Corridor MPO air quality nonattainment areas overlap the MAG planning area boundaries, MAG and Sun Corridor MPO have entered into an IGA for MAG to complete air quality conformity analysis for the Sun Corridor MPO region.

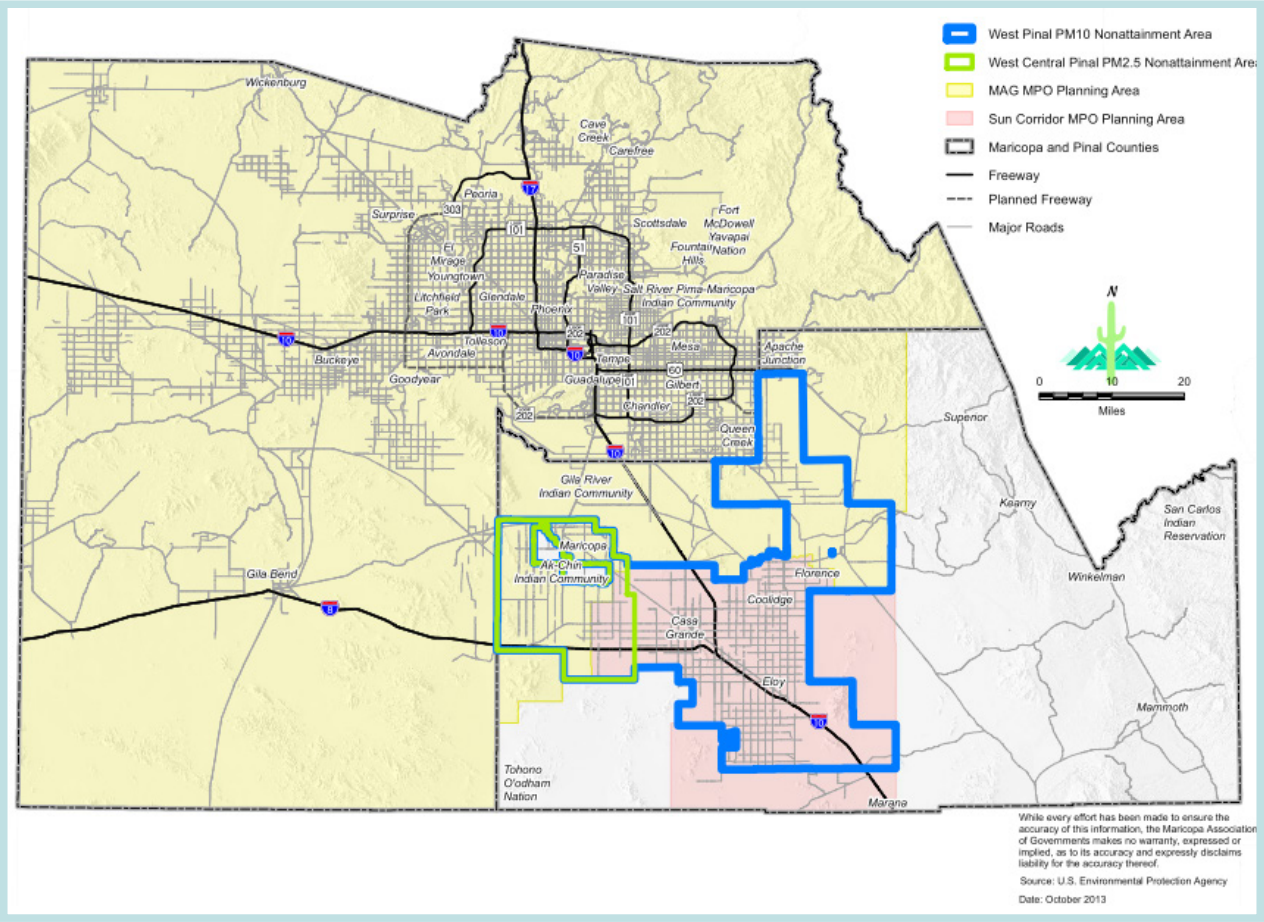

Figure 40 – Sun Corridor MPO and MAG Planning Areas and Air Quality Nonattainment Areas

Conformity interim initial tests were conducted for analysis years of 2015, 2025, and 2035 for build and no-build scenarios. For each test, the required emissions estimates are developed using the transportation and emission modeling approaches required under the Federal Transportation Conformity Rule.

The tests are conducted for PM-10 for the West Pinal PM-10 Nonattainment area and for the PM-2.5 and NOx for the West Central Pinal PM-2.5 Nonattainment Area. Findings indicated that the conformity interim emission tests were satisfied for all of these pollutants[5].

MAG is in the process of updating the air quality conformity analysis for 2015. Project recommendations from this RTP will be incorporated into future air quality conformity analyses.

[5] *Maricopa Association of Governments, Draft 2014 Conformity Analysis for the Sun Corridor Metropolitan Planning Organization, November 2013.*

Criteria for Air Quality Projects

To ensure that transportation projects are reflected in the air quality conformity analysis conducted for the region, a number of criteria regarding the types of projects must be included in the analysis. These criteria include:

1. All **federally-funded** transportation projects.
2. All Regionally Significant transportation projects **locally or privately funded (developer)** for current year through 2035. **Regionally Significant** projects include:
   - ⇒ Widening of a large collector roadway or higher functional classification for 1/4 of a mile or longer
   - ⇒ Construction of a new large collector or higher functional classification
   - ⇒ Construction of a new interchange; adding or upgrading connections to freeways, freeway ramps, or roadways which carry traffic over or under a freeway interchange
   - ⇒ Construction of a park & ride lot or transit center
3. A public agency's Capital Improvement Plan, Long Range Plan, or Master Plan transportation projects which are **locally or privately funded (developer)** for current year through 2035. These transportation projects include:
   - ⇒ Arterials (capacity additions, widening, intersection improvements)
   - ⇒ All paving or stabilization (e.g., gravel or dust suppressants) of unpaved roads and shoulders of roads.
   - ⇒ Regionally Significant Routes for Safety and Mobility projects that meet the above criteria.
4. Projects that the agency's zoning and permits division/department have permitted and would be on an existing or new major or minor arterial.

Federal Transportation Conformity Regulations define **Regionally Significant** as a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region; major activity centers in the region; major planned developments such as new retail malls, sport complexes, etc.; or transportation terminals as well as most terminals themselves) and would be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.

Appendix A – Demographic Exhibits for Title VI Program

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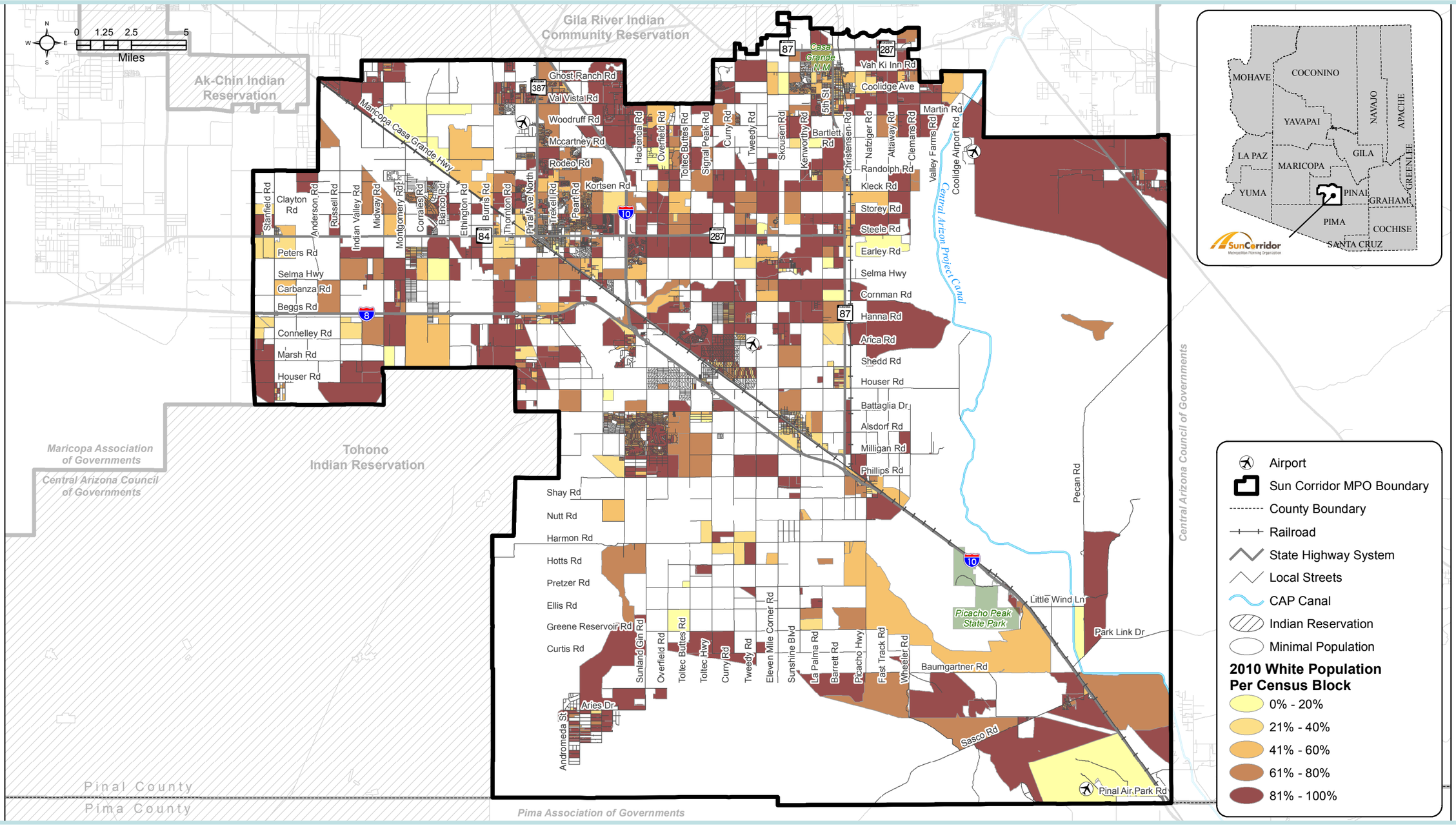
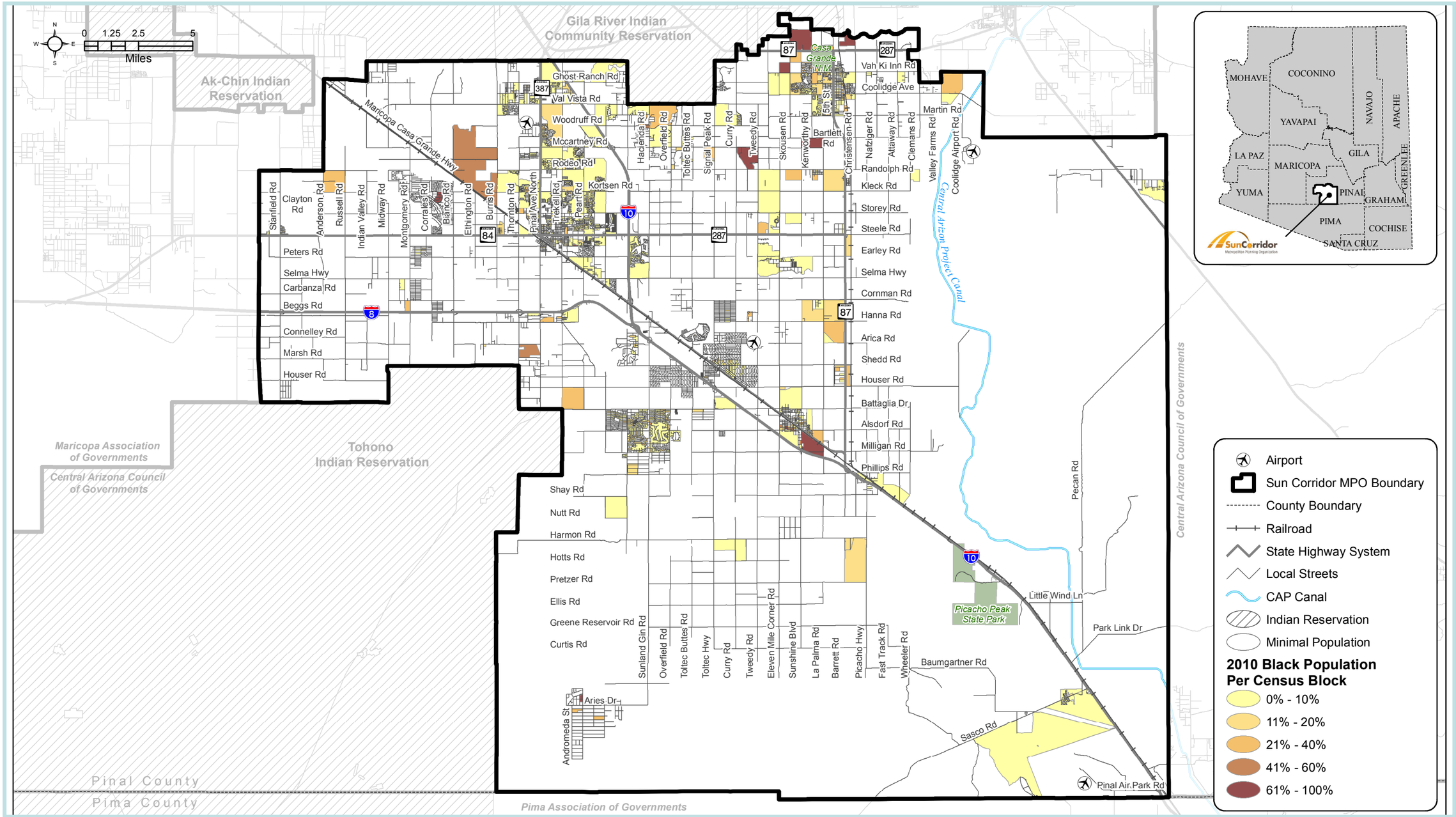
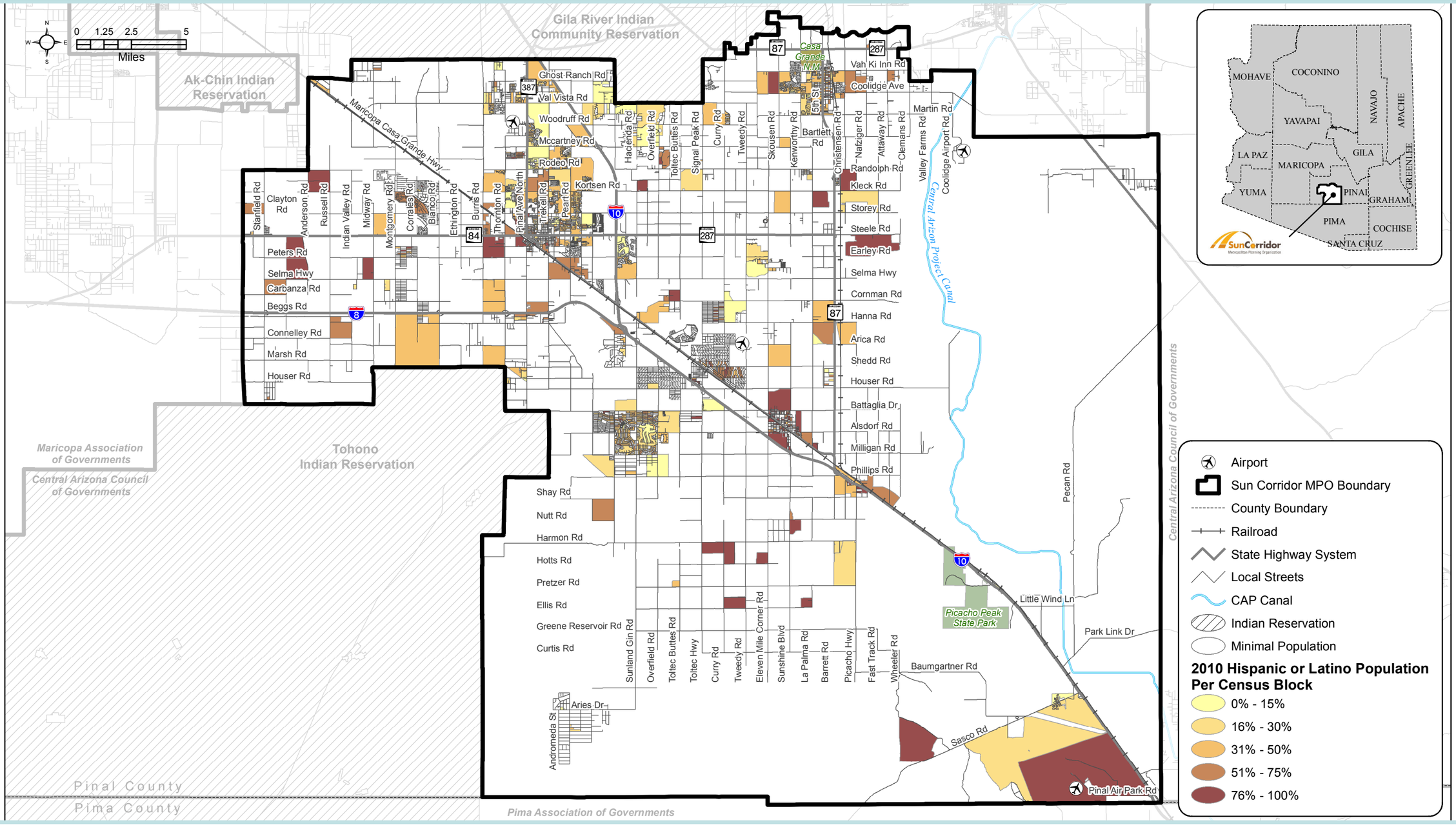


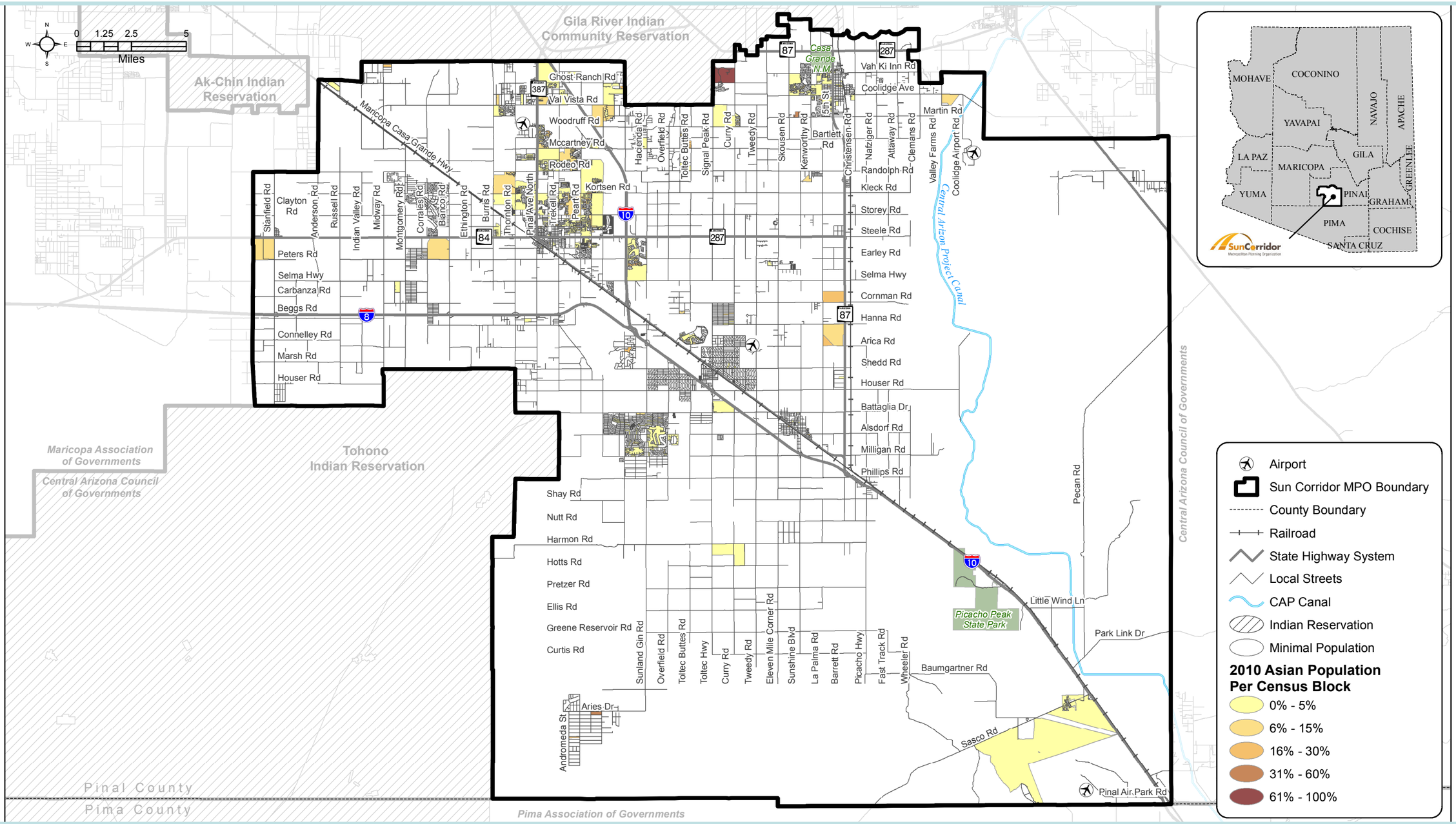
2010 White Population per census block



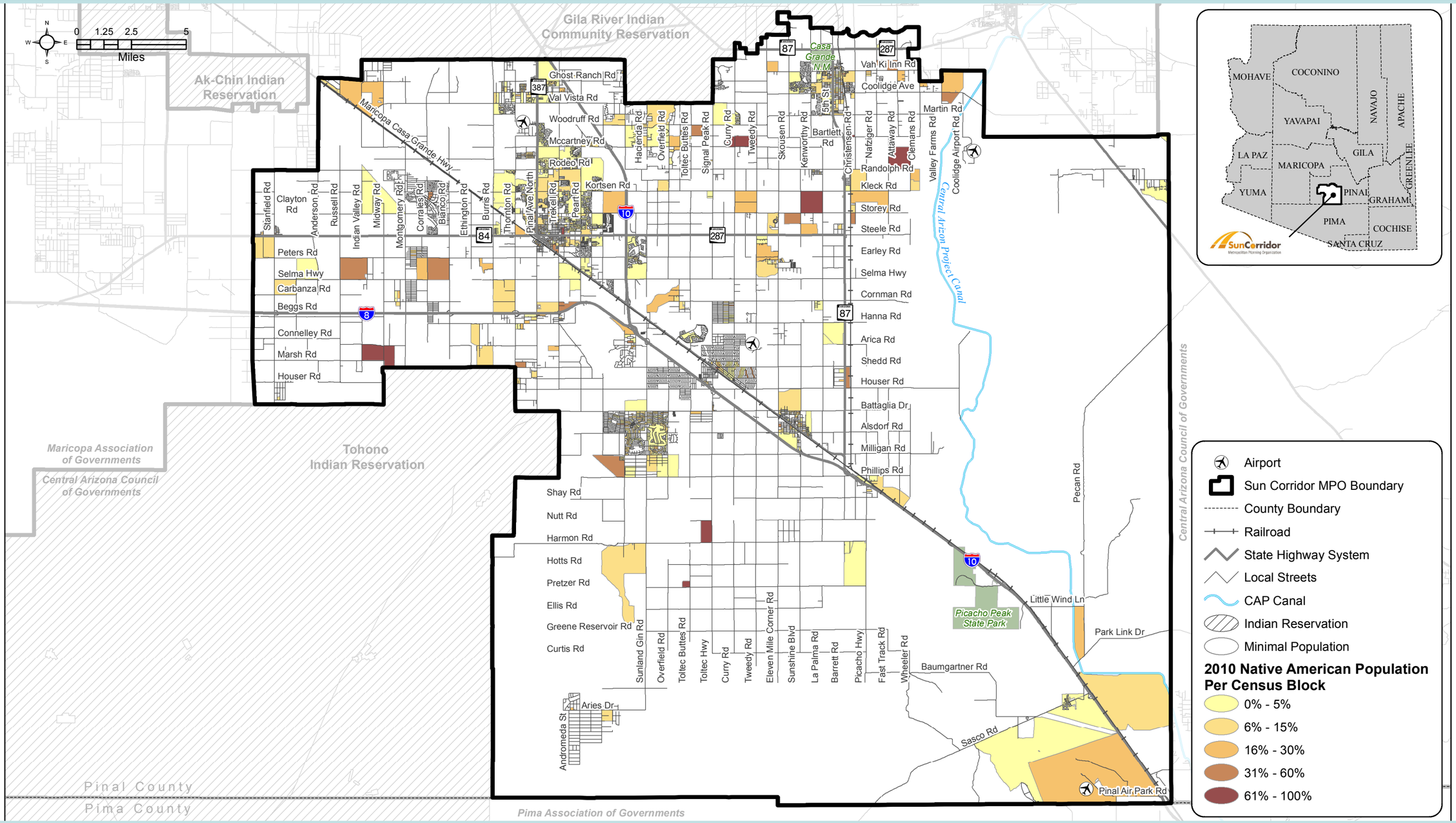
2010 Black population per census block



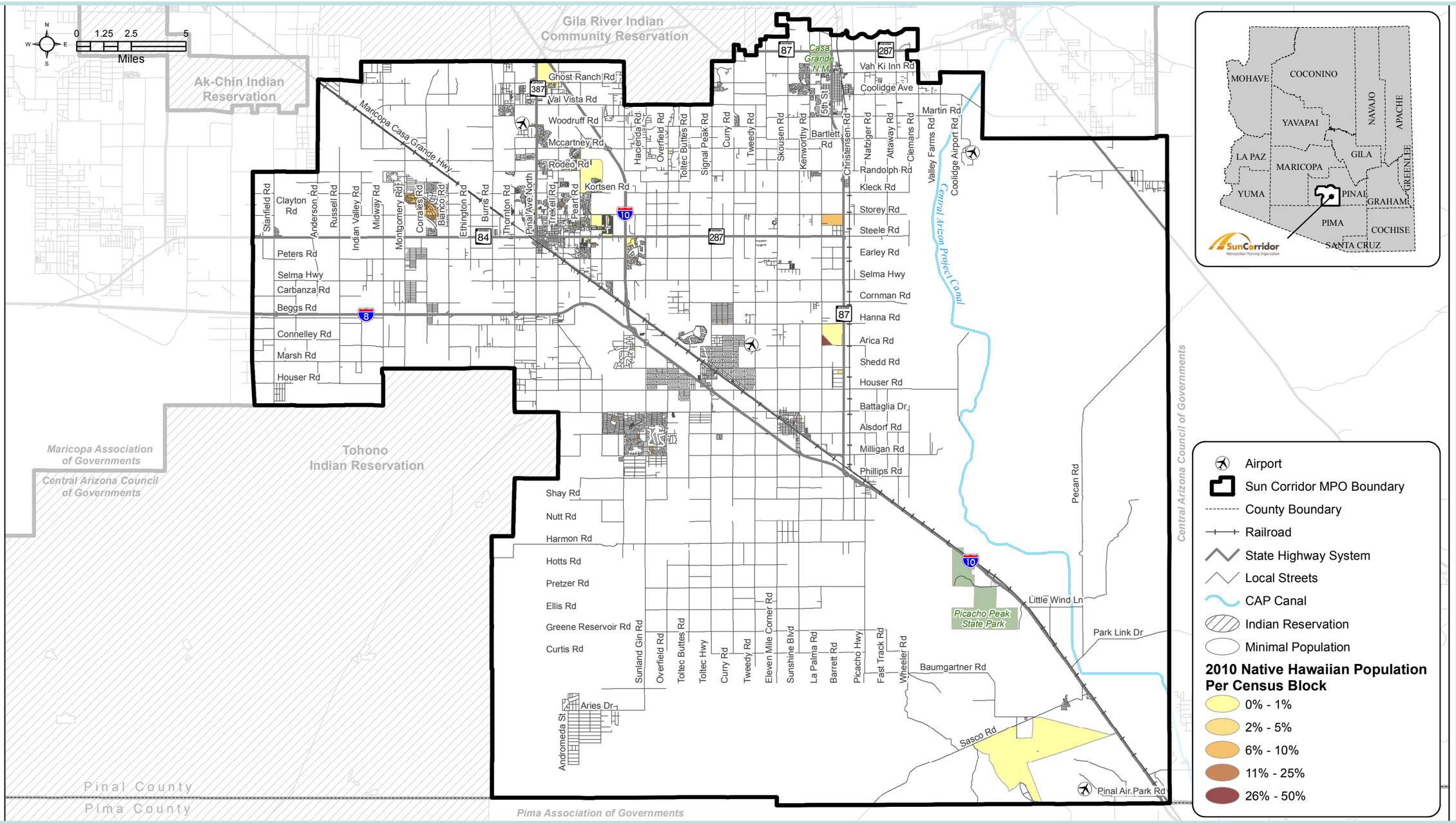
2010 Hispanic population per census block



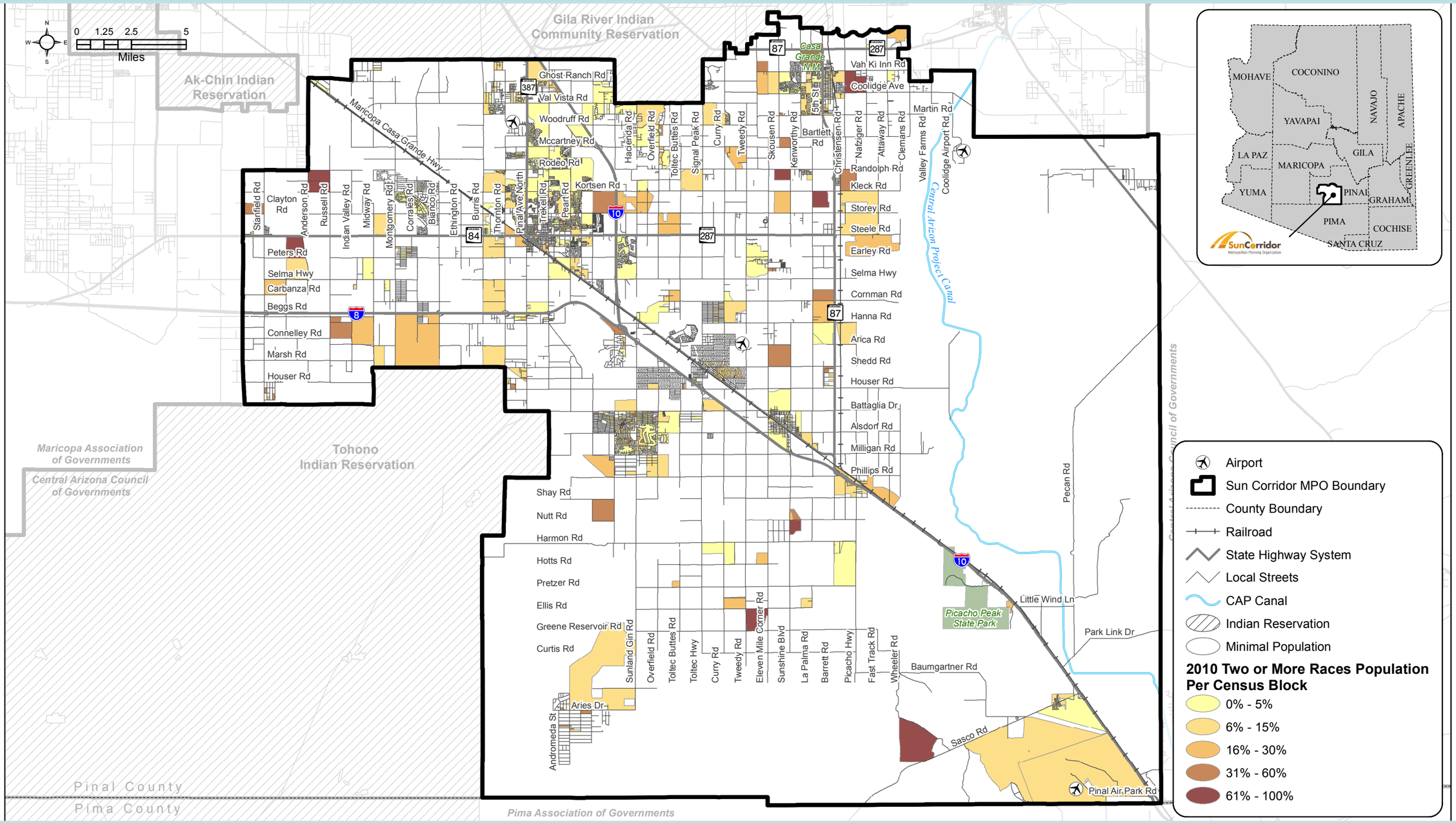
2010 Asian population per census block



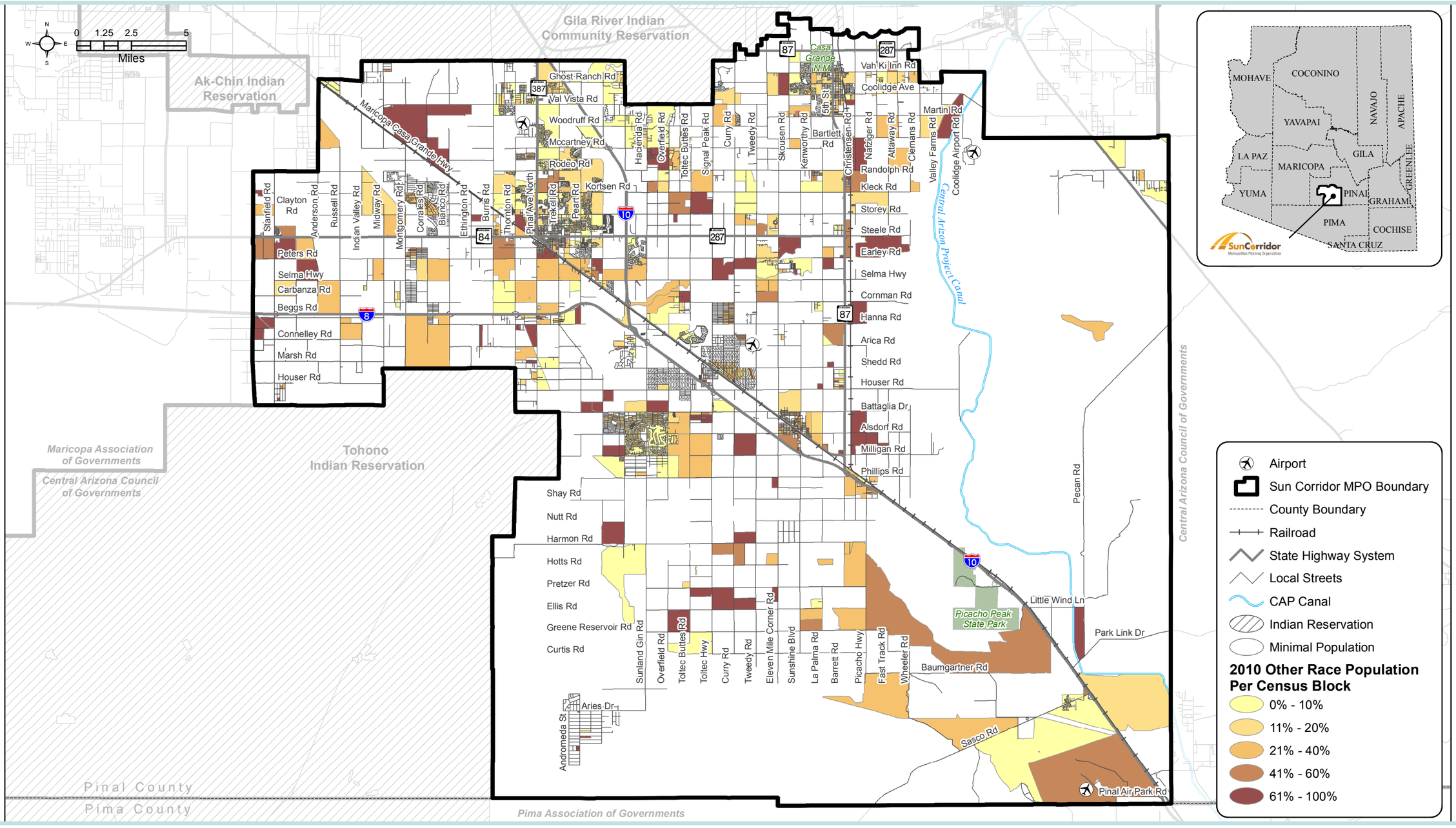
2010 Native American population per census block



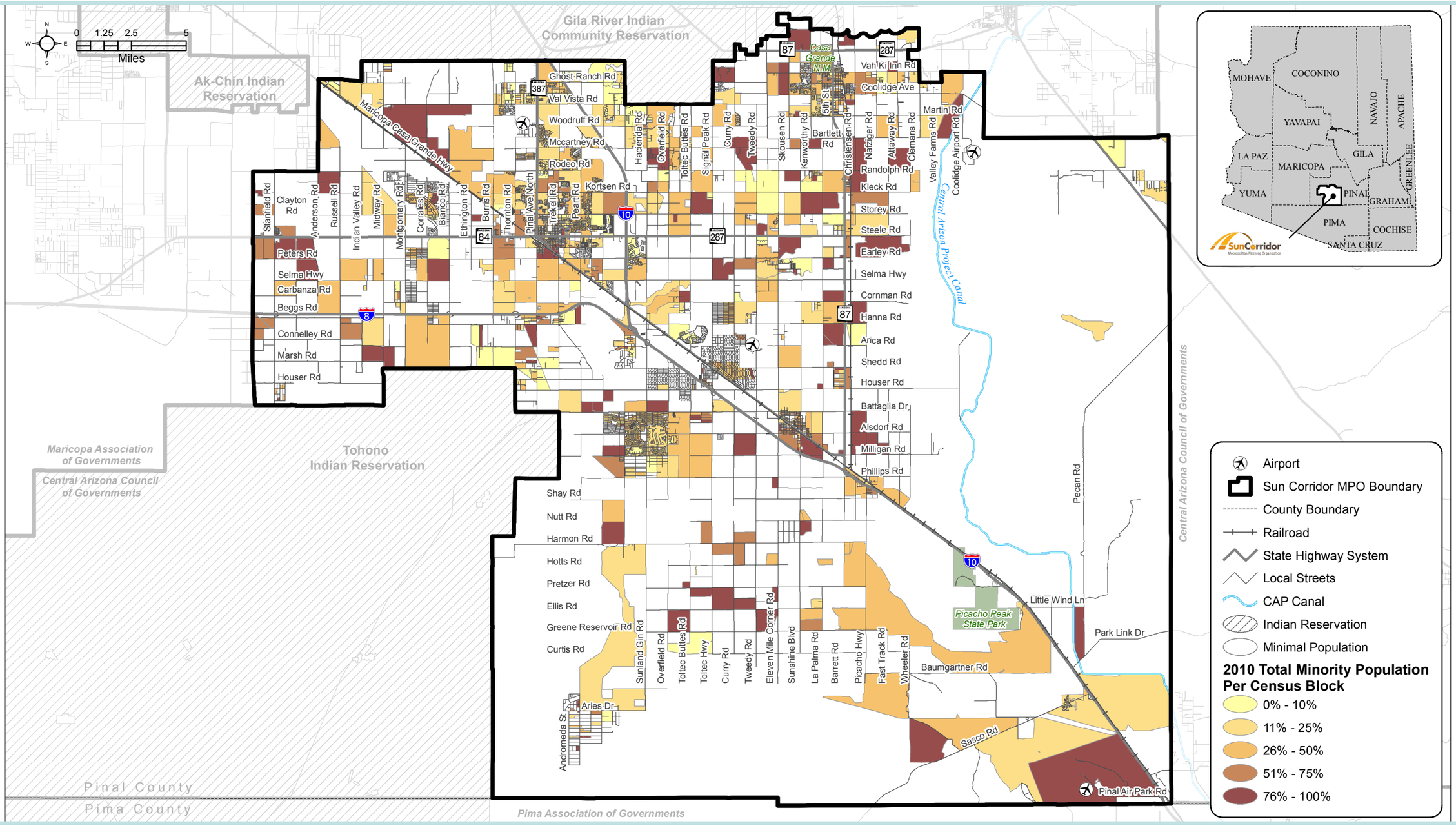
2010 Hawaiian population per census block



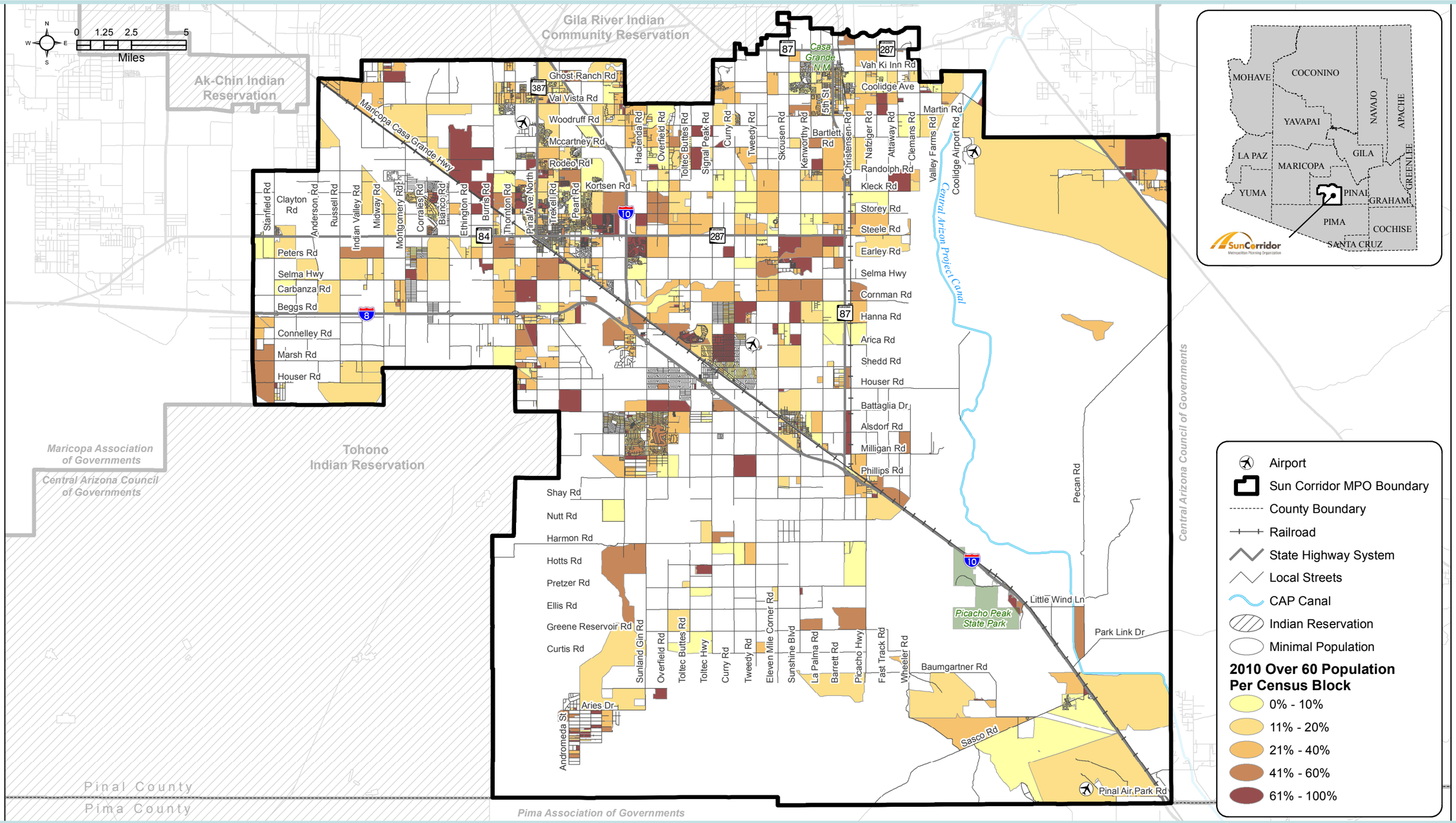
2010 Two or more races population per census block



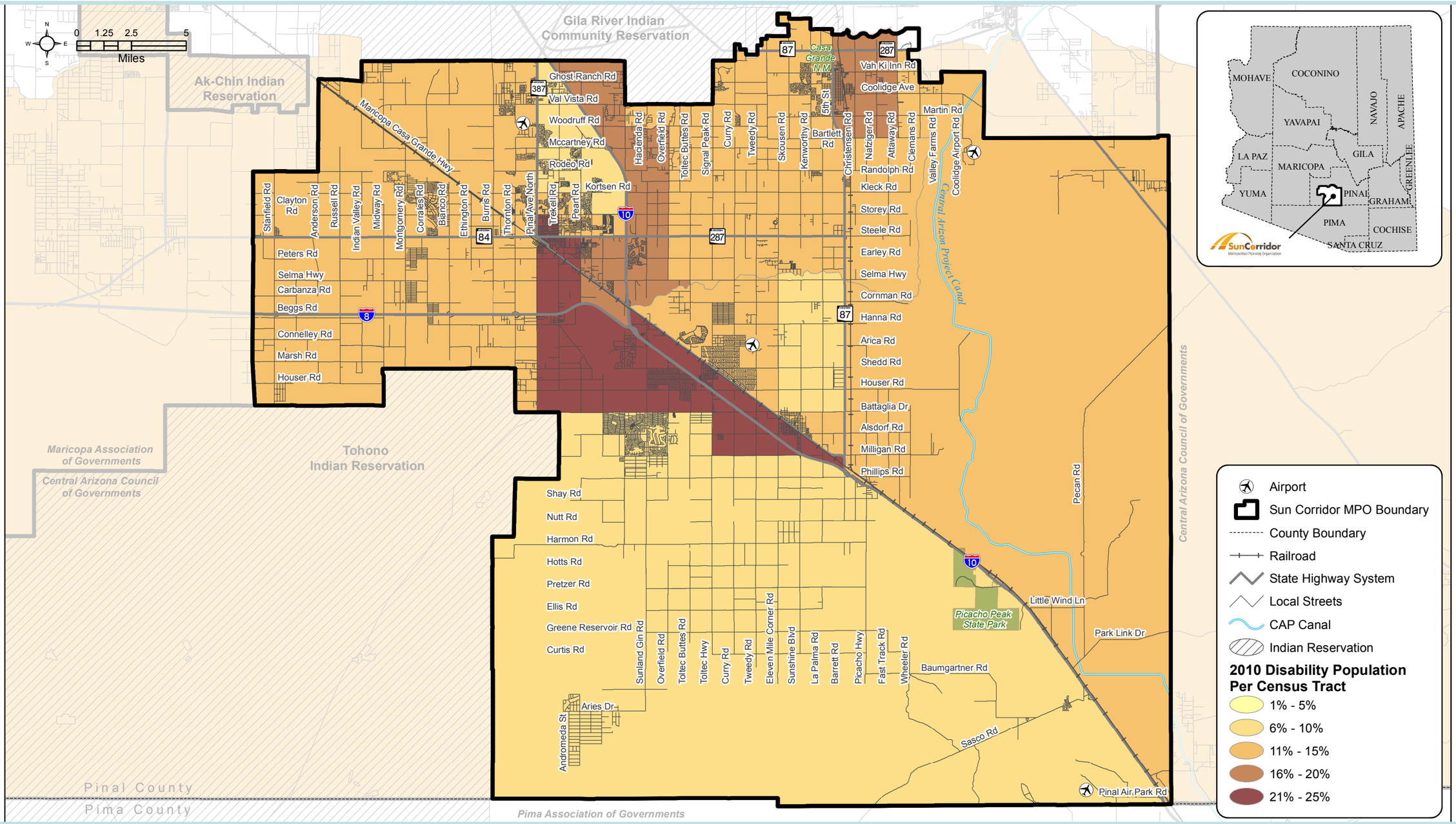
2010 Population Other per census block



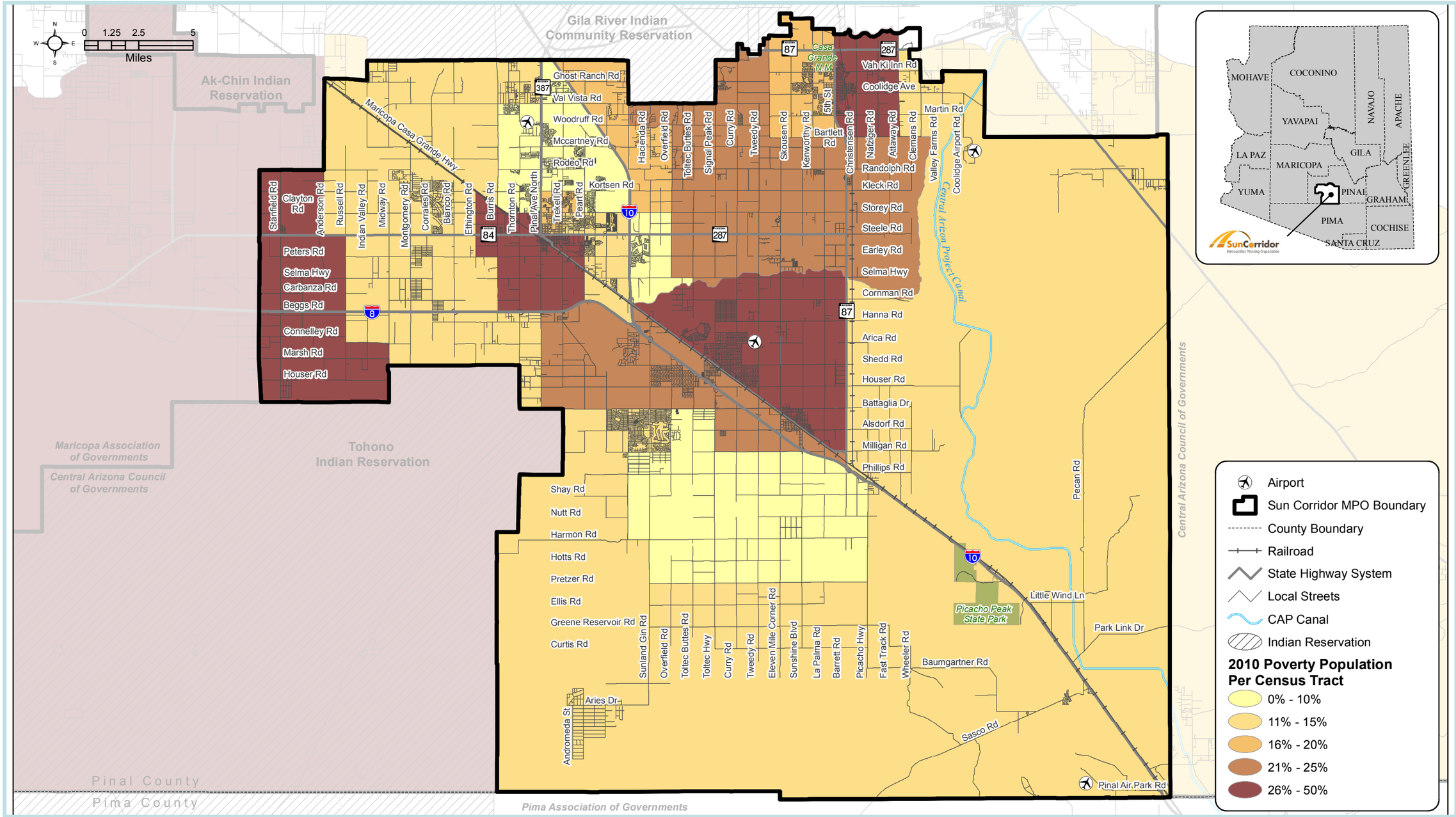
2010 Total Minority population per census block



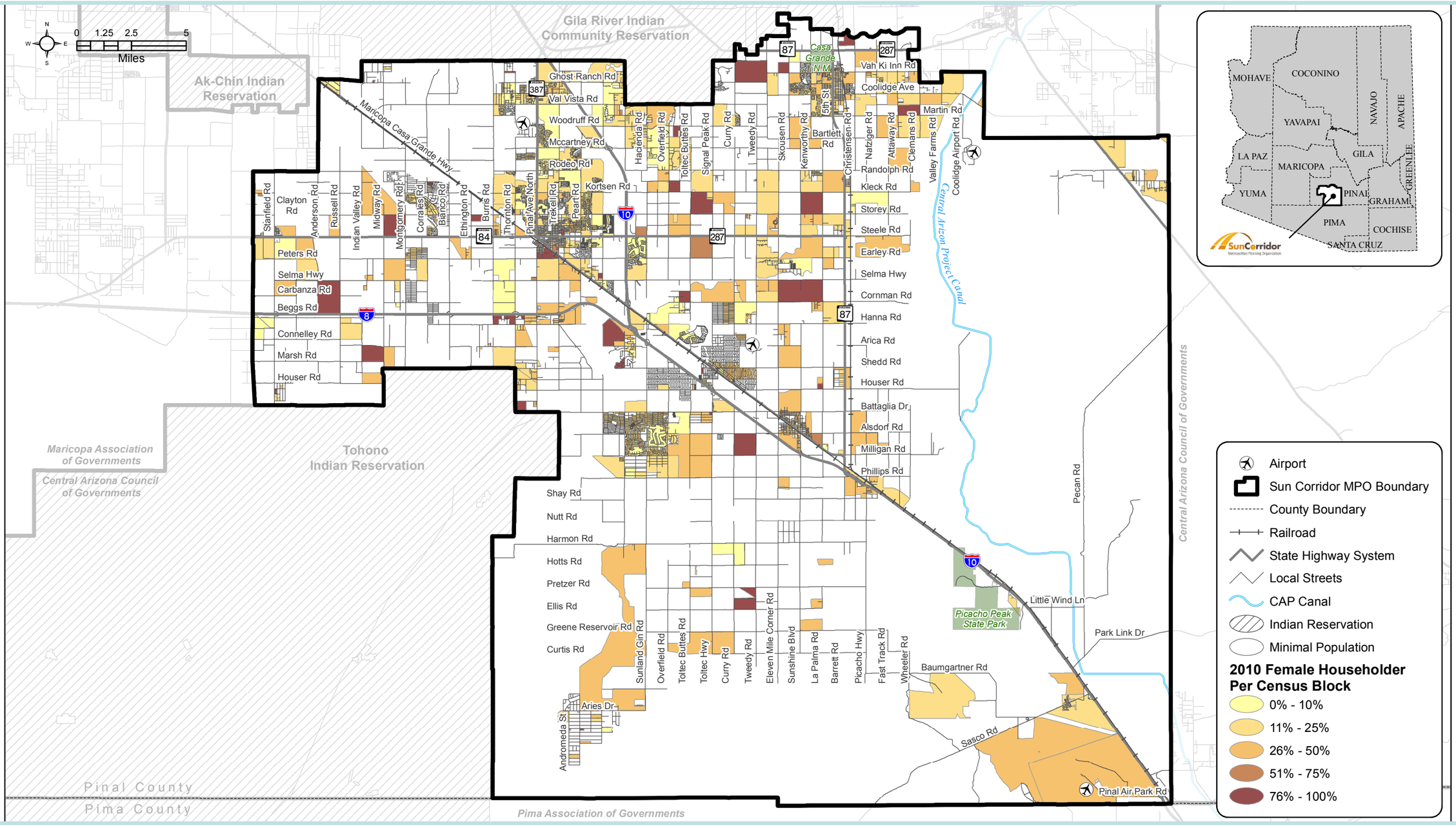
2010 Population over age 60 per census block



2010 Disability population per census tract



2010 Poverty population per census tract



2010 Female head of household per census tract

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Appendix B – Project Nomination Form

Transportation Improvement Program
PROJECT NOMINATION FORM

GENERAL PROJECT INFORMATION	
Date:	**Project Manager:**
Project Name:	
City/Town Name:	**County:**
Primary Route/Street:	
Beginning Limit:	
End Limit:	
Project Length:	
Functional Classification:	
Right-of-Way Ownership(s) (where proposed project construction would occur)**:** *(Check all that apply)* ☐ City/Town**;** ☐ County; ☐ ADOT ; ☐ Private ; ☐ Federal; ☐ Tribal; ☐ Other:	
Adjacent Land Ownership(s): *(Check all that apply)* ☐ City/Town; ☐ County; ☐ ADOT; ☐ Private; ☐ Federal; ☐ Tribal; ☐ Other: *http://gis.azland.gov/webapps/parcel/*	

CONTACT INFORMATION *(If applicable)*		
Contact Name		
Email Address:	**Phone Number:**	
Administration: ☐ ADOT Administered	☐ Self-Administered	☐ Certification Acceptance

PROJECT NEED

This section should clearly state why Sun Corridor Metropolitan Planning Organization TAC members are being asked to consider this project as one of its highest priorities. Please describe why regional funding is the best option to fund this project.

Project Need:

SunCorridor Metropolitan Planning Organization

Transportation Improvement Program
PROJECT NOMINATION FORM

PROJECT PURPOSE			
What is the Primary Purpose of the Project?	Preservation ☐	Modernization ☐	Expansion ☐
Project Purpose:			

PROJECT DESCRIPTON		
Pavement Preservation ☐	Roadway Widening ☐	System Enhancement ☐
Bridge Scour/Rehab ☐	Bridge Replacement ☐	Sign Replacement ☐
Other ☐ :		
Project Description:		

SunCorridor Metropolitan Planning Organization

Transportation Improvement Program
PROJECT NOMINATION FORM

PROJECT RISKS	
Check any risks identified that may impact the project's scope, schedule, or budget:	
☐ Access / Traffic Control / Detour Issues	☐ Right-of-Way
☐ Constructability / Construction Window Issues	☐ Environmental
☐ Stakeholder Issues	☐ Utilities
☐ Structures & Geotech	☐ Other:
Risk Description:	

FUNDING SOURCE(S)				
Anticipated Project Design/Construction Funding Type: *(Check all that apply)*	☐ STP	☐ TAP	☐ HSIP	☐ State
	☐ Local	☐ Private	☐ Other:	

COST ESTIMATE				
ADOT Project Management Design Review (PMDR):	Design and Environmental Clearance:	Right-of-Way	Construction Cost	Total

PROJECT DELIVERY
Delivery: ☐ Design-Bid-Build ☐ Design-Build ☐ Other:
Design Program Year:
Construction Program Year:

SCOPE OF WORK
Project Scope:

REGIONAL TRANSPORTAITON GOALS AND OBJECTIVES	
Which goals and objectives does this project best support? Refer to the Regional Transportation Plan.	
☐ Infrastructure Condition	☐ Economic Vitality
☐ Safety	☐ Environmental Protection
☐ Vehicle Mobility	
☐ Bicycle, Pedestrian, Transit Mobility	

INFRASTRUCTURE CONDITION

What is the pavement condition of existing roadway within the project limits:

- ☐ Good
- ☐ Fair
- ☐ Poor

Describe how this project improvements pavement and bridge infrastructure condition.

SAFETY

Describe how the project will improve safety of the transportation system. Include discussion on implementation of FHWA proven safety countermeasures (http://safety.fhwa.dot.gov/provencountermeasures). Describe how this project is related to or implements recommendations from the Sun Corridor Strategic Transportation Safety Plan, if applicable.

VEHICLE MOBILITY

Describe the impacts that the project will have on regional connectivity (e.g. completing a corridor or filling a gap in the road system).

BICYCLE, PEDESTRIAN, AND TRANSIT MOBILITY
Describe how the project will benefit bus, bicycle, or pedestrian operations, safety, convenience and comfort. Include if applicable the types of multimodal elements that will be implemented as part of this project.

ECONOMIC VITALITY
Describe the project's impact on connectivity and mobility to an existing or planned major regional employment/activity center.

ENVIRONMENTAL PROTECTION
Describe any elements included in the project that demonstrate sustainability as championed by FHWA such as INVEST. Resources are available at https://www.sustainablehighways.dot.gov and https://www.sustainablehighways.org.

OTHER

ATTACHMENTS

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Appendix C – Projects of Opportunity

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Table C1 – Arizona Department of Transportation Projects of Opportunity

Agency	Year	Project Name	Project Location	Length (mi.)	Type of Work	Functional Class	Lanes Before	Lanes After
Reserve Projects - ADOT								
ADOT	2016	I-8 Bianco Road to Junction I-10 Pavement Preservation	Bianco Road	8.7	Pavement Preservation	Principal Arterial	4	4
ADOT	2016	SR 79, MP 122.4 Culverts	SR 79, MP 122.4	0	Extend Pipes and Culverts	Minor Arterial	0	0
ADOT	2017	SR 287 Pavement Preservation (Design)	La Palma Road - Junction I-10	9	Project Development	Minor Arterial (Principal Arterial from Hacienda Digi Road to I-10)	-	-
ADOT	2017	SR 87 Construction Left Turn Lane and Intersection Lighting	SR 87 at MP 128.89, Randolph Road	0	Construction	Principal Arterial	2	2
ADOT	2018	SR 87 New Traffic Signal	SR87 at Ruins Drive, MP 134.28 in Coolidge	0.1	Construction	Minor Arterial	2	2
ADOT	2018	SR-84, Burris Road to Five Point Intersection Pavement Preservation	Burris Road to Five Point Intersection	2	Pavement Preservation	Major Collector	2	2
ADOT	2018	I-10 Widening and SR 87 TI Reconstruction (MP 209.5 to MP 213.3)	209.59 - MP 213	3.5	Construction	Interstate	4	6
ADOT	2022	I-10, Earley Road to I-8 Widening	MP 196 - MP 199 [MP 196.4 to 200.5 (I-8/I-10 Interchange)]	3	Construction	Interstate	4	6
ADOT	2025	SR 287 Widening	SR 87 to Adamsville Road	4.6	Construction	Minor Arterial	2	6
ADOT	2025	SR 87 Roadway Widening	SR 387 to SR 287	7	Construction	Minor Arterial	2	4
ADOT	2040	Florence Boulevard (SR 287)	Trekell Road to Overfield Road	5	Construction	Principal Arterial/ Minor Arterial	4	6
ADOT	2040	Florence Boulevard	Signal Peak to Eleven Mile Corner Road	3	Construction	Minor Arterial	2	4
ADOT	2040	I-8/I-10 Interchange Reconstruction	I-8/I-10 Interchange	4.1	Construction	Interstate	4	6

Table C1 – Arizona Department of Transportation Projects of Opportunity

Agency	Year	Project Name	Project Location	Length (mi.)	Type of Work	Functional Class	Lanes Before	Lanes After
Reserve Projects - ADOT								
ADOT	2040	I-10 Widening (MP 187.0 to Sun Corridor MPO Boundary at MP 387)	MP 187.0 to Sun Corridor MPO Boundary at SR 387/MP 185.5)	1.2	Construction	Interstate	4	6
ADOT	2040	Gila Bend Highway/SR 84	Bianco Road to Burris Road	2	Construction	Minor Arterial/ Major Collector	2	4
ADOT	2040	SR 387 (Pinal Avenue)	I-10 to Kortsen Road	5.5	Construction	Major Collector	4	6
ADOT	2040	Gila Bend Highway (SR 84)	Montgomery Road to Burris Road	4	Construction	Major Collector	2	4
ADOT	2040	SR 87	Kleck Road to Storey Road	1	Construction	Minor Arterial	2	4

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Reserve Projects - City and County					
Casa Grande	2016	Florence Boulevard, Pedestrian Safety Improvements in Casa Grande	Design - Pedestrian Hybrid Beacon	4	4
Casa Grande	2016	Peart Road, 1/4 Mile North of Cottonwood Lane, within the Villas at Mary T Development	Construct Roadway Widening	2	5
Casa Grande	2016	Phoenix Mart Loop and 1/4 Mile 1/2 Street Improvement on Casa Bonita West of Toltec Buttes Road	New Road Construction	0	2
Casa Grande	2016	Rodeo Road, Trekell to Peart Roads	Widen and Construct Frontage Road on North Side	2	4
Casa Grande	2016	Trekell Road, 1/4 Mile South from Rodeo Road Intersection	Roadway Improvement - Turning Lanes	4	5
Casa Grande	2016	Various Locations in Casa Grande	Procurement - Upgrade Pedestrian Countdown Heads and APS	0	0
Casa Grande	2018	Hacienda Road, Earley Road to Selma Highway	Double Chip Seal	2	2
Casa Grande	2018	Trekell Road, From McCartney Road to Val Vista Boulevard	New Road Construction	0	3
Casa Grande	2019	Burris Road, Peters Road and SR 84	Pave and Widen	2	4
Casa Grande	2019	Florence Boulevard, Pedestrian Safety Improvements, in Casa Grande	Construction - Pedestrian Hybrid Beacon	4	4
Casa Grande	2019	Hacienda Road, Florence Boulevard and Cottonwood Lane	Construct Roadway Widening	2	4
Casa Grande	2019	I-8 at MP 176 in City of Casa Grande, New Intersection and Roadway Expansion on Henness Road from Florence Boulevard to I-8	Construct Roadway, and New Traffic Interchange on I-8 including New Underpass Bridge Structure and Henness Road	0	4
Casa Grande	2019	McCartney Road, 1/2 Mile at Marabella Site	Construct Roadway Widening	2	5
Casa Grande	2019	Papoose Road, Val Vista Boulevard to Trading Post Road	Double Chip Seal	2	2
Casa Grande	2019	Thornton Road, South of Gila Bend Highway	Construct Roadway Widening	2	4
Casa Grande	2020	Cottonwood Lane, from Mission Parkway to North Signal Peak Road	Construct Roadway Widening	2	6
Casa Grande	2020	Kortsen Traffic Interchange	New Traffic Interchange	0	0

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Casa Grande	2020	Trekell Road, from Shedd Road to Houser	Double Chip Seal	2	2
Casa Grande	2021	Doan Street, Trekell Road to Pottebaum Road	Construct Roadway Widening	0	2
Casa Grande	2022	Cottonwood Lane, from Henness to Mission Parkway	Construct Roadway Widening	2	6
Casa Grande	2025	Florence Boulevard, Hacienda Road to Signal Peak Road	Construct Roadway Widening	2	4
Casa Grande	2030	Cornman Road, between Henness Road and I-10	Pave Dirt Road	2	4
Casa Grande	2030	South Frontage Road on I-8 at MP 176, between Henness Road Alignment and Lamb/Cox Road	Construct New Frontage Rd	0	2
Casa Grande	2035	Florence Boulevard, Hacienda Road to Signal Peak Road	Construct Roadway Widening	4	6
Casa Grande	2040	Casa Grande Toltec Buttes Road, North of Storey Road to Kleck Road	Construction	2	4
Casa Grande	2040	McCartney Road, Peart Road to I-10	Construction	2	4
Casa Grande	2040	Thornton Road, Cottonwood Lane to SR 84	Construction	2	4
Casa Grande	2016	Toltec Buttes, Cottonwood Lane and Florence Boulevard	Construct Roadway Widening	2	4
Casa Grande	2030	Selma Highway, Jimmy Kerr Boulevard to Signal Peak Road	Construct Roadway Widening	2	4
Casa Grande, Pinal County	2040	Maricopa Casa Grande Highway, SCMPO Boundary to Val Vista Road	Construction	2	4
Casa Grande, Pinal County	2040	Maricopa Casa Grande Highway, Val Vista Road to Florence Boulevard	Construction	2	4
Coolidge	2016	Bartlett Road, Christensen Road to Highway 87	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2016	Bartlett Road, Highway 87 to 5th Street	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2016	Bartlett Road, Nafziger Road to Christensen Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2016	Christensen Road, Coolidge Avenue to Martin Road	Dust Palliative on Unpaved Shoulder	2	2
Coolidge	2016	Nafziger Road, Byrd Avenue to Vah Ki Inn Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2016	Randolph Road, RR to Vail Road	Dust Palliative on Unpaved Road	2	2
Coolidge	2017	Central Avenue, Main Street to Arizona Boulevard	Construct Roadway Improvements	2	2
Coolidge	2017	Coolidge Avenue, 9th Street to Kenworthy Road	Construct Roadway Improvements	2	2

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Coolidge	2017	Kenworthy Road, Martin Road North 1/2 Mile	Construct Roadway Widening	2	4
Coolidge	2017	Nafziger Road, Coolidge Avenue to Byrd Avenue	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2017	Randolph Road, Highway 87 to Vail Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2018	Bartlett Road, Nafzinger Road to Attaway Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2018	Macrae Road, Coolidge Avenue to Martin Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2018	Main Street, Central Avenue to Coolidge Avenue	Construct Roadway Improvements	2	2
Coolidge	2018	Vah Ki Inn Road, 10th Place to Kenworthy Road	Construct Roadway Widening	2	4
Coolidge	2019	9th Street, Coolidge Avenue to Martin Road	Construct Sidewalks	2	2
Coolidge	2019	Main Street, Central Avenue to Vah Ki Inn Road	Construct Sidewalks	2	2
Coolidge	2019	McCartney Road, Signal Peak Road to Toltec Buttes Road	Construct Roadway Widening	2	4
Coolidge	2019	McRae Road, Martin Road to Woodruff Road	Dust Palliative on Unpaved Shoulder	2	2
Coolidge	2020	Macrae Road, Coolidge Avenue to Vah Ki Inn Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2020	Martin Road, 9th Street to Kenworthy Road	Construct Roadway Improvements	2	2
Coolidge	2020	Martin Road, Arizona Boulevard to 9th Street	Construct Roadway Widening	2	4
Coolidge	2020	Martin Road, Kenworthy Road to Skousen Road	Construct Roadway Improvements	2	2
Coolidge	2020	Skousen Road, Vah Ki Inn Road to Highway 87	Construct Roadway Improvements	2	2
Coolidge	2020	Toltec Buttes Road, Randolph Road to McCartney Road	Construct New Roadway	0	4
Coolidge	2020	Vah Ki Inn Road, Main Street to Sonora Street	Construct Roadway Widening	2	4
Coolidge	2020	Vah Ki Inn Road, Northern Avenue to Skousen Road	Construct Roadway Improvements	2	2
Coolidge	2020	Vah Ki Inn Road, Sonora Street to Washington Street	Construct Roadway Widening	2	4
Coolidge	2020	Vah Ki Inn Road, Washington Street to Nafziger Road	Dust Palliative on Unpaved Shoulder	2	2
Coolidge	2020	Val Vista Road, Signal Peak Road to 1/4 Mile East of Curry	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2020	Woodruff Road, Marae Road to Curry Road	Dust Palliative on Unpaved Shoulder	2	2
Coolidge	2021	Macrae Road, Vah Ki Inn Road to Highway 87	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2021	Nafziger Road, Martin Road to Bartlett Road	Dust Palliative on Unpaved Road	2(U)	2(U)

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Coolidge	2021	Randolph Road, Signal Peak Road to Toltec Buttes Road	Construct Roadway Improvements	2	2
Coolidge	2022	Attaway Road, Highway 287 North 1/2 Mile	Construct Roadway Improvements	2	2
Coolidge	2022	Bartlett Road, Highway 87 to 5th Street	Pave Dirt Road	2(U)	2
Coolidge	2022	Martin Road, 9th Street to Kenworthy Road	Construct Roadway Widening	2	4
Coolidge	2022	Martin Road, Skousen Road to Macrae Road	Construct Roadway Improvements	2	2
Coolidge	2022	Skousen Road, Coolidge Avenue to Midway Street	Construct Roadway Widening	3	4
Coolidge	2023	Attaway Road, Vah Ki Inn Road to Highway 287	Construct Roadway Improvements	2	2
Coolidge	2023	Coolidge Avenue, 9th Street to Kenworthy Road	Construct Roadway Widening	2	4
Coolidge	2023	Northern Avenue, 9th Street to Kenworthy Road	Construct Roadway Improvements	2	2
Coolidge	2023	Randolph Road, Highway 87 to Vail Road	Pave Unpaved Roadway	2(U)	2
Coolidge	2023	Randolph Road, Lola Lee Road to Signal Peak Road	Construct Roadway Improvements	2	2
Coolidge	2023	Skousen Road, Coolidge Avenue to Martin Road	Construct Roadway Improvements	2	2
Coolidge	2023	Skousen Road, Mid Way Street to Vah Ki Inn Road	Construct Roadway Widening	2	4
Coolidge	2024	Kenworthy Road, Martin Road to Bartlett Road	Construct Roadway Widening	2	4
Coolidge	2024	Skousen Road, Vah Ki Inn Road to Highway 87	Construct Roadway Widening	2	4
Coolidge	2024	Vah Ki Inn Road at Nafziger Road	Dust Palliative on Unpaved Shoulder	2	2
Coolidge	2025	Attaway Road, Coolidge Avenue to Vah Ki Inn Road	Construct Roadway Improvements	2	2
Coolidge	2025	Bartlett Road, Eleven Mile Corner Road to Macrae Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2025	Macrae Road, Woodruff Road to Bartlett Road	Dust Palliative on Unpaved Road	2(U)	2(U)
Coolidge	2025	Randolph Road, La Palma Road to Sunshine Boulevard	Construct Roadway Improvements	2	2
Coolidge	2025	Signal Peak Road, Highway 87 to Val Vista Road	Construct Roadway Widening	2	4
Coolidge	2025	Vah Ki Inn Road, 9th Street to 10th Place	Construct Roadway Widening	2	4
Coolidge	2026	Coolidge Avenue, Kenworthy Road to Skousen Road	Construct Roadway Widening	3	4
Coolidge	2026	Randolph Road, Sunshine Boulevard to Eleven Mile Corner Road	Construct Roadway Improvements	2	2
Coolidge	2026	Signal Peak Road, Val Vista Road to Woodruff Road	Construct Roadway Improvements	2	2

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Coolidge	2026	Woodruff Road, Curry Road to Signal Peak Road	Construct Roadway Improvements	2	2
Coolidge	2027	Macrae Road, Coolidge Avenue to Martin Road	Pave Dirt Road	2(U)	2
Coolidge	2027	Macrae Road, Coolidge Avenue to Vah Ki Inn Road	Pave Dirt Road	2(U)	2
Coolidge	2027	McCartney Road, La Palma Road to Sunshine Boulevard	Pave Dirt Road	2(U)	2
Coolidge	2027	Signal Peak Road, Woodruff Road to McCartney Road	Pave Dirt Road	2(U)	4
Coolidge	2027	Vah Ki Inn Road, Northern Avenue to Skousen Road	Construct Roadway Widening	2	4
Coolidge	2027	Woodruff Road, Macrae Road to Curry Road	Dust Palliative on Unpaved Shoulder	2(U)	2(U)
Coolidge	2028	Martin Road, Kenworthy Road to Skousen Road	Construct Roadway Widening	2	4
Coolidge	2028	McCartney Road, Signal Peak Road to Toltec Buttes Road	Construct Roadway Widening	4	6
Coolidge	2028	McCartney Road, Sunshine Boulevard to Eleven Mile Corner Road	Pave Dirt Road	2(U)	2
Coolidge	2028	Sunshine Boulevard, Bartlett Road to Randolph Road	Construct Roadway Widening	2	4
Coolidge	2029	Woodruff Road, Signal Peak Road to Toltec Buttes Road	Construct Roadway Improvements	2	2
Coolidge	2030	Attaway Road, Highway 287 North 1/2 Mile	Construct Roadway Widening	2	4
Coolidge	2030	Macrae Road, Vah Ki Inn Road to Highway 87	Pave Dirt Road	2(U)	2
Coolidge	2030	Signal Peak Road, Val Vista Road to Woodruff Road	Construct Roadway Widening	2	4
Coolidge	2030	Sunshine Boulevard, Randolph Road to Kleck Road	Construct Roadway Widening	2	4
Coolidge	2030	Val Vista Road, Signal Peak Rd to 1/4 Mile East of Curry Road	Pave and Widen Roadway	2(U)	4
Coolidge	2031	Val Vista Road, Macrae Road to 1/4 Mile East of Curry Road	Pave and Widen Roadway	2(U)	4
Coolidge	2032	Bartlett Road, Highway 87 to 5th Street	Construct Roadway Widening	2	4
Coolidge	2032	McCartney Road, La Palma Road to Highway 87	Construct Roadway	0	4
Coolidge	2033	Attaway Road, Vah Ki Inn Road to Highway 287	Construct Roadway Widening	2	4
Coolidge	2033	Coolidge Avenue, 1st Street to Arizona Boulevard	Construct Roadway Widening	2	4
Coolidge	2033	Martin Road, Picacho Street to Arizona Boulevard	Construct Roadway Widening	2	4
Coolidge	2033	Skousen Road, Coolidge Avenue to Martin Road	Construct Roadway Widening	2	4
Coolidge	2033	Various Alleys (Citywide)	Dust Palliative on Unpaved Road	1(U)	1(U)

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Coolidge	2034	Eleven Mile Corner Road, Bartlett Road to Randolph Road	Construct Roadway Widening	2	4
Coolidge	2034	McCartney Road, Toltec Buttes Road to Evans Road	Construct Roadway Widening	5	6
Coolidge	2034	Various Alleys (Citywide)	Dust Palliative on Unpaved Road	1(U)	1(U)
Coolidge	2035	Attaway Road, Coolidge Avenue to Vah Ki Inn Road	Construct Roadway Widening	2	4
Coolidge	2035	Martin Road, Picacho Street to Christensen Road	Pave Dirt Road	2(U)	2
Coolidge	2035	Various Alleys (Citywide)	Dust Palliative on Unpaved Road	1(U)	1(U)
Eloy	2015	Chaco Drive, Maya Road to Tonto Road	Dust Mitigation	2	2
Eloy	2015	Citywide (Various)	Procurement of Street Signs	--	--
Eloy	2015	Cocopah Drive, May Road to Tonto Road	Dust Mitigation	2	2
Eloy	2015	Grace Circle, Shedd Road to Tumbleweed Road	Dust Mitigation	2	2
Eloy	2015	Kiva Drive, Maya Road to Tonto Road	Dust Mitigation	2	2
Eloy	2015	Main Street, Bataglia Drive to Frontier Street	Mill, Crackfill, Microsurface	4	2
Eloy	2015	Maya Road, Tonto Road to Shedd Road	Dust Mitigation	2	2
Eloy	2015	Montgomery Circle, Estrella Road	Dust Mitigation	2	2
Eloy	2015	Montgomery Circle, Shedd Road to Estrella Road	Chip Seal	2	2
Eloy	2015	Shedd Road, Estrella Road to Frontier Street	Reconstruction	4	2
Eloy	2015	Tewa Circle, Maya Road to Tondo Road	Dust Mitigation	2	2
Eloy	2015	Toltec Highway, Tonto Road to I-10	Mill, Crackfill, Microsurface	4	4
Eloy	2016	11th Street, Curiel Street to Phoenix Avenue	Design/Construction	2	2
Eloy	2016	Alsdorf Road, Sunshine Boulevard to I-10	Pulverize, A.b., Double Chip, Fog Seal	2	2
Eloy	2016	Atlantic Drive, Shira Street to End Point	Dust Mitigation	2	2
Eloy	2016	Cortez Drive, Shira Street to Papago Street	Dust Mitigation	2	2
Eloy	2016	Kioha Drive, Estrella Road to Shedd Road	Dust Mitigation	2	2
Eloy	2016	Kioha Drive, Shedd Road to Papago Street	Dust Mitigation	2	2
Eloy	2016	Maverick Drive, Toltec Road to End Point	Dust Mitigation	2	2

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Eloy	2016	Montezuma Drive, Shira Street to Arizona Street	Dust Mitigation	2	2
Eloy	2016	Pacific Drive, Shiria Street to End Point	Dust Mitigation	2	2
Eloy	2016	Sunshine Boulevard, I-10 to Truck Wash	Reconstruction	2	3
Eloy	2016	Sunshine Boulevard, Hotts Road to Pretzer Road	Chip Seal	2	2
Eloy	2016	Sunshine Boulevard, Milligan Road to Phillips Road	Chip Seal	2	2
Eloy	2016	Valencia Drive, Zapotec Avenue to Papago Street	Dust Mitigation	2	2
Eloy	2016	Various Locations in Eloy	Upgrade Pavement Markings	0	0
Eloy	2016	Zapotec Avenue, Shedd Road to Valencia Drive	Dust Mitigation	2	2
Eloy	2017	Shedd Road, Estrella Road to Tumbleweed Road	Design/ROW	2	4
Eloy	2017	Toltec Road, Alsdorf Road to Milligan Road	Chip Seal	2	2
Eloy	2017	Toltec Road, I-10 to Frontier Street	Design/ROW	2	4
Eloy	2017	Various Locations in Eloy	Construction - Installation to Upgrade Regulatory Signs including Hardware	0	0
Eloy	2018	Shedd Road Reconstruction Phase II	Construction	2	4
Eloy	2018	Toltec Road, Milligan Road to .5 Miles South of Phillips Road	Chip Seal	2	2
Eloy	2018	Tryon Avenue Reconstruction	Design/ROW	2	2
Eloy	2019	Toltec Road, .5 Miles South of Phillips Road to Nutt Road	Chip Seal	2	2
Eloy	2019	Toltec Road, I-10 to Frontier Street	Design/ROW	2	4
Eloy	2019	Toltec Road, I-10 to Frontier Street	Roadway Improvements	2	4
Eloy	2020	Toltec Road, Nutt Road to Hotts Road	Chip Seal	2	2
Eloy	2025	Frontier Street (Highway 84), La Palma Road to 11 Mile Corner Road	Roadway Improvements	4	4
Eloy	2035	Battaglia Drive, Sunshine Boulevard to 11 Mile Corner Road	Roadway Improvements	2	6
Eloy	2040	Battaglia Drive, Sunland Gin Road to Casa Grande-Picacho Highway	Construction	2	4
Eloy	2040	Battaglia Road, I-10 to Sunshine Boulevard	Construction	2	4
Eloy	2040	Eleven Mile Corner Road, Battaglia Drive to Houser Road	Construction	2	4

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Eloy	2040	Sunshine Boulevard, I-10 to Alsdorf	Construction	2	4
Pinal County	2015	Sign Upgrade at Various Locations in Pinal County	Design	0	0
Pinal County	2017	Arica Road, Trekell Road to .7 miles South on Isom Road	Improvements	2(U)	2(U)
Pinal County	2017	Bartlett Road, From 5th Street to Christensen Road	Dust Palliative	2(U)	2(U)
Pinal County	2017	Christensen Road, Bartlett Road to Martin Road	Dust Palliative	2(U)	2(U)
Pinal County	2017	Harmon Rd, Toltec Highway to Tweedy Road	Dust Mitigation	2(U)	2(U)
Pinal County	2017	Henness Road, Val Vista Road to Waverly Drive	New Construction	2(U)	2
Pinal County	2017	La Palma Road, SR 287 to 0.25 Miles North Kleck Road	Dust Mitigation	2(U)	2(U)
Pinal County	2017	McCartney Rd, I-10 to Evans Road	Design	2	3
Pinal County	2017	Sign Upgrade at Various Locations in Pinal County	Procurement	0	0
Pinal County	2018	Curry Road, SR 287 to Storey Road	Construction	2(U)	2
Pinal County	2018	McCartney Road, I-10 to Evans Road	Reconstruction	2	4
Pinal County	2018	Peters Road, Santa Cruz Wash to Corrales Road	Dust Palliative	2(U)	2(U)
Pinal County	2018	Tweedy Road, SR 287 to Storey Road	Construction	2(U)	2
Pinal County	2019	Hohokam Road, Paisano Drive to Quartzite Drive	Improvements	2(U)	2(U)
Pinal County	2019	La Palma Road, Cornman Road to Selma Hwy	Improvements	2(U)	2(U)
Pinal County	2025	Anderson Road, Barnes Road to Miller Road	Construction	2	3
Pinal County	2025	Anderson Road, Kortsen Road to Barnes Road	Construction	2	3
Pinal County	2025	Anderson Road, Peters Road to Highway 84	Construction	2(U)	2
Pinal County	2025	Kortsen Road, Anderson Road to Russell Road	Construction	2(U)	2
Pinal County	2025	Kortsen Road, Stanfield Road to Fuqua Road	Construction	2(U)	2
Pinal County	2025	McCartney Road, Evans Road to 1.0 Miles East	Construction	4	5
Pinal County	2025	McCartney Road, Signal Peak Road to 0.5 Miles East	Construction	2(U)	2
Pinal County	2025	McCartney Road, Weaver Road to Azurite Road	Construction	5	6
Pinal County	2025	Miller Road, Anderson Road to Russell Road (Santa Cruz Ranch)	Construction	2(U)	2

Table C2 – Local City/County Projects of Opportunity

Agency	Year	Project Location	Project Description	Lanes Before	Lanes After
Pinal County	2025	Miller Road, Anderson Road to Russell Road (Solana Ranch North)	Construction	2(U)	2
Pinal County	2025	Overfield Road, Lake Powell Drive .25 Miles South	Construction	2	3
Pinal County	2025	Signal Peak Road, McCartney Road to 0.5 Miles South	Construction	2	3
Pinal County	2025	Signal Peak Road, Randolph Road to 0.5 Miles North	Construction	2	4
Pinal County	2025	Stanfield Road, Clayton Road to Kortsen Road	Construction	2(U)	2
Pinal County	2025	Stanfield Road, Peters Road to State Highway 84	Construction	2	3
Pinal County	2025	State Highway 84,Fuqua Rd to Stanfield Road	Construction	5	6
Pinal County	2025	State Highway 84,Anderson Road to Murphy Road	Construction	2	3

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Appendix D – Serious Injury Maps

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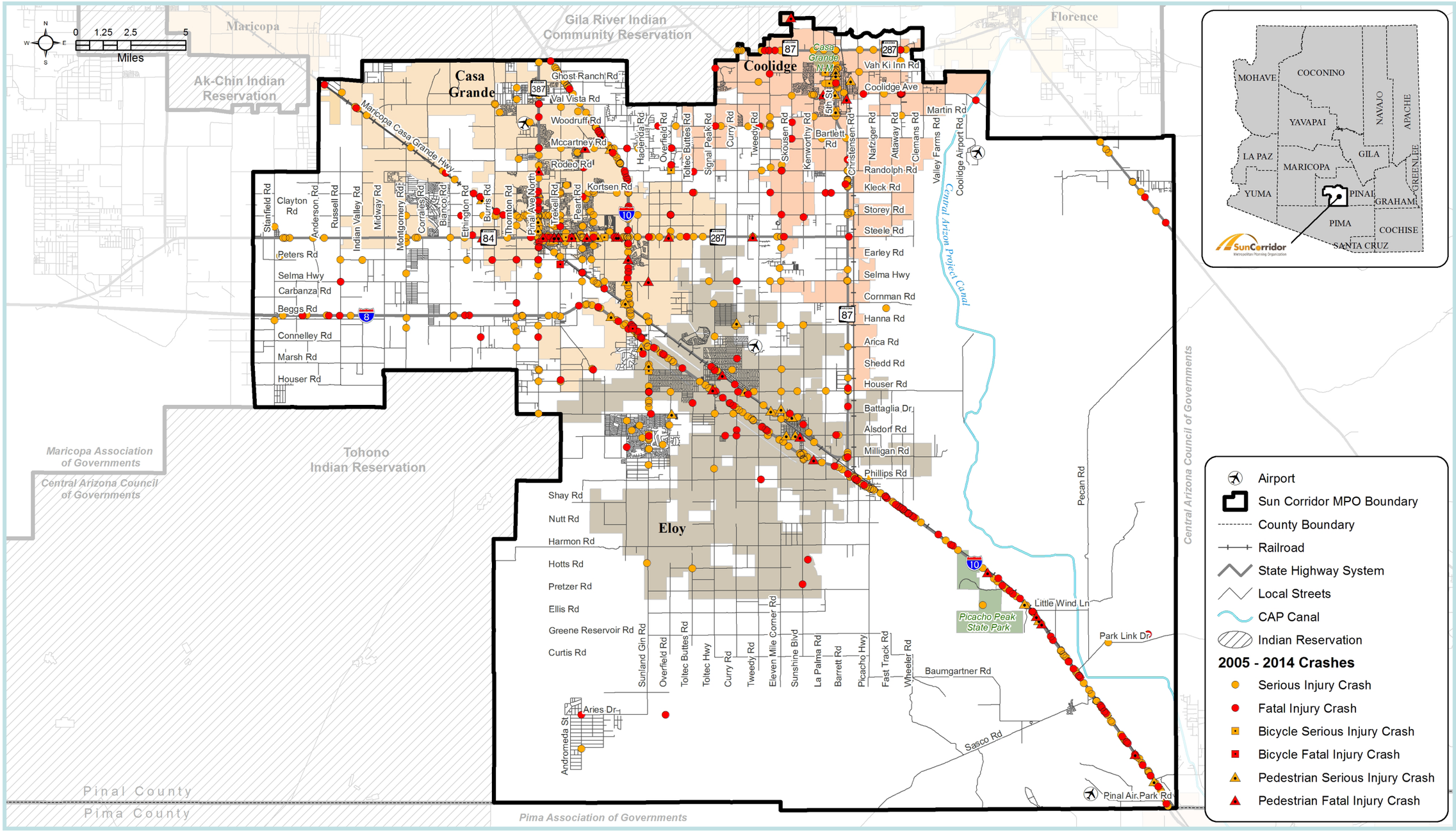
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Wheeler Rd
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Baumgartner Rd
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Central Arizona Council of Governments
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COCHISE
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Airport
Sun Corridor MPO Boundary
County Boundary
Railroad
State Highway System
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CAP Canal
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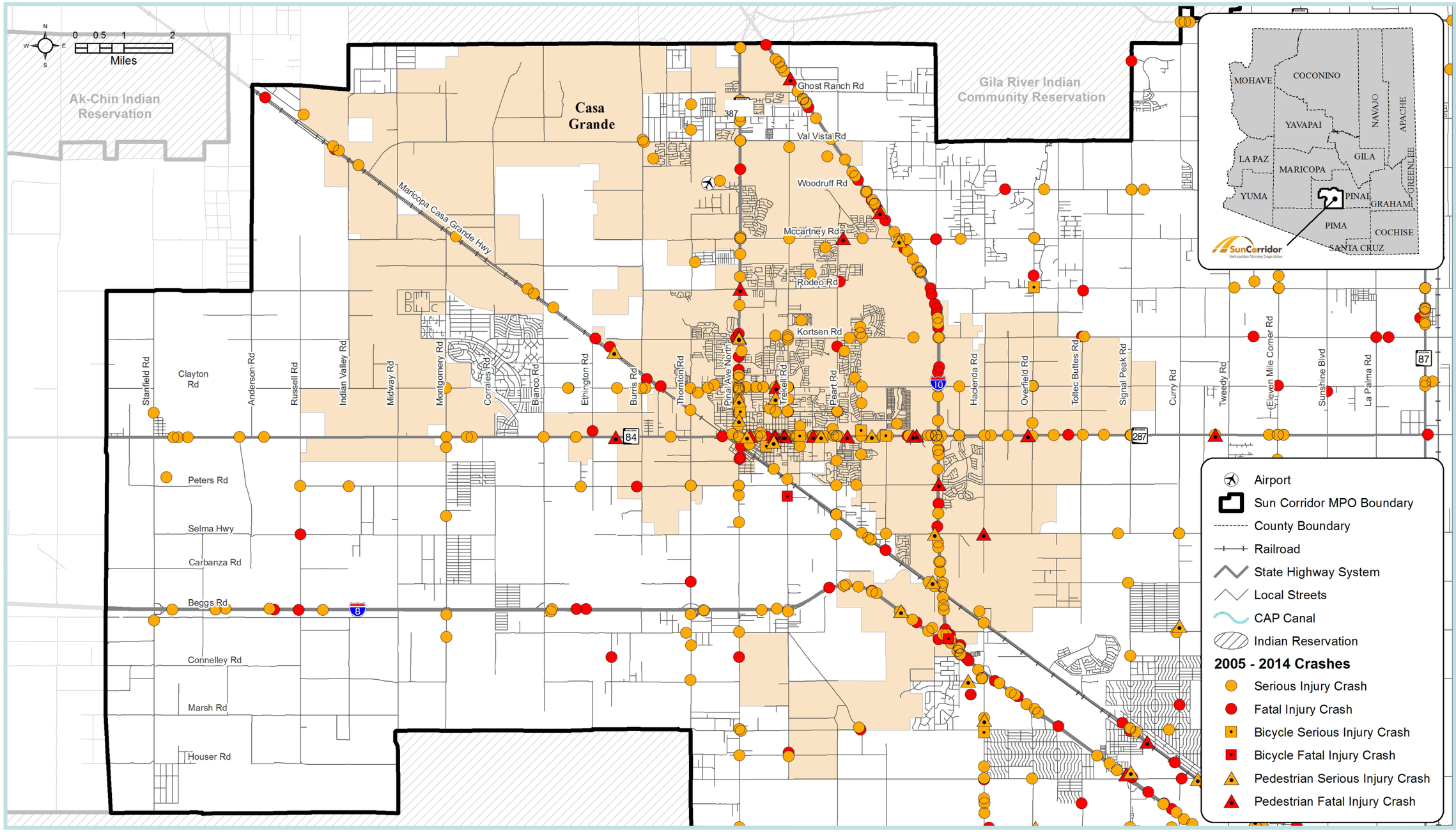
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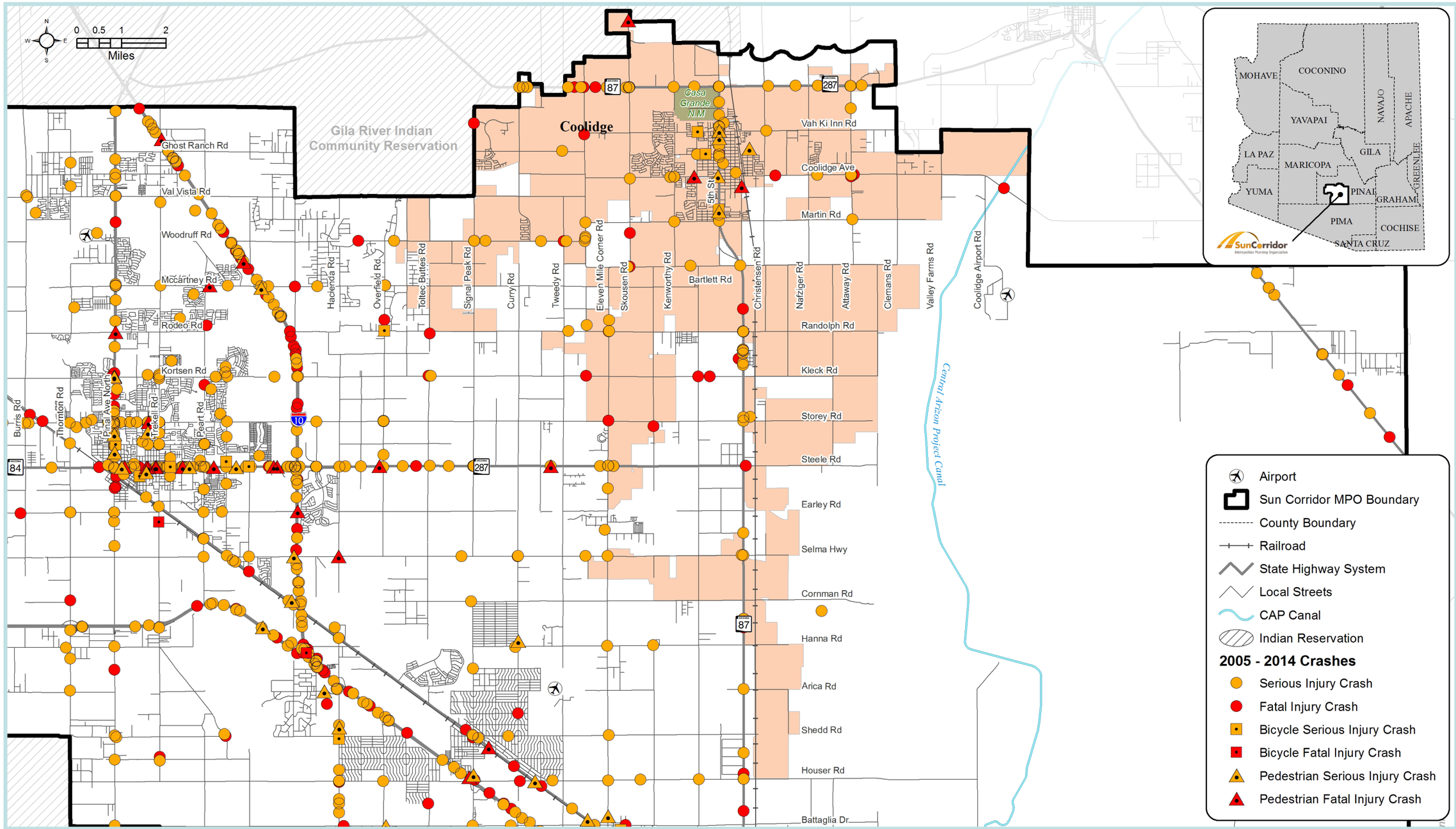
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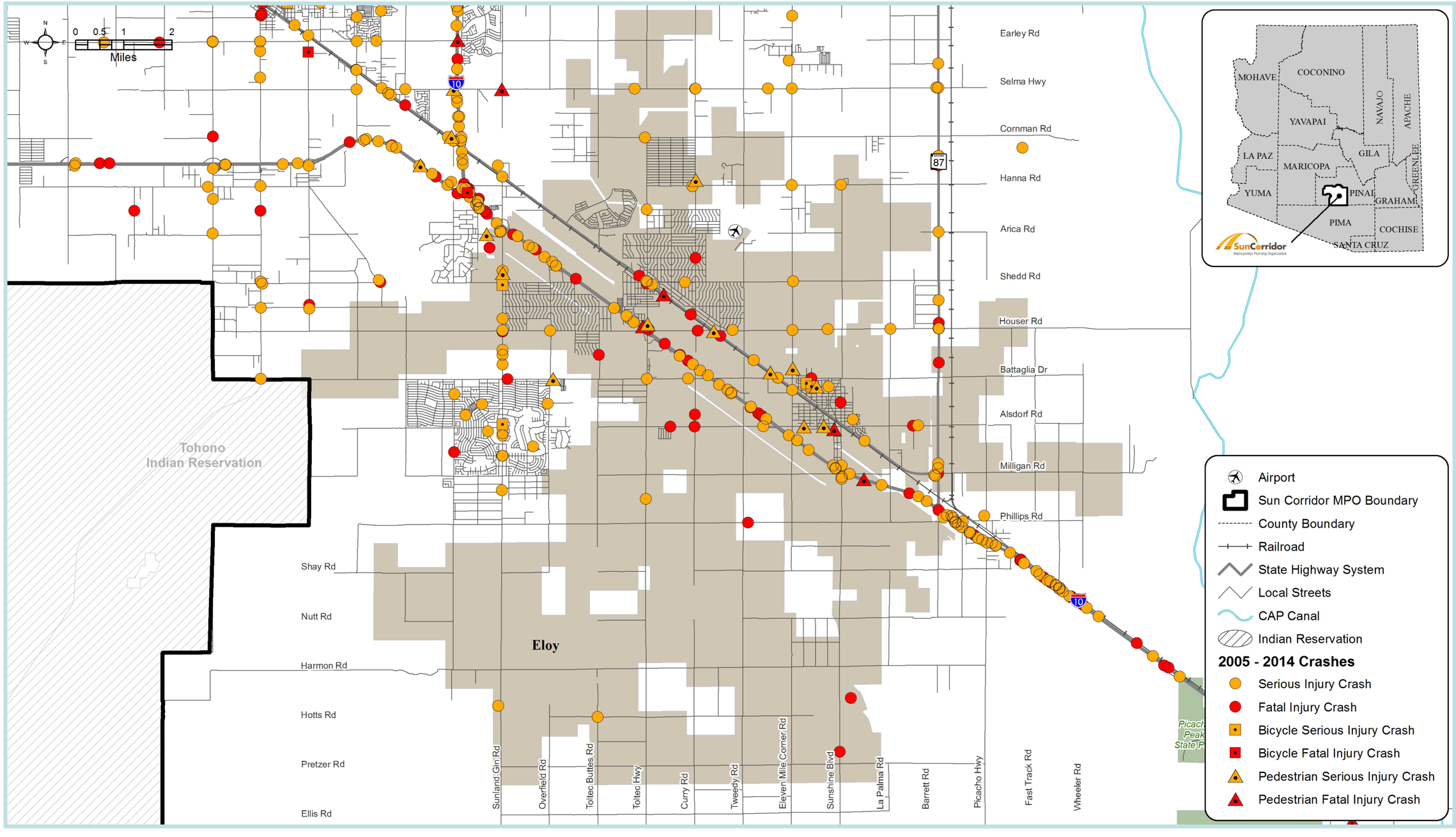
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