FY 2025–FY 2029 TRANSPORTATION IMPROVEMENT PROGRAM

TIP

Investing to improve our communities, our economy and our future.

Pima Association of Governments

TRANSPORTATION IMPROVEMENT PROGRAM

FY 2025–FY 2029

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CHAPTER 1

INTRODUCTION

OVERVIEW

Pima Association of Governments' (PAG's) Transportation Improvement Program (TIP) is a five-year schedule of proposed transportation capital improvements within the Pima County region.

The TIP is updated every two to three years through a multistep process in collaboration with PAG's member jurisdictions or other implementing agencies. Amendments to the TIP respond to changing circumstances, necessitating revisions to the adopted TIP that occur between update periods. The TIP addresses improvements to diverse elements of the regional transportation system including national, state and regional roadways, transit, aviation, ride sharing, bikeways and pedestrian facilities. The TIP responds to various state and federal regulatory requirements – including transportation legislation such as the Infrastructure Investment and Jobs Act (IIJA) – for the development of a transportation improvement program in conformance with air quality implementation plans.

The current five-year TIP encompasses fiscal years 2025 to 2029. The complete project listing by jurisdiction is contained in Appendix 1. The projects listed in Appendix 1 are presently in some stage of project development and each one has an identified source of funding. Every project in the region that is federally funded, whether highway or transit, must be included in the TIP. The TIP includes all regionally significant projects funded from non-federal sources.

THE INFRASTRUCTURE INVESTMENT AND JOBS ACT

On November 15, 2021, the President signed the federal surface transportation authorization bill called the Infrastructure Investment and Jobs (IIJA), also known as the Bipartisan Infrastructure Law. The act authorizes, among several other things, expenditures from the Highway Trust Fund for five years (2022-2026), defines how federal funds are to be distributed to the states and metropolitan planning organizations (MPOs), and outlines the funding programs and categories for which federal funding is available. The IIJA, like its predecessor surface transportation funding authorization bills, contains programs to address transportation needs relating to highway, safety, transit and alternative modes.

The five previous authorization bills since 1991 have shaped the highway program to meet the nation's changing transportation needs. The IIJA builds on and refines many of the highway, transit, bike and pedestrian programs and policies established, expanded or refined by its predecessor bills. In addition to retaining several programs under the Fixing America's Surface Transportation (FAST) Act (2016), the IIJA created several new initiatives relating to climate resiliency and transportation electrification.

Although the FAST Act is now superseded, the IIJA continues to mandate performance-based programming. The FAST Act created 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 performance-based component of the FAST Act, unchanged by the IIJA, requires MPOs and state departments of transportation (DOTs) to work cooperatively to establish performance targets in key areas to help advance national goals. The performance provisions are focused on the areas of highway safety, highway conditions, system performance/congestion and transit performance. This process involves the development of performance measures to periodically assess progress toward the performance targets. The performance measures were developed by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), and the corresponding targets were developed by the Arizona Department of Transportation (ADOT). Performance targets are established by ADOT in cooperation with PAG and are updated yearly or every two or four years, depending on the measure.

As the designated metropolitan planning organization for the Pima County region, PAG is responsible for developing a transportation improvement program in cooperation with the state and any affected public transit operator. In developing the program, citizens, affected public agencies, representatives of transportation agency employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transit, and other interested parties are provided an opportunity to comment on the proposed program.

The transportation planning process provides for consideration of projects and strategies that will:

(1) Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity and efficiency

(2) Increase the safety of the transportation system for motorized and non-motorized users

(3) Increase the security of the transportation system for motorized and non-motorized users

(4) Increase accessibility and mobility of people and freight

(5) Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and state and local planned growth, housing and economic development patterns

(6) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight

(7) Promote efficient system management and operation

(8) Emphasize the preservation of the existing transportation system

(9) Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation

(10) Enhance travel and tourism

The IIJA will expire on Sept. 30, 2026. For programming purposes, this document assumes that the Surface Transportation Block Grant Program funding levels established for the final year of the IIJA will be renewed or continued by the U.S. Congress beyond that date.

CHAPTER 2

TRANSPORTATION PLANNING AND PROGRAMMING

PAG is the federally designated metropolitan planning organization (MPO) for Pima County. As the MPO, PAG is responsible for regional transportation planning, including development of the long-range transportation plan and the five-year Transportation Improvement Program (TIP). In addition to developing these two required planning documents, PAG is committed to delivering projects in the voter-approved Regional Transportation Authority (RTA) plan. Throughout all planning processes, PAG works closely with all member agencies, including the Arizona Department of Transportation (ADOT), to ensure that regional transportation efforts are consistent with both local and statewide plans and programs.

REGIONAL MOBILITY AND ACCESSIBILITY PLAN (RMAP)

The Regional Mobility and Accessibility Plan (RMAP) is a performance-based, long-range transportation plan for PAG's designated planning area. The plan provides a framework for the investment of anticipated federal, state and local funds, based on needs, regional goals and objectives.

The 2045 RMAP was developed under the regulatory framework of the 2015 FAST Act and serves as the federally mandated planning tool for the region's long-range transportation needs.

Revisited every four years, the long-range plan identifies transportation solutions in the greater Tucson region through 2045 and is updated to reflect:

- population growth in the region
- employment growth in the region
- evolving funding sources
- new data and analytical methods
- new needs and priorities

The PAG Regional Council approved an update to the RMAP in 2020. The update focused on updating population and employment data, revenue forecasts and modeling outcomes. The update continued using the 2045 RMAP vision, goals, performance measures and strategies adopted in 2016 by the PAG Regional Council. The update built upon the extensive public involvement conducted in 2016. Furthermore, each jurisdiction was asked to review its projects, update project cost estimates, identify completed projects and restate their implementation priorities.

Purpose of the 2045 RMAP

Planned regional projects must be identified in the RMAP and conform to the federal performance measurement program for jurisdictions to access federal funds. Projects must be identified in PAG's short-range transportation plan, the Transportation Improvement Program, or TIP, to be eligible for

federal funding. The five-year TIP is updated biennially with guidance from PAG member jurisdictions and identifies which RMAP projects will be implemented in the short-term.

TRANSPORTATION IMPROVEMENT PROGRAM (TIP)

As discussed above, projects in the TIP are first included in, or are consistent with, the region's long-range transportation plan, the RMAP. From the projects and programs included in the RMAP, individual jurisdictions develop candidate projects for proposed inclusion in the TIP. Before project selection even begins as part of the TIP process, the region and the individual jurisdictions have identified their transportation needs and developed a plan for addressing those respective needs.

PAG's Transportation Planning Committee (TPC) provides advice on overall transportation programming and the products produced. The TPC is composed of the department heads of the local planning and transportation departments of implementing agencies, as well as representatives from ADOT, the Tucson Airport Authority, Davis-Monthan Air Force Base, the Federal Highway Administration, the University of Arizona, the Pima County Department of Environmental Quality, the Arizona Department of Environmental Quality, and the local public transit system.

The TPC reviews the TIP within the framework of the regional transportation planning and air quality conformity process, regional priorities, and federal and state regulations. As discussed in Chapter 8, public open houses are held to acquire input concerning the proposed TIP and any potential adjustments. The final draft TIP is then prepared by PAG staff and forwarded through the TPC and Management Committee for approval by the PAG Regional Council. An official public comment period is scheduled prior to final review and adoption.

REGIONAL TRANSPORTATION AUTHORITY PLAN

The Regional Transportation Authority (RTA), an independent regional governmental entity established in August 2004, developed a 20-year regional transportation plan which was approved by Pima County voters on May 16, 2006. The $2.1 billion plan will be implemented over a 20-year period, ending in the fiscal year 2026.

The RTA will remain the fiscal agent and manager of the RTA plan. As part of the federal transportation requirements, the projects in the RTA plan must be incorporated into the long-range RMAP. Likewise, projects in the RTA plan must be incorporated into the TIP. The RTA funding source is, by the enabling legislation, restricted to those projects identified in the RTA plan approved by the voters. RTA projects are paid with funds generated from a half-cent excise tax from the RTA's special taxing district over the 20-year life of the plan, as well as other regional funding sources.

The 2006 RTA funds are referred to as "RTA" in the TIP document. The fund balances from the 2006 RTA plan will be tracked separately and will continue to fund RTA projects pursuant to the FY26 RTA budget, addressing them as rollover funds in future RTA budgets beyond FY2026 until the funds are fully spent on eligible 2006 RTA projects.

If RTA Next revenue is approved by the voters, it will commence on April 1, 2026. PAG will update the TIP prior to June 2026 to add the new RTA projects, using a new indicator (to be determined) for the new RTA revenues to clearly distinguish them from the 2006 RTA revenues, from April 2026 and beyond.

ADOT FIVE-YEAR PROGRAM

The Arizona State Transportation Board determines state priorities through recommendations from the ADOT Priority Planning Advisory Committee (PPAC) (mandated by A.R.S. 28-6951). The PPAC is comprised of key ADOT personnel appointed by the ADOT Director.

ADOT uses a planning-to-programming priority rating system to select projects for the Five-Year Transportation Facilities Construction Program. The intent is to identify projects with the highest scores and develop a program that meets approved funding levels for the investment categories of preservation, modernization and expansion. Priorities are determined through evaluation of technical, safety and policy evaluation criteria. However, such factors as continuity of improvement, environmental/utility clearances, right-of-way acquisition, and/or funding constraints may cause changes in the priorities.

The Five-Year Program is required pursuant to Arizona Revised Statutes §28-304 and is approved annually by the State Transportation Board. The Five-Year Program contains the programs and projects to be developed and constructed by Arizona Department of Transportation (ADOT) over the next five years on interstates and state highways, along with the estimated costs. ADOT is responsible for developing and constructing the projects in the Five-Year Program, and for maintaining the interstates and state highways.

The State Transportation Board adopted Five-Year Program becomes effective July 1st of each year and is incorporated into the Statewide Transportation Improvement Program (STIP).

CHAPTER 3

TRANSPORTATION IMPROVEMENT PROGRAMMING OVERVIEW

OVERVIEW

The Transportation Improvement Program (TIP), prepared by PAG, is a five-year schedule and budget of proposed transportation improvements within Pima County.

PAG is the region's federally required MPO serving the federally designated Transportation Management Area (TMA). The RTA, a political subdivision of the state, provides funding from its independent special taxing district within Pima County for 35 regional corridor projects and numerous other projects that are eligible for one of the categorical funds as outlined in the May 2006 voter-approved RTA plan. The RTA plan is funded by a half-cent excise tax in effect through FY 2026, unless extended by the voters.

The RTA-enabling state statutes require the TIP document to include all the RTA-funded projects and to specifically identify all federal, state, and local funding needed for the implementation of the voter-approved RTA plan. As such, PAG staff has been delegated the authority to facilitate a regional process to comply with all the funding regulations outlined by the above agencies.

PAG/RTA committees providing input on the development of the TIP were consolidated several years ago to provide a more efficient and seamless process. Therefore, the process to develop the TIP document is considered a joint PAG/RTA effort, while the final approval is the sole responsibility of the PAG Regional Council.

The TIP development process follows a series of administrative policies and procedures developed by PAG staff and based on policies outlined by the PAG Regional Council and the RTA Board. At the beginning of each TIP development process, PAG/RTA staff is authorized to develop a "Notice of Funding Availability" (NOFA) that outlines funding availability and guidance on programming procedures and criteria for meeting regional objectives. NOFAs are only issued when transportation funding is available to the region.

PAG/RTA staff is authorized to use any reasonable interpretation of the language used by the PAG Regional Council or RTA Board to ensure all the practices adhere to the established policies. Practices include activities, methods and means of conducting business; circumstances of operating; or any other feature of work or process to accomplish assigned tasks.

PAG/RTA governing bodies rely on staff and the committee(s) established, managed and subject to change by staff, to comply with board/council policies to achieve regional objectives. This responsibility requires ongoing awareness of the policies and procedures while conducting committee functions. An efficient operating process is critical for all committees, specifically for the Transportation Planning Committee (TPC) and its subcommittees, since the TIP document is a critical tool for implementation of regional goals and objectives. The development of the TIP encompasses many requirements and standards, from local, state and national regulatory bodies. A well-managed and maintained set of policies is the backbone of successful TIP development.

The goal of the transportation improvement programming process is to develop a TIP in a transparent and accountable manner, which makes optimum use of available funds and resources, and serves the transportation needs of the region, as defined in PAG's long-range Regional Mobility and Accessibility Plan (RMAP).

Federal legislation specifically defines certain aspects of this programming process, including the following:

- FAST Act era mandates require that MPOs (such as PAG) consider performance-based criteria and a congestion management process in the project selection and the TIP development. (See Chapter 4).
- Federal law requires that the TIP document includes a financial plan which documents the financial resources available to implement the program. (See Chapter 5).
- Federal laws regarding air quality [42 U.S.C. 7409 and 40 CFR 52.138(d)] require that the regional TIP be analyzed and conform to the air quality implementation plan(s). (See Chapter 6).
- Transit is an essential element of a multimodal transportation planning process. As such, an overview of the region's transit services is included in the PAG TIP. (See Chapter 7).
- Finally, federal laws require that various transportation stakeholders have a reasonable opportunity to comment on the proposed program. (See Chapter 8).

The primary resource used for formulating the TIP is the RMAP. However, with the passage of the RTA plan by the voters in May 2006, the projects and programs outlined in that plan are included in the TIP. The RMAP documents transportation facilities and services required to meet future travel needs. Additional roadway facilities and expanded public transportation services, combined with greater opportunities for ride sharing, intermodalism and transit, bicycling or pedestrian modes are incorporated into the RMAP to improve air quality and support the efficiency of the regional transportation network.

PAG'S TIP PROCESS

PAG's TIP covers a five-year period and describes planned regional transportation projects and improvements, which lead to the implementation of the RMAP. The TIP is the budget mechanism through which the RMAP is implemented to be consistent with regional needs and priorities. It is the mechanism through which the air quality impacts of regionally significant transportation projects can be evaluated and addressed.

The TIP is financially constrained and includes only those projects for which funding has been determined to be available. In addition to including projects using available federal funding sources, information is included on projects using state, regional and RTA funding. The TIP includes regionally significant projects, whether they are Federal Aid Projects or not. Information on other projects, which are locally funded, is included as available.

Contributing Agencies

Information on programmed projects is provided by the following agencies:

- The cities of Tucson and South Tucson; Pima County; the towns of Oro Valley, Marana and Sahuarita; the Pascua Yaqui Tribe and the Tohono O'odham Nation
- Arizona Department of Transportation (ADOT)
- Regional Transportation Authority (RTA)
- Tucson Airport Authority (TAA)
- Sun Tran
- Pima County Department of Environmental Quality (PDEQ)
- Arizona Department of Environmental Quality (ADEQ)
- The University of Arizona
- Other agencies or transportation interests

Transportation Planning Committee

The Transportation Planning Committee (TPC) is a standing technical advisory committee of PAG. The TPC meets approximately nine times a year, with additional meetings on an as-needed basis, to address technical issues and other matters related to TIP development. TPC meetings are open to the public and meeting notices are provided to committee members and, when requested, to a list of interested parties which includes citizens, neighborhood groups, non-profit organizations and various special interest groups. Key aspects of the cooperative TIP process include maintenance of funding flexibility, recognition of diverse needs, and the ability to respond to changes in the community. Thus, the ability to request and take timely action upon TIP amendments is an important component of the process. Amendments to the TIP document may be processed, where necessary, to reflect changing needs, priorities, or funding scenarios.

Schedule

PAG's TIP development process typically starts in late summer. The first step in the process consists of reviewing the existing TIP to revise and reflect the actual obligation or expenditure of funds during the previous year. The TPC (or a subcommittee thereof) will then meet in late summer or fall to review past revenues and revise future revenue projections. If deemed necessary by PAG staff (i.e., if funds are available to the region), these revenue projections may warrant a Notice of Funding Availability (NOFA) to be developed. The NOFA would then outline the available funding from each available funding source and the specific requirements for those funding sources. For some TIP development cycles, funding availability may be limited and restricted to a small set of funding sources, such as FTA funds.

If the NOFA includes a request for new project applications, a jurisdiction's representative on the TPC works with her or his agency's staff to develop project applications, which are submitted for review and programming by PAG staff in the fall. That review results in a fiscally constrained draft project list, which is modeled for Title VI compliance and air quality conformity. It is then presented to the public in a series of open houses in the spring.

Following receipt of public comment and any subsequent revision, the draft project list is re-analyzed for air quality conformity, if necessary. The complete draft TIP is then presented for review at the PAG TPC and the PAG Management Committee meetings, and for approval by the PAG Regional Council.

Revenue Sources

The TIP specifies how the approved projects and programs will use available federal, state, and regional funding. In addition, any project that adds roadway capacity is included in the TIP, regardless of the type of funding used, including local funding. No project is eligible to receive federal funding unless it has been included in the TIP with a finding that the TIP complies with the requirements of the Clean Air Act. While the total revenue available through the TIP is limited, competition for TIP funding is great. Thus, cooperation among local jurisdictions and other agencies is necessary and required.

Federal sources of funding include the Surface Transportation Block Grant Program (STBG) and, if available, the Regional Transportation Alternatives Grant (RTAG). Federal Highway Safety Improvement Program (HSIP) funds are awarded through a statewide competitive process. Federal grants through the Federal Transit Administration (FTA) are a major source of funding for transit projects. Prior to 2016, the STBG program was known as the Surface Transportation Program (STP) and that acronym is still widely used in some applications. PAG cannot guarantee the availability of competitive federal funds. The allocation of funds awarded by the federal government is always subject to potential recission, as demonstrated by a recent congressional action. Thus, the region, through PAG, cannot be held responsible for any project funding shortfalls should the competitive federal funds be rescinded. Similarly, the RTA cannot ensure the receipt of federal funds. In fact, the state law explicitly states that the RTA is prohibited from substituting its funds for any other entity.

State funding sources include Highway User Revenue Fund (HURF) 12.6 and HURF 2.6. HURF 12.6 can be used on any arterial road included in the RMAP, but HURF 2.6 funds are limited to use on state routes. Regional Council and/or RTA Board policy may further restrict how HURF 12.6 funds can be programmed to address regional priorities.

Regional funding sources include the RTA half-cent sales tax. Since 2006, when the RTA tax and plan were approved by Pima County voters, RTA funding has consistently been the largest annual source of regional transportation funding in the PAG TIP.

For more information about any of these funding sources, please see the Glossary in Appendix 6.

Inflation in the TIP

The Federal Highway Administration (FHWA) has provided guidance to planning organizations across the country to ensure that future years of the five-year TIP document account for inflation. Where appropriate, sponsoring jurisdictions have been advised to account for the future costs of a project so that expenditures in the TIP reflect costs in the fiscal year of the expenditure. This accounting for inflation is called “Year of Expenditure” (YOE).

For the FY 2025–FY 2029 TIP development process, the availability of funding for new projects was restricted to FTA sources. However, for updates to annual operations and maintenance costs, jurisdiction members were asked to use year of expenditure dollars after securing an up-to-date cost estimate in 2023. The table below provides the adjustment factor that was recommended to inflate current estimates to the program year.

Table 3-1: Inflation Adjustment Factors

Calendar Year	Calendar Year Inflation Rate	Fiscal Year Inflation Rate	Multiplier
2023	4.80%	6.40%	1.064
2024	3.00%	3.90%	1.039
2025	2.20%	2.60%	1.026
2026	2.10%	2.15%	1.0215
2027	2.10%	2.10%	1.021
2028	2.30%	2.20%	1.022
2029	2.30%	2.30%	1.023

Source: Budget and Economic Outlook: 2023 to 2033. Table B-1 CBOs Economic Projections by Calendar Year, Consumer Price Index. Congressional Budget Office, Bureau of Economic Analysis; Bureau of Labor Statistics, Federal Reserve. Feb. 2023. https://www.cbo.gov/publication/58946

Notice of Funding Availability

The Notice of Funding Availability (NOFA) is a document that defines the parameters within which the draft TIP will be crafted. It highlights regional policies and priorities that will be relevant to the project selection process. Finally, it outlines the process by which jurisdictional representatives can apply for funding, if available. Depending on available resources, policy direction and other factors, projects in the NOFA may include roadway improvements, bridge improvements, transit improvements, transportation planning studies, bicycle and pedestrian improvements, and airport improvements. In some years, the NOFA may strictly limit what funding is available for new programming.

Performance Reports and Project Prioritization

During TIP development cycles where funding is available for new infrastructure projects, such as roadways, jurisdictional requests for funding are made through a web portal. Conducive for projects that can be mapped in a GIS platform, the portal provides applicants with data on system performance in the proposed project area. When requests are received, PAG staff generate a performance report for the project. These reports are included with the project applications that are reviewed by the TPC. For the FY 2025–FY 2029 TIP development process, these steps were not used since no funding was available for these types of projects. However, a performance report was still generated.

Although performance reports are generated for RTA projects, projects that are specifically identified in the voter-approved RTA plan are not subjected to this prioritization criteria during the TIP process. The RTA funding source is fixed by the voter-approved RTA plan and cannot be overridden by the TIP development process.

A number of subcommittees may be involved in the selection of projects for inclusion in the TIP, such as the TIP Subcommittee and the Transit Working Group. For the FY 2025–FY 2029 TIP development process, the Transit Working Group was tasked with providing a recommended list of transit projects based on the NOFA and for reviewing the updated RTA transit financial plan. For the former, the process involved using an application form combined with working group evaluation and discussion to achieve financial constraint for the recommended project list.

For geographic display of project IDs on a map, please see Appendix 1. Additional color visibility enhancements are available upon request. PAG develops Transportation Analysis Zone (TAZ) level analysis for Title VI in the "Tucson Urbanized Area". Some portions of TAZs can include non-populated public lands.

Justice40

Section 223 of the Presidential Executive Order 14008 established the Justice40 Initiative, which directs 40% of the overall benefits of certain federal investments to flow to disadvantaged communities. These federal investments specifically include clean energy and energy efficiency; clean transit; affordable and sustainable housing; training and workforce development; the remediation and reduction of legacy pollution; and the development of clean water infrastructure. The U.S. Department of Transportation Justice40 website includes a comprehensive list of "covered programs" for FHWA, FTA, and programs administered by the Office of the Secretary. In terms of projects that appear in the TIP, PAG administers the Transportation Alternatives Program, locally known as the Regional Transportation Alternatives Grant (RTAG). Other jurisdictions and agencies such as Sun Tran may receive funding for several of the other covered programs and should work to ensure compliance with the Justice40 requirements.

The priority of this TIP, in line with Regional Council policy, is completion of the remaining named roadway projects found in the roadway element of the 2006 voter-approved RTA plan. Both the Regional Council policy and RTA plan were established before Justice40. Although most of the funding used for these roadway projects are not covered under Justice40, some projects may be if a competitive federal grant, such as the RAISE Grant, was awarded. The competitive nature of these programs requires the applicant jurisdiction to demonstrate that such grant funding would comply with Justice40 goals.

Title VI and Environmental Justice

PAG is committed to planning, developing and implementing programs in compliance with Environmental Justice regulations and Title VI of the Civil Rights Act of 1964. Title VI states that "no person in the United States shall, on the grounds of race, color, or national origin be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity." PAG addresses Title VI requirements both quantitatively and qualitatively with extensive public involvement and data analysis techniques. Federal regulations define specific groups as "protected populations." In the PAG planning area, the following groups are considered protected populations: African American, Asian, Hispanic, Native American, Pacific Islander, disabled, elderly and low income. To view PAG's complete Title VI Implementation Plan and related policies, please visit the Get Involved section of the PAG website at PAGregion.com.

Outreach

PAG's Public Involvement Policy is designed to inform and solicit input from the region's "protected populations" and engage them in meaningful participation in the transportation planning process.

PAG typically conducts three open houses for public comment on the TIP, including a virtual participation option. They are generally held on different days, at different times. At the open houses, a Spanish translator will be available, and upon request, Spanish translations of the TIP materials are made available.

Analysis Overview

The TIP analysis is part of a tiered approach that the region employs for Title VI and Environmental Justice compliance. On the broadest level, projects are drawn from the RMAP for which an overall analysis is conducted. The RMAP analysis assesses the impact of all projects proposed in the region over the next 25-30 years. On the next level, another regional analysis is performed on the five years of projects included in the TIP. In addition, a more focused assessment is done during project development. Each project sponsor is responsible for Environmental Justice and Title VI compliance as part of the planning and construction of its individual projects.

Specific projects are expected to have appropriate public involvement and mitigation techniques applied during their design and development process. For example, a variety of state and federal rules and regulations govern "just" compensation and relocation assistance for properties that qualify due to the impacts of individual projects. These requirements are administered by the sponsoring agency at an appropriate time during project development and right-of-way acquisition.

Each of the projects contained in the TIP must be consistent with PAG's long-range transportation plan, the RMAP. The RMAP has been analyzed and developed to provide an appropriately balanced program of transportation improvements with significant investment in transit, bicycle and pedestrian projects that benefit low-income individuals, and others who may not own or operate a motor vehicle. Projects within the roadway component of the RMAP are distributed throughout the region to not place disproportionate impacts on any one area or population group.

Methodology

PAG has developed maps showing the concentration distribution of "protected" classes (as defined by federal regulation) within the region. These maps, along with official population statistics, current estimates and projections, and other household data in the PAG planning area, assist in analyzing the potential impacts of the TIP on these groups.

For TIP analysis, a "concentration" of a protected group has been defined as those geographic areas where the percentage of a protected population within the area exceeds the average percentage of that same population living within the County as a whole. For example, if the county average for a protected population is 5%, an area with a population greater than 5% would be considered to have a concentration of that protected population. For this analysis, Transportation Analysis Zones (TAZs) were used as the geographic area to identify concentrations of the protected groups.

The method used for this analysis was a computer model computation for the average travel time in the region with and without the TIP projects identified for construction. Additional computer runs were performed for each protected class by areas of geographic concentration (Table 3.2) and at the regional

level. An analysis of the model results was then compared to average travel times for the protected populations.

The maps included at the end of this chapter are provided as a graphic representation of the location of the projects in comparison to the location of various concentrations of protected populations.

Because the impacts of projects are very subjective, the analysis assumes projects are equal in their benefits and burdens. The goal of this analysis is to attempt to determine if comparable numbers of people are being impacted by the project in the protected population as are being impacted in the general population. Regional transportation planning efforts strive to provide a balance of projects so that all groups are affected at approximately the same ratio.

It should be noted that several programs in the TIP do not lend themselves to being mapped, such as Sun Rideshare, the purchase of transit vehicles, etc. These, therefore, are not included in this analysis. For the most part, these activities are targeted toward one or more of the protected classes or they are distributed uniformly throughout the region. It is assumed then that these activities are either neutral or would improve the observed benefits of the program for each of the protected populations.

Analysis

The following tables provide the average travel time for the whole region (labeled "all") and for areas of the region with concentrations of each protected population. Table 3.2 provides a comparison between the current transportation system and the transportation system as it will exist when all the projects in the TIP have been implemented. Table 3.3 models the transportation system as it would perform at the end of the TIP period if no projects were built and compares that performance with how the system will perform if all the projects in the TIP are implemented.

Please note that some individuals may belong to more than one protected population. For example, someone could belong to a protected ethnic population and be elderly, disabled and/or low income as well.

Table 3.2: Title VI Analysis - Modeling Results for Concentrations of Protected Populations: 2024 vs 2029 (with TIP projects built)

Group	Travel Period	Average Travel Time 2024 (Minutes/ Vehicle)	Average Travel Time 2029 with projects (Minutes/ Vehicle)	Comparison between years (Minutes/Vehicle) Negative numbers indicate travel time savings
All	Peak	15.3	15.4	0.1
	Off-Peak	13.1	13.0	-0.1
African American	Peak	13.5	13.5	0.0
	Off-Peak	11.4	11.4	0.0
Asian	Peak	13.9	13.9	0.0
	Off-Peak	11.7	11.7	0.0
Disabled	Peak	15.0	15.0	0.0
	Off-Peak	12.7	12.7	0.0
Elderly (+65)	Peak	16.9	16.9	0.0
	Off-Peak	14.5	14.4	-0.1
Hispanic	Peak	14.0	14.2	0.2
	Off-Peak	12.0	12.0	0.0
Low Income	Peak	12.1	12.2	0.1
	Off-Peak	10.3	10.3	0.0
Native American	Peak	14.3	14.6	0.3
	Off-Peak	12.3	12.4	0.1
Pacific Islander	Peak	12.7	12.8	0.1
	Off-Peak	11.0	11.0	0.0

Table 3.3: Title VI Analysis - Modeling Results for Concentrations of Protected Populations: 2029 with no projects vs 2029 with TIP projects built

Group	Travel Period	Average Travel Time 2029 No Build (Minutes/ Vehicle)	Average Travel Time 2029 with projects (Minutes/ Vehicle)	Comparison with and without TIP projects (Minutes/Vehicle) Negative numbers indicate travel time savings with projects
All	Peak	15.5	15.4	-0.1
	Off-Peak	13.1	13.0	-0.1
African American	Peak	13.6	13.5	-0.1
	Off-Peak	11.4	11.4	0.0
Asian	Peak	14.1	13.9	-0.2
	Off-Peak	11.7	11.7	0.0
Disabled	Peak	15.1	15.0	-0.1
	Off-Peak	12.8	12.7	-0.1
Elderly (+65)	Peak	17.0	16.9	-0.1
	Off-Peak	14.5	14.4	-0.1
Hispanic	Peak	14.3	14.2	-0.1
	Off-Peak	12.1	12.0	-0.1
Low Income	Peak	12.3	12.2	-0.1
	Off-Peak	10.4	10.3	-0.1
Native American	Peak	14.6	14.6	0.0
	Off-Peak	12.4	12.4	0.0
Pacific Islander	Peak	12.9	12.8	-0.1
	Off-Peak	11.0	11.0	0.0

Conclusion

The analyses show that, when compared to a baseline travel time of all residents in the urban portion of the county (labeled as "all"), the protected populations are expected to experience similar travel time impacts.

In the first analysis, the region does not experience increased travel times. However, Asian, Disabled, Hispanic, Low Income, and Native American groups all see minor (0.1, 0.2 minute) increases in the peak periods.

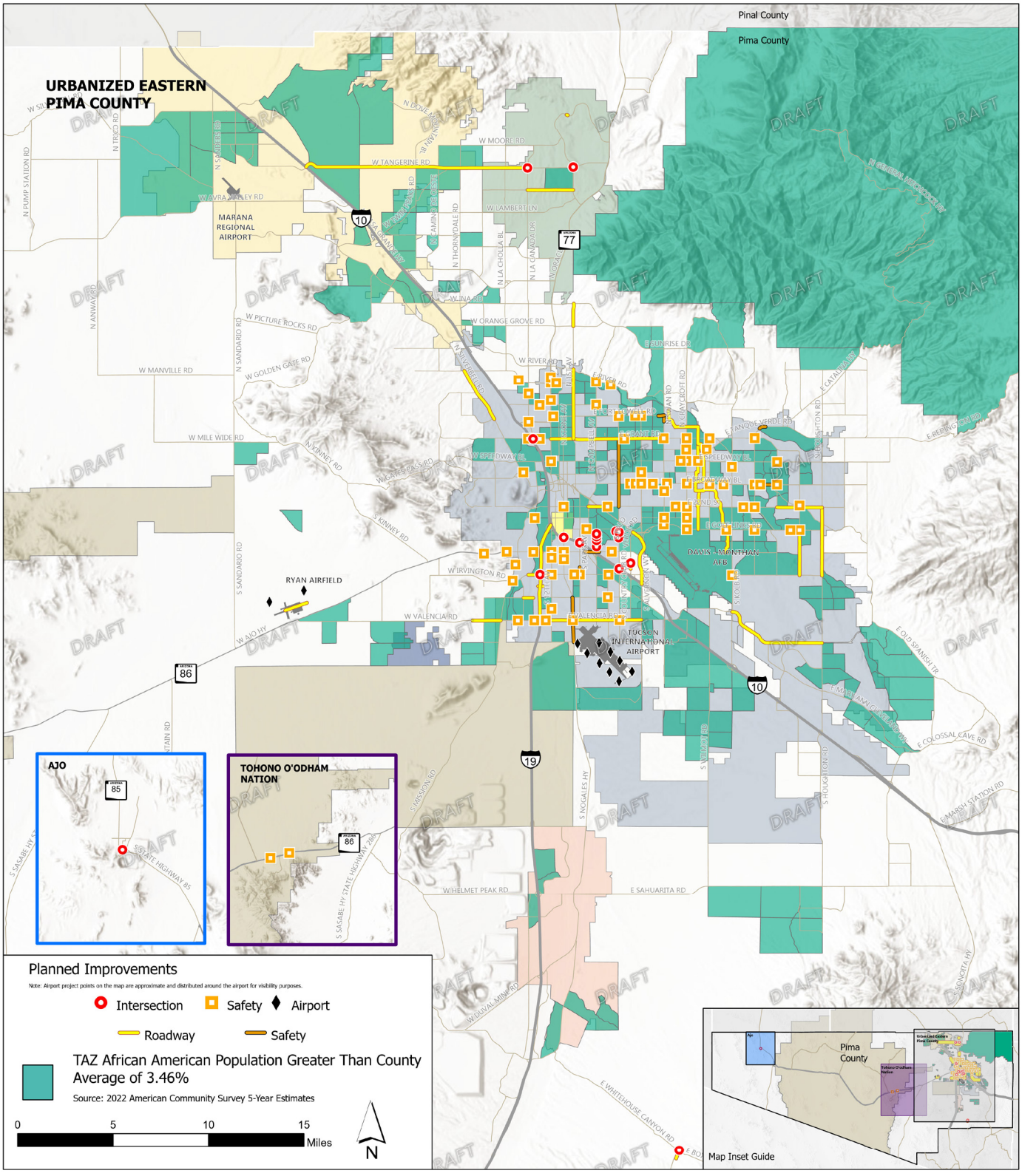
In the second analysis, the region experiences a reduction in travel times by one-tenth of a minute in the peak, and no change in off-peak. No protected population will experience an increase in travel times.

These analyses do not indicate any disparate impact of transportation planning decisions in the PAG planning area on travel time. In general, the benefits of transportation investments are spread evenly and equitably throughout the region.

Title VI Maps

The maps provided at the end of this chapter are provided as a graphic representation of the location of the projects in comparison to the location of various concentrations of protected populations.

Title VI Analysis
African American Population

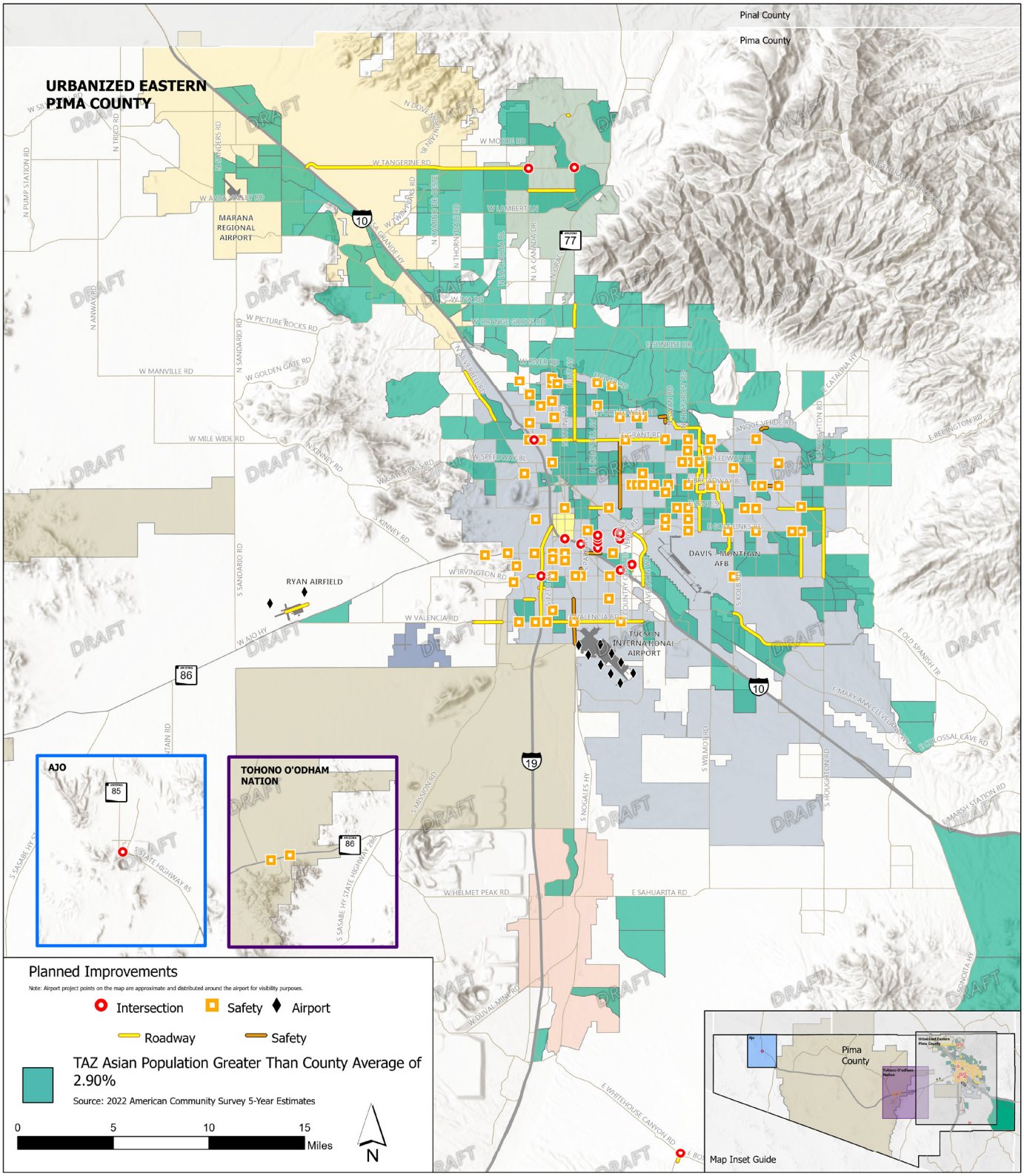


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

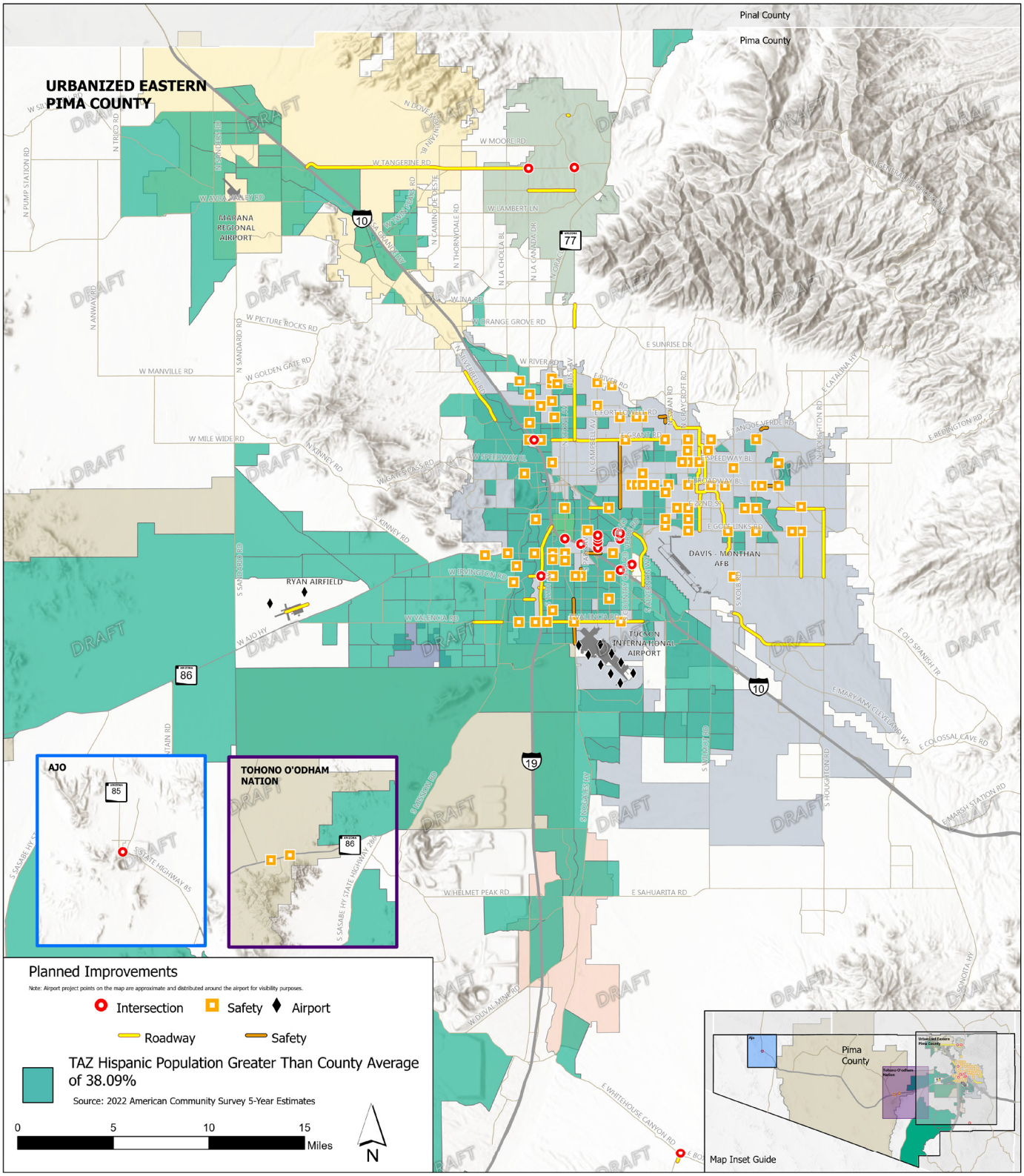
Title VI Analysis
Asian Population



PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

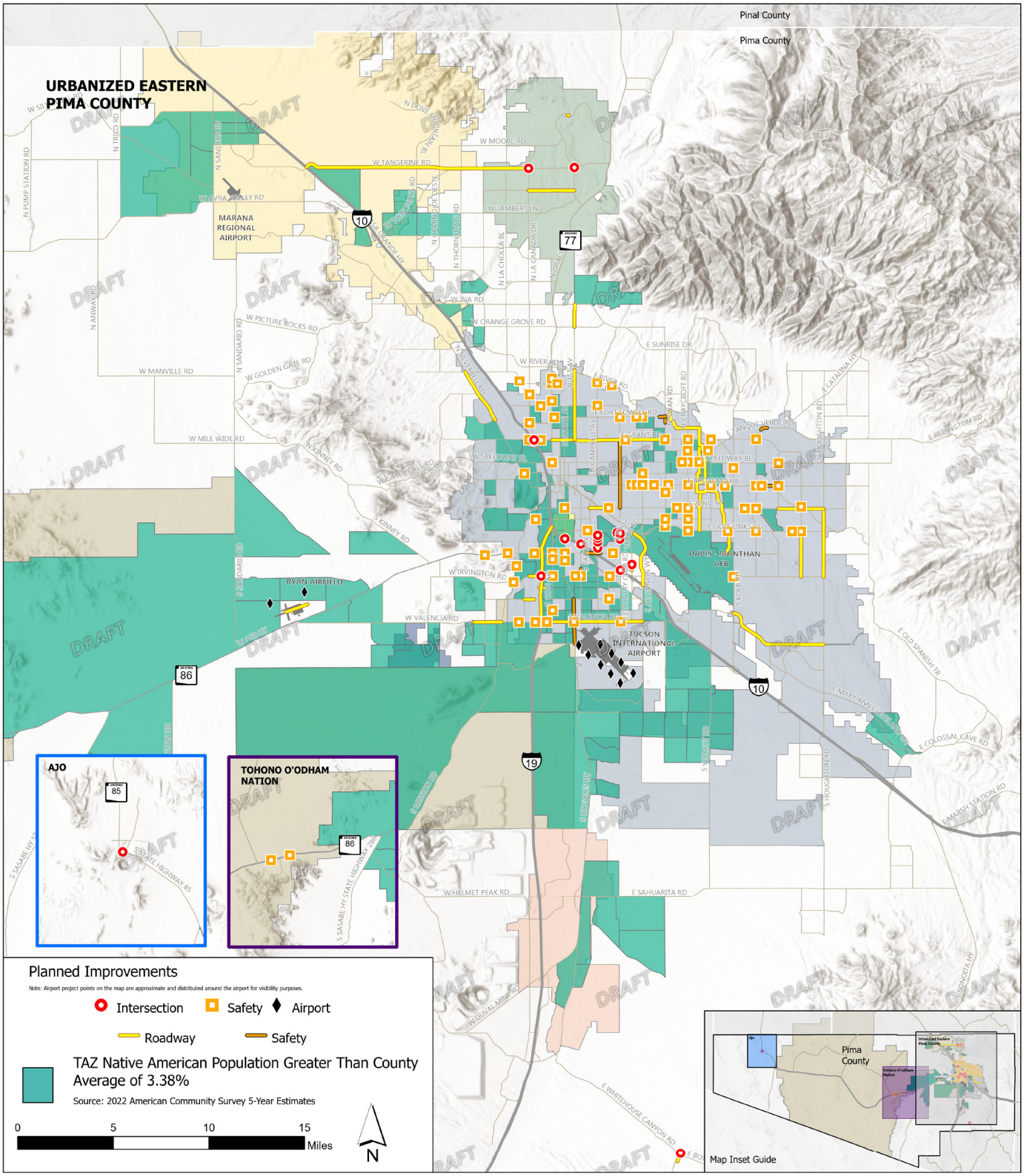
Title VI Analysis
Hispanic Population



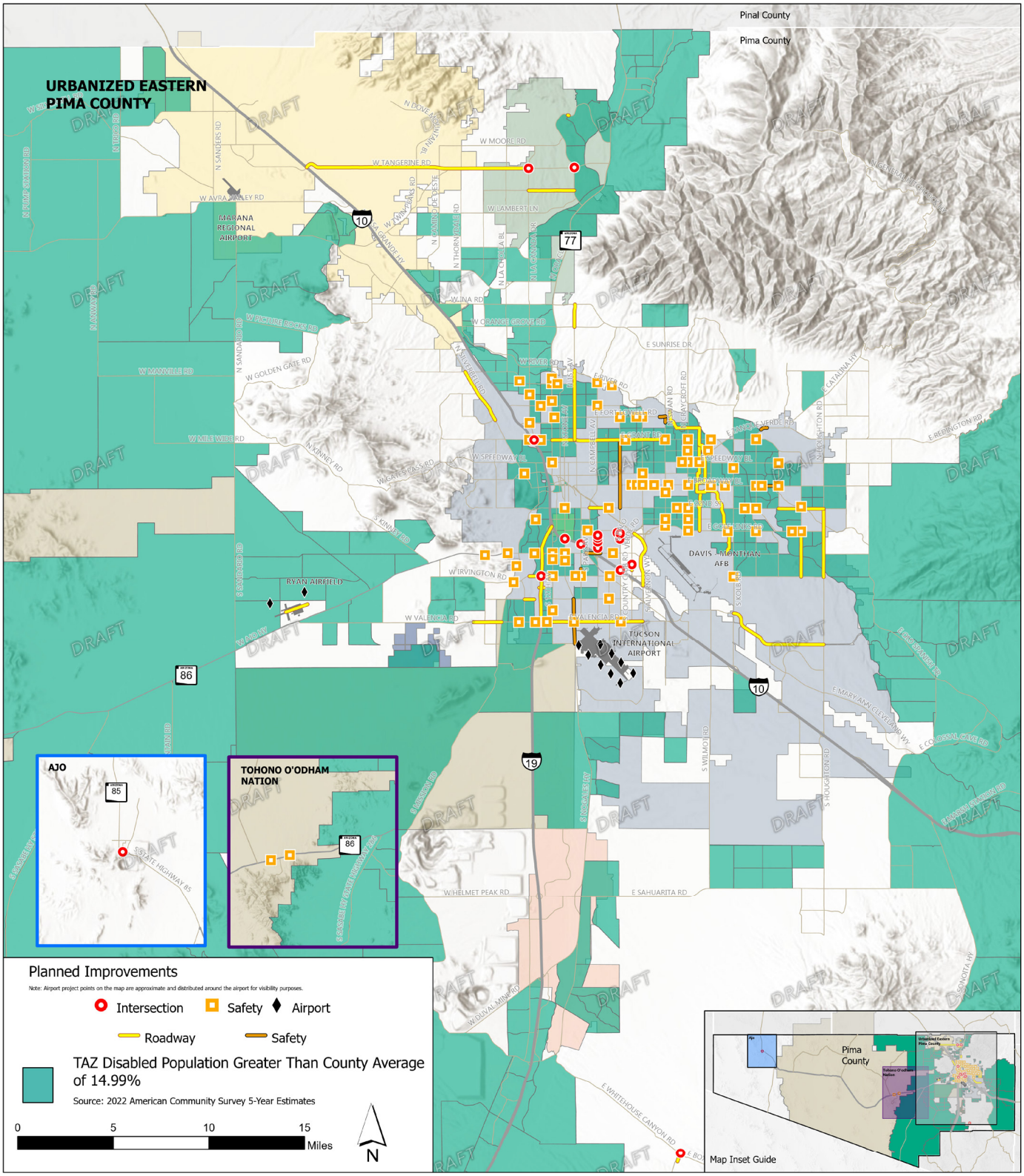
Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.


Pinal County
Pima County
URBANIZED EASTERN PIMA COUNTY
MARANA REGIONAL AIRPORT
RYAN AIRFIELD
DAVIS - MONTHAN AFB
TUCSON INTERNATIONAL AIRPORT
AJO
TOHONO O'ODHAM NATION
Planned Improvements
Note: Airport project points on the map are approximate and distributed around the airport for visibility purposes.
Intersection
Safety
Airport
Roadway
Safety
TAZ Native American Population Greater Than County Average of 3.38%
Source: 2022 American Community Survey 5-Year Estimates
0
5
10
15
Miles
N
Pima County
Map Inset Guide

Title VI Analysis
Disabled Population

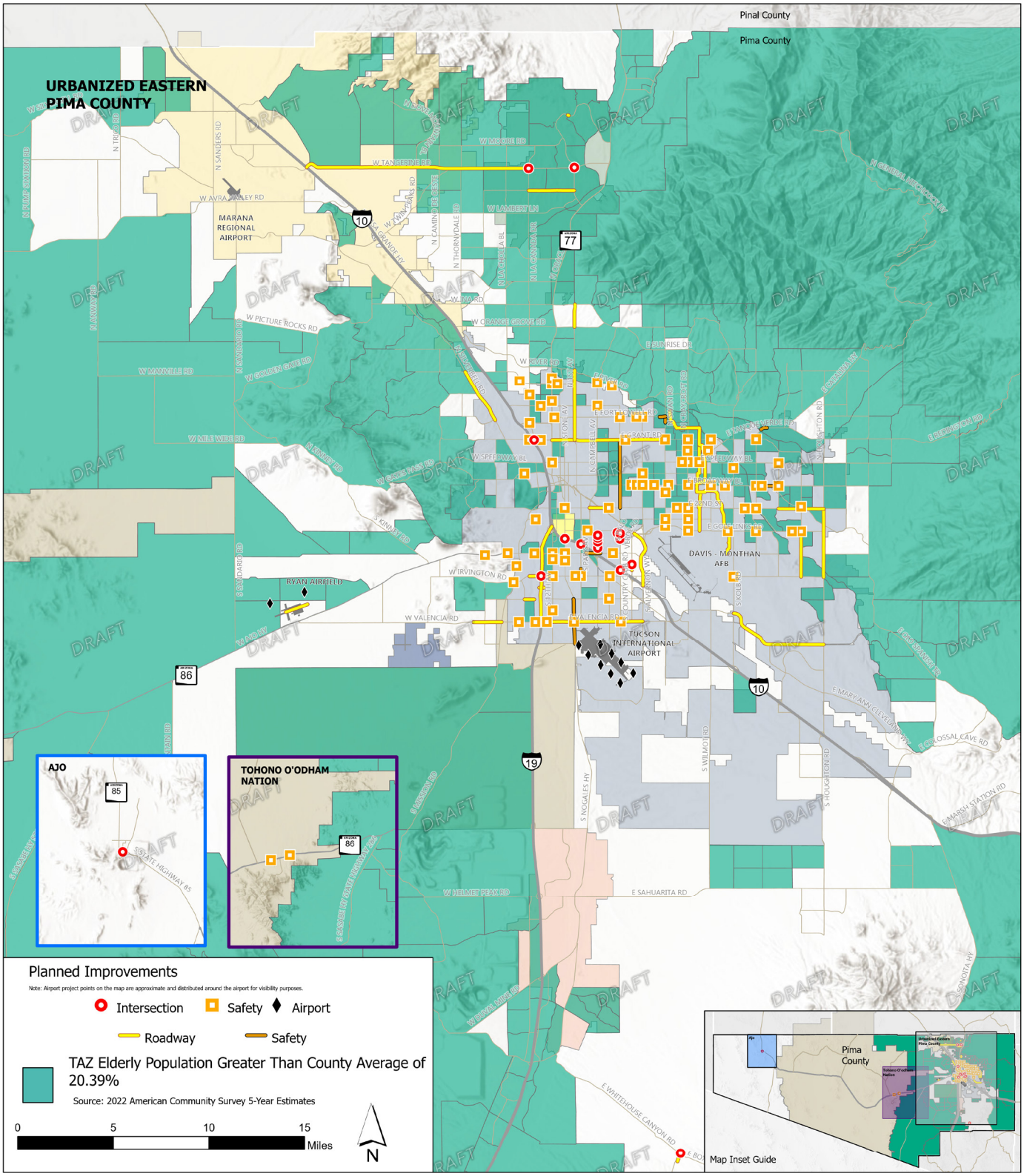


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

Title VI Analysis
Elderly Population



Transportation Improvement Program | FY 2025 - FY 2029

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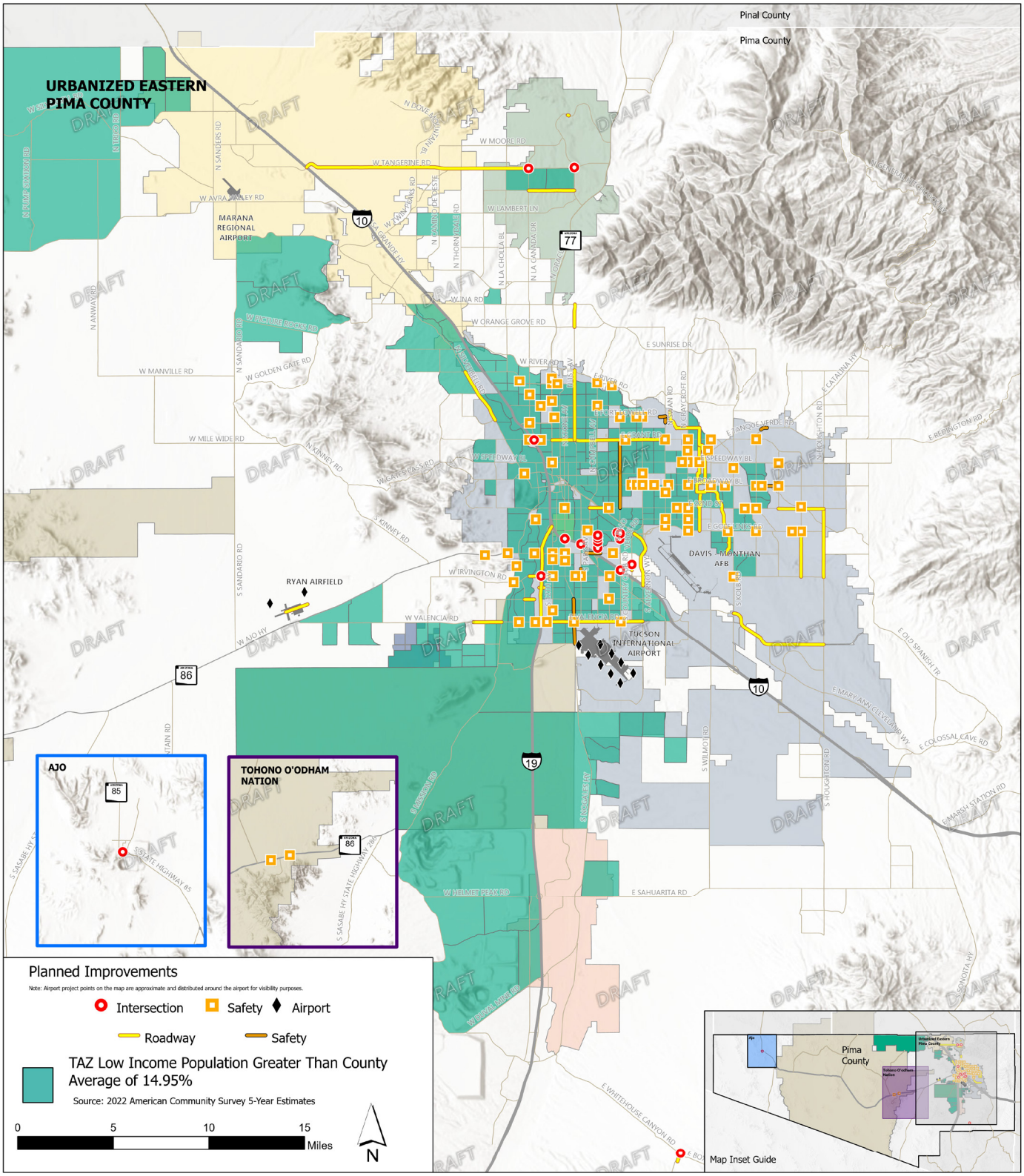
GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.


Pinal County
Pima County
URBANIZED EASTERN PIMA COUNTY
MARANA REGIONAL AIRPORT
RYAN AIRFIELD
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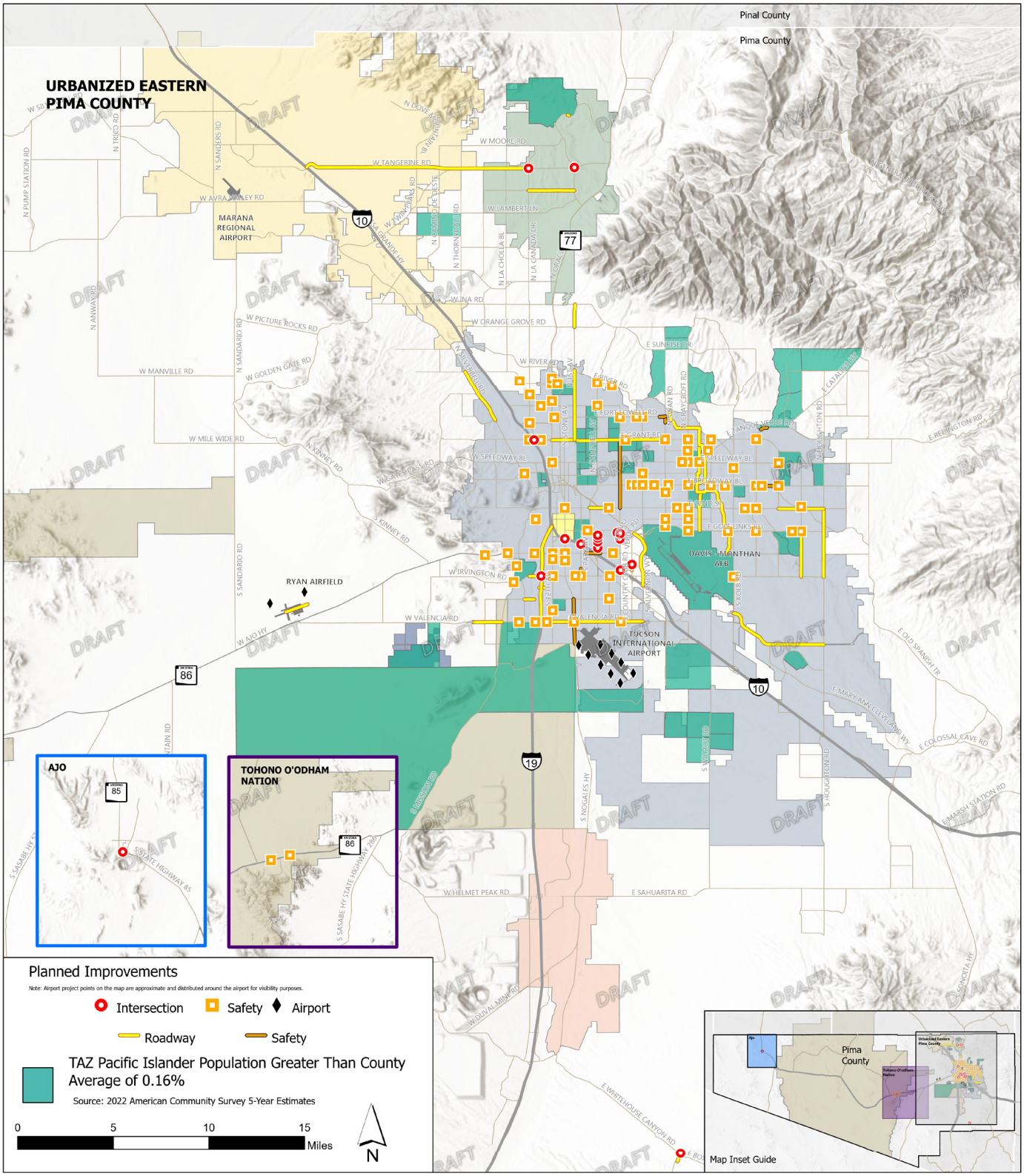
TUCSON INTERNATIONAL AIRPORT
AJO
TOHONO O'ODHAM NATION
Planned Improvements
Note: Airport project points on the map are approximate and distributed around the airport for visibility purposes.
Intersection
Safety
Airport
Roadway
Safety
TAZ Low Income Population Greater Than County Average of 14.95%
Source: 2022 American Community Survey 5-Year Estimates
0
5
10
15
Miles
N
Pima County
Map Inset Guide

Title VI Analysis
Pacific Islander Population



Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

CHAPTER 4

REGIONAL TRAFFIC SIGNALS, CONGESTION MANAGEMENT PROCESS AND PERFORMANCE MEASURES

REGIONAL TRAFFIC SIGNAL SYSTEMS

One of the most important elements in a highly effective and efficient transportation system is the overall performance of the traffic signal operations. Continuous improvement to equipment and performance of traffic signals improves the ability of the transportation network to move traffic safely and efficiently throughout the region. Additionally, improved signal operations can be completed for lower costs and in shorter time frames than most other capital-intensive transportation improvement options.

All PAG member agencies collaborate to provide coordinated traffic signal operations across jurisdictional boundaries. Operating the traffic signals in a connected and integrated manner allows the various forms of traffic data to be shared throughout the region. Insights from the regional traffic signal program are being used to help identify areas/locations where excessive traffic congestion is taking place. Information from the program can then be used in the identification of potential improvements, and the subsequent identification of specific projects that can be pursued for potential funding opportunities.

This high level of coordination and connectivity greatly improves the overall traffic flow and provides numerous benefits such as reduced delay and congestion for the public, reduced fuel consumption and emissions, improved safety for drivers, pedestrians and cyclists, reduced costs for jurisdictions and the public through grouped procurement opportunities, shared resources and training opportunities, and "seamless" traffic signal operations throughout the region.

THE PAG CONGESTION MANAGEMENT PROCESS (CMP)

CONGESTION MANAGEMENT PROCESS

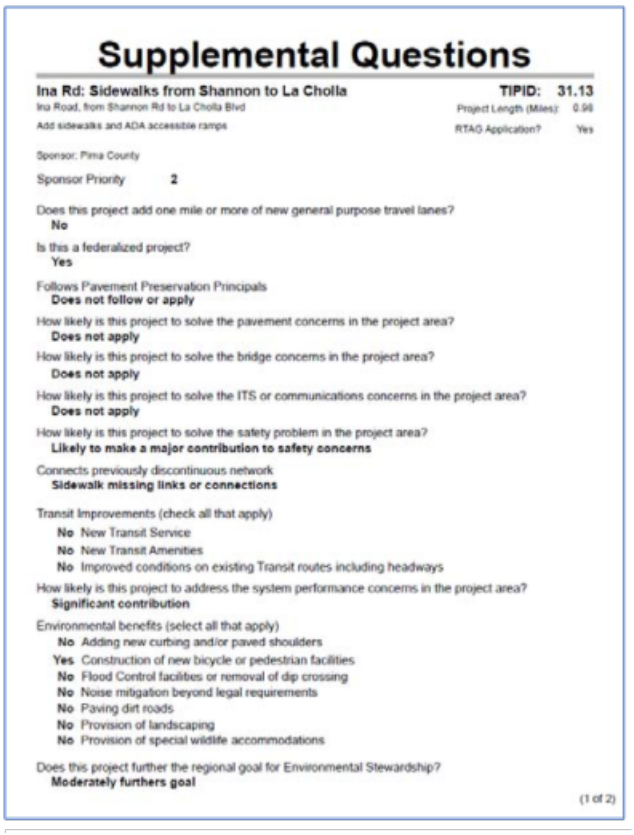
PAG's federally mandated Congestion Management Process (CMP) serves as an effective tool to address traffic congestion throughout the region. It enables PAG and its partners to define, identify and measure congestion while providing data for developing and selecting the appropriate strategies to reduce congestion.

PAG maintains a regional traveler information service called TransView, a web-based platform that broadcasts to the public real-time traffic incidents and construction projects.

Recurring congestion is measured and evaluated by PAG using models to estimate peak-hour traffic volumes at signalized intersections on the arterial network. Models are also used to estimate potential impacts of RMAP and TIP projects by comparing future estimates to current congestion levels. High resolution data is provided by state partners at ADOT to refine PAG's forecasting models and to calculate performance measures for congestion, system performance and air quality.

To estimate the impacts of transportation investments, the CMP procedure requires that capacity-increasing projects (projects adding at least one travel lane for a mile or more) provide additional information as part of the TIP project application. Project sponsors are asked to give responses to supplemental questions (See Figure 4-1), and the information provided is factored into the model to calculate impacts on congestion.

Figure 4-1: CMP supplemental questions for projects adding capacity



Supplemental Questions

Ina Rd: Sidewalks from Shannon to La Cholla — TIPID: 31.13
Ina Road, from Shannon Rd to La Cholla Blvd — Project Length (Miles): 0.98
Add sidewalks and ADA accessible ramps — RTAG Application? Yes

Sponsor: Pima County

Sponsor Priority 2

Does this project add one mile or more of new general purpose travel lanes?
No

Is this a federalized project?
Yes

Follows Pavement Preservation Principals
Does not follow or apply

How likely is this project to solve the pavement concerns in the project area?
Does not apply

How likely is this project to solve the bridge concerns in the project area?
Does not apply

How likely is this project to solve the ITS or communications concerns in the project area?
Does not apply

How likely is this project to solve the safety problem in the project area?
Likely to make a major contribution to safety concerns

Connects previously discontinuous network
Sidewalk missing links or connections

Transit Improvements (check all that apply)
No New Transit Service
No New Transit Amenities
No Improved conditions on existing Transit routes including headways

How likely is this project to address the system performance concerns in the project area?
Significant contribution

Environmental benefits (select all that apply)
No Adding new curbing and/or paved shoulders
Yes Construction of new bicycle or pedestrian facilities
No Flood Control facilities or removal of dip crossing
No Noise mitigation beyond legal requirements
No Paving dirt roads
No Provision of landscaping
No Provision of special wildlife accommodations

Does this project further the regional goal for Environmental Stewardship?
Moderately furthers goal

(1 of 2)

In recognition of the federal requirements for the CMP, particularly as they relate to Transportation Management Areas that are in nonattainment for either carbon monoxide or ozone, a procedure has been developed to link the TIP project development process to the CMP. In that the PAG planning area is not currently classified as nonattainment for carbon monoxide and ozone, PAG is taking a proactive approach to ensuring that all "significant" single-occupant vehicle (SOV) capacity projects are developed as part of a CMP. The procedure, as described below, was developed in close cooperation with the PAG TIP Subcommittee.

The CMP procedure requires that new "significant" capacity-increasing projects, adding at least one travel lane for a mile or more, provide CMP-related information as part of the TIP project application. Local jurisdictional project sponsors fill out a one-page CMP strategies toolbox worksheet to identify those CMP-related strategies that will be delivered as part of the project. Project applications that do not meet this capacity threshold are highly encouraged to review and incorporate CMP strategies that are appropriate for the project.

The procedure developed to review all "significant" SOV projects is designed to help:

- ensure that significant SOV projects consider and, when applicable, include congestion management strategies as part of the project development process
- document the congestion management strategies to be included with the significant SOV project

The PAG Congestion Management Strategies Toolbox Worksheet is a checklist of congestion management strategies that are considered appropriate and applicable to the region. This checklist is designed to easily facilitate the documentation of strategies to be included with a significant SOV project, but it is not necessarily all inclusive of the strategies that may be used. Local agencies have flexibility and latitude to include any additional congestion management strategies into their project, and this is encouraged by PAG. Agencies are encouraged to consider congestion management strategies as part of non-capacity increasing projects.

PERFORMANCE MEASURES

The RMAP provides the performance measurement framework for the pursuit of regional goals adopted for the region by the public in 2016. Modeled after national goal areas, the framework includes seven performance goal categories:

- System maintenance
- Transportation safety
- Multimodal choices
- System performance
- Land use and transportation
- Environmental stewardship
- Freight and economic growth

Within these categories there are forty-seven performance measures tracked by PAG through the RMAP. Thirty-eight of those have performance targets for 2045. See Table 4-1 for a list of PAG performance measures.

To track progress toward achieving the RMAP targets, PAG uses a web-based performance measures dashboard to report and evaluate annual performance measures data. Using charts and graphs, the data allows for comparison of current trends and conditions to the rate of change necessary to be on pace to reach its long-range target. The 2045 RMAP Update was adopted in October 2020 and included the first report for RMAP performance measures. See Appendix 8 for the current report. Development of the 2055 RMAP is underway.

In addition to RMAP performance measures, PAG also tracks federally mandated performance measures. The FHWA and FTA have jointly released final rules on performance management measures in the categories of transportation safety, infrastructure condition and system performance. To meet federal requirements for performance measurement, as ruled in the Fixing America's Surface Transportation Act (FAST Act) and the Infrastructure Investment and Jobs Act (IIJA), PAG works with state partners (ADOT) to establish targets for sixteen performance measures in three categories of transportation safety, infrastructure condition and system performance. The FAST Act performance measures program is separate from the RMAP performance measures. The associated performance

targets are statewide measures and are used by the FHWA to track performance for national performance goals. See Appendix 8 for the full report on FAST Act measures.

PERFORMANCE-BASED PROGRAMMING

PAG's project portal was developed to inform the project selection process by providing a tool to evaluate the performance conditions of proposed projects. The portal is a web-based map viewer that displays regional data in a manner consistent with the RMAP performance measurement framework. Project sponsors can visually perform a network screening with the project portal tool and see the existing performance of their facilities. Sponsors also can delineate a proposed project extent with the tool to see the impacts of a single project. Delineating the project extent generates a performance report and prompts the sponsor with a series of questions to clarify which performance areas are anticipated to be affected by the proposed project.

Once projects are added to the portal, PAG uses the data collected to estimate the performance impacts of those proposed projects. Current and future performance measures data are produced by models, providing the necessary information to measure project impacts and to compare build versus no-build scenarios.

The project portal and its features produce a variety of performance reports to evaluate individual projects and project packages. The reports are consistent with the RMAP performance measures framework. In terms of the TIP, sponsors receive reports on their proposed projects to assist in project prioritization and selection. Other reports provide PAG with the information needed to analyze the impacts of all proposed projects on current network conditions.

Table 4-1 PAG Performance Measures

	Performance Measure	Goal Area	RMAP	FAST Act (Also carried over to the IIJA)
1	Average transit speed	Multimodal choices	X	
2	Average transit travel time	Multimodal choices	X	
3	Bicycle accessibility miles	Multimodal choices	X	
4	Bicycle accessibility ratio	Multimodal choices	X	
5	CMAQ emissions reductions	Environmental Stewardship		X
6	Commute miles by active modes	Multimodal choices	X	
7	Commute time by mode	System performance	X	
8	Condition of bridges (all)	System maintenance	X	
9	Condition of federal-aid pavement	System maintenance	X	
10	Condition of interstate pavement	System maintenance		X
11	Condition of NHS bridges	System maintenance		X
12	Condition of NHS pavement	System maintenance		X
13	Condition of transit fleet	System maintenance	X	
14	Daily VMT per capita	System performance	X	
15	Fatalities – bicyclists	Safety	X	
16	Fatalities – pedestrians	Safety	X	
17	Fatality rate – bicyclists	Safety	X	
18	Fatality rate – pedestrians	Safety	X	
19	Freight reliability on the interstate	Freight and economic growth		X
20	Hours of vehicle travel per capita	System performance	X	
21	Job accessibility by auto	Land use and transportation	X	
22	Job accessibility by transit	Land use and transportation	X	
23	Job accessibility index	Land use and transportation	X	
24	Jobs near transit stops	Land use and transportation	X	
25	Mode choice – all trips	Multimodal choices	X	
26	Mode choice – work commutes	Multimodal choices	X	
27	On-road greenhouse gas emissions	Environmental stewardship	X	
28	Pedestrian accessibility miles	Multimodal choices	X	
29	Pedestrian accessibility ratio	Multimodal choices	X	
30	Percent of VMT in severe congestion	System performance	X	
31	Planning time index	System performance	X	
32	Population near transit stops	Land use and transportation	X	
33	Serious injuries – bicyclists	Safety	X	
34	Serious injuries – pedestrians	Safety	X	
35	Serious injury rate – bicyclists	Safety	X	
36	Serious injury rate – pedestrians	Safety	X	
37	Total fatalities	Safety	X	X
38	Total fatality rate	Safety	X	X
39	Total freight delay	Freight and economic growth	X	
40	Total freight share	Freight and economic growth	X	
41	Total freight tonnage	Freight and economic growth	X	

	Performance Measure	Goal Area	RMAP	FAST Act (Also carried over to the IIJA)
42	Total serious injuries	Safety	X	X
43	Total serious injury rate	Safety	X	X
44	Total transit trips	Multimodal choices	X	
45	Transit crash rate	Safety	X	
46	Transit to auto differential travel times	Multimodal choices	X	
47	Travel time index	System performance	X	
48	Travel time reliability on interstate	System performance		X
49	Travel time reliability on NHS	System performance		X
50	Vulnerable user serious injury and fatality rate	Safety		X
51	Weekday metric tons of CO emissions	Environmental stewardship	X	
52	Weekday metric tons of NOx emissions	Environmental stewardship	X	
53	Weekday metric tons of PM 10 emissions	Environmental stewardship	X	
54	Weekday metric tons of PM 2.5 emissions	Environmental stewardship	X	
55	Weekday metric tons of VOC emissions	Environmental stewardship	X	
56	Peak Hour Excessive Delay (PHED)	System Performance		X
57	Non-Single Occupancy Vehicles (SOV)	System Performance		X
58	Greenhouse Gas (GHG) Emissions Reduction	Environmental stewardship		X

CHAPTER 5

FINANCIAL PLAN

As mentioned in the previous chapters, PAG is required by federal regulation (i.e., 23 § 450.326) to include a financial plan in the TIP document that demonstrates how the projects listed can be implemented using current revenue sources. The TIP must be fiscally constrained, which means that the region can only list projects in the first two years of the TIP document for which funding is reasonably expected to be available. This constraint is determined by adding up total costs by fund type each year and comparing those costs to the estimate of anticipated revenues by fund type each year. Fiscal constraint is met for each of the first four years of the plan by fund type.

What projects/programs does the region want to do and how much do they cost? Appendix 1 of this document provides a fiscally constrained listing of the projects for which funding is deemed to be available. The projects listed in the first two years of the TIP will have funding available to complete that distinct phase of the project. A "phase" of a project can be further defined as:

- Design, denoted with a "D" in the TIP document, indicates that the sponsoring jurisdiction is using the funding listed to develop the plans necessary to complete the project.
- Right-of-Way Acquisition, denoted with an "R" in the TIP document, indicates that the sponsoring jurisdiction is using the funding listed to acquire property on which to construct the project.
- Construction, denoted with a "C" in the TIP document, indicates that the sponsoring jurisdiction is using the funding listed to construct the project.

Project phases not fully funded could appear in years three (3) through five (5) of the TIP. In addition to the notations above for specific project phases, the TIP document identifies funding programmed for the repayment of loans and operations of programs and systems such as transit.

- Repayment of loans, denoted with a "PMT" in the TIP document, indicates that the sponsoring jurisdiction is repaying loans necessary to have completed the project.
- Operations, denoted with an "O" in the TIP document, indicate that the sponsoring jurisdiction is using the funding identified to operate the program or service listed in the TIP document.

How much funding do we expect to have? Appendix 2 of the TIP document provides information on historical revenues for both state and federal sources, with the last matrix of that appendix providing a constraint analysis by year, for each fund source. Estimates of funding availability are based upon past funding received by type. PAG has four (4) main types of funding available for programming within the TIP.

- Federal funding – Federal funding available for transportation is set through authorization of federal legislation from Congress. Once a bill has been passed, the federal funding outlined in that bill is used as an estimate for future years of the TIP until a new bill is passed.
- State funding – State-based funding comes from the Arizona Highway User Revenue Fund (HURF). Unlike federal dollars, there is no guaranteed amount of HURF available to the region.

HURF is distributed based on fuel sales, vehicle license taxes (VLT) collected and a few other smaller funding sources. Distribution is based on a formula in the Arizona Revised Statues related to population and county of origin of fuel sales. HURF distributions fluctuate on a monthly basis and are directly tied to the health of the state's economy. Estimates of future HURF revenues are provided by ADOT.

- Regional funding – The RTA taxing district has a half-cent excise tax in place that funds projects outlined in the Regional Transportation Authority (RTA) plan. RTA revenues are based on collections and anticipated bonding schedules. The RTA was passed in 2006 with a 20-year plan.
- Other funding – In addition to the funding available to the region to program, the TIP contains projects/programs that have other identified fund sources. These fund sources include, but are not limited to, jurisdictional, private developer, federal earmarks, and other federal/state competitive funding programs, such as RAISE grants.
- See Appendix 6 for a glossary of terms and funding sources.

Putting it all together for fiscal constraint. Chapter 3 describes the TIP programming process and how projects are identified for regional funding and priorities while ensuring fiscal constraint.

OPERATIONS AND MAINTENANCE COSTS

The region and its jurisdictional partners are aware of the value of maintaining and operating the existing transportation infrastructure in the region. Thus, there has been an increased emphasis placed by some member agencies in recent years on infrastructure maintenance. It is more cost effective to do so than to replace facilities that have failed due to lack of maintenance.

Typical maintenance and operations types of activities include, but are not limited to, adjustments due to inclement weather (closing flooded roads, de-icing bridges and snowplows at higher elevations), clearing sight-distances, traffic signal maintenance, signing and striping, and warrant studies and pavement management, from filling potholes to full pavement overlays.

The chart below provides estimates of operations and maintenance costs for PAG member agencies in current and future fiscal years. Jurisdictions were asked to provide estimates available for their transportation operations and maintenance activities systemwide, so numbers would reflect both local roads as well as roads of regional significance.

Table 5-1: Estimated Operations and Maintenance Costs

Jurisdiction	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
City of South Tucson	$624,609	$638,038	$651,437	$665,768	$681,081
City of Tucson	$70,845,000	$72,236,710	$73,555,700	$73,059,150	$74,421,060
City of Tucson - Transit*+	$89,042,419	$90,956,831	$92,866,924	$94,909,997	$97,092,927
Pascua Yaqui Tribe	$500,000	$500,000	$500,000	$500,000	$500,000
Pima County	$81,818,745	$83,577,848	$85,332,983	$87,210,309	$89,216,146
Tohono O'odham Nation	$500,000	$500,000	$500,000	$500,000	$500,000
Town of Marana+	$4,266,110	$4,357,831	$4,449,346	$4,547,231	$4,651,818
Town of Oro Valley	$4,481,885	$4,578,246	$4,674,389	$4,777,226	$4,887,102
Town of Sahuarita	$2,927,694	$2,990,639	$3,053,442	$3,120,618	$3,192,392

** The City of Tucson runs the Sun Tran transit service, which includes the paratransit service known as Sun Van. Operating numbers shown cover the entire O&M budget for Sun Tran, and other transit services.*

+ Estimated amounts based on applying inflation adjustment factors in table 3.1 to amounts from the previous TIP.

Note that the arterial roadways within the Tohono O'odham Nation are either Bureau of Indian Affairs (BIA) roads, state routes (maintained by ADOT) or county roadways (maintained by Pima County).

CHAPTER 6

AIR QUALITY AND TRANSPORTATION CONFORMITY

REGULATORY REQUIREMENTS

Transportation conformity is required by the Clean Air Act section 176(c) (42 U.S.C. 7506(c)) to ensure that federal funding and approval are given to highway and transit projects that conform to the air quality goals established by a state air quality implementation plan (SIP). Conformity, for the purpose of the SIP, means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). Conformity applies to transportation plans, transportation improvement programs and highway and transit projects funded or approved by the FHWA and FTA in all nonattainment and maintenance areas. It applies to transportation-related criteria pollutants ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), particles with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}) and particles with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers ($PM_{2.5}$) for which the area is designated nonattainment or has a maintenance plan.

The major components of transportation conformity are interagency consultation/public involvement; latest planning assumptions and emissions model; implementation of transportation control measures; regional emissions analysis, and fiscal constraint. Fiscal constraint is addressed in Chapter 5: Financial Plan, and the remaining components are addressed in this chapter.

Within PAG's transportation planning area, the Rillito planning area is designated moderate nonattainment with the NAAQS for PM_{10} and the Ajo planning area is under an approved maintenance plan for PM_{10} (Figures 6-1 and 6-2). The U.S. Environmental Protection Agency (EPA) made an attainment determination for the Rillito moderate PM_{10} nonattainment area, effective October 10, 2006 (71 FR 44920), as no exceedances of the 24-hour primary PM_{10} standard had occurred from 1990-2005. ADEQ submitted the Rillito Moderate PM_{10} Limited Maintenance Plan and Request for Redesignation to Attainment Request to the EPA on June 20, 2008, as a revision to the SIP. Subsequent exceedances of the 24-hour PM_{10} standard in the Rillito area resulted in ADEQ withdrawing the submittal on August 14, 2019. ADEQ submitted a statewide Exceptional Event Mitigation Plan for Phoenix, Rillito, West Pinal and Yuma PM_{10} Nonattainment Areas, dated September 26, 2018. The SIP does not contain an approved motor vehicle emission budget (MVEB) for the Rillito PM_{10} nonattainment area; therefore, the interim emissions test applies per 40 CFR §93.109(c)(3). ADEQ submitted a SIP Development Plan for the Rillito PM_{10} nonattainment area to EPA in March 2023 to revise the SIP and develop an emissions inventory and MVEB. The EPA found that the Ajo PM_{10} Maintenance Plan demonstrated that contributions from motor vehicle emissions to PM_{10} in the Ajo planning area are insignificant (85 FR 47032), so regional emissions analysis for PM_{10} is not required for the Ajo planning area per 40 CFR §93.109(f).

Figure 6-1 Rillito PM_{10} Nonattainment Area

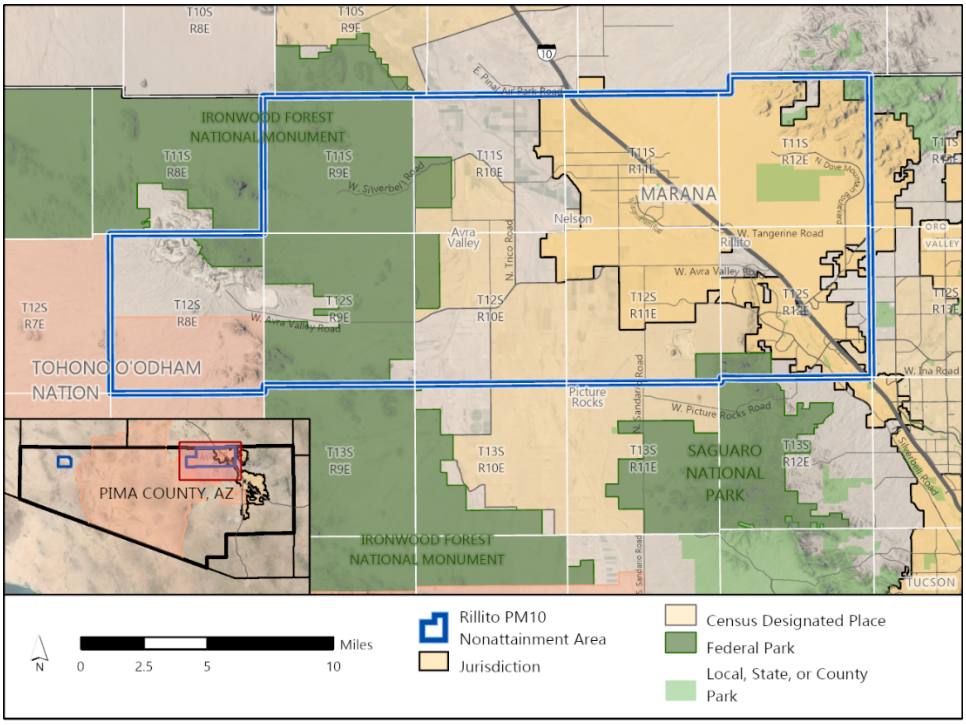
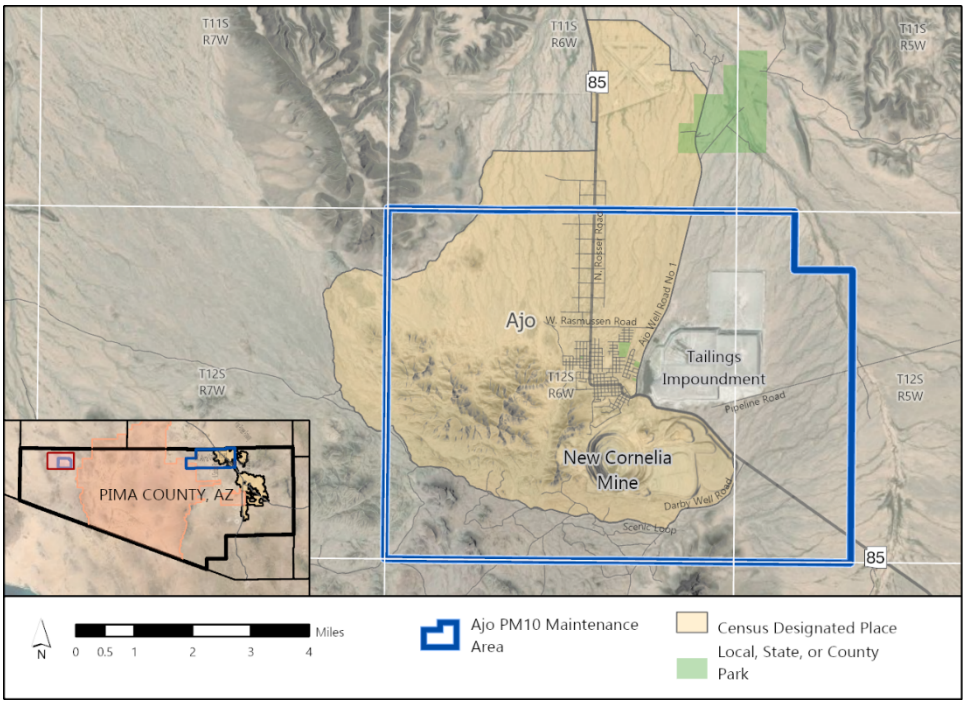


Figure 6-2 Ajo PM_{10} Maintenance Area



The geographic boundary of the Rillito PM_{10} nonattainment area is: T11S, R9E through R12E; and T12S, R8E through R12E. The geographic boundary of the Ajo PM_{10} maintenance area is: T12S, R6W, and the following sections of T12S, R5W: S6–8, 17–20 and 29–32.

The second 10-year CO Limited Maintenance Plan for the Tucson Air Planning Area (TAPA) concluded July 10, 2020, ending 20 years of maintaining attainment of the CO NAAQS. With a maintenance plan no longer in effect, transportation conformity requirements no longer apply to the TAPA per 40 CFR §93.102(b).

INTERAGENCY CONSULTATION/PUBLIC INVOLVEMENT

PAG is the designated air quality planning agency and the metropolitan planning organization (MPO) for the greater Tucson region. As such, PAG maintains cooperative relationships with the U.S. EPA, FHWA, FTA, ADEQ, ADOT and PDEQ. Coordination of regional transportation planning with air quality planning has been conducted for many years. In April 1993, the procedures, methods and responsibilities for air quality planning were incorporated in a Memorandum of Agreement (MOA) between PAG, ADEQ, ADOT and PDEQ. The MOA was last updated in August 2000.

Interagency consultation was conducted during the TIP development process. Proposed transportation conformity processes and a regionally significant project list were shared with agencies on February 9, 2024. The draft conformity analysis of the FY 2025–FY 2029 TIP was shared with agencies on March 27, 2024.

Public open houses were held on March 19, 20, and 21, 2024, with public input solicited for comments on the air quality conformity analysis conducted for the FY 2025–FY 2029 TIP. The March 21st open house was held within the Rillito PM_{10} nonattainment area at the Wheeler Taft Abbett Sr. Library in Marana. The comments received and public involvement process are addressed in Chapter 8: Public Involvement.

EPA provided comments on May 1, 2024, instructing that VMT reductions resulting from existing transportation control measures are to be applied to both the "Baseline" and "Action" scenarios. FHWA provided comments on June 2, 2024, and August 8, 2024, conveying that 2045 RMAP regionally significant projects are to be included in the "Action" scenario and omitted from the "Baseline" scenario. PAG proposed use of the 1990 Baseline PM10 value in the interim emissions test and received approval from FHWA/FTA and EPA. The 1990 value was derived from ADEQ's 1994 Rillito SIP submittal using updated calculations from AP-42 13.2.1 *Paved Roads* for the emissions inventory of onroad mobile sources.

An additional public comment period was provided for review of the air quality conformity sections of the final TIP for revisions incorporated following EPA and FHWA comments.

LATEST PLANNING ASSUMPTIONS AND EMISSIONS MODEL

The latest planning assumptions are detailed in the 2045 RMAP Update Technical Addendum. Forecasted population and employment estimates, land use modeling and travel demand modeling continue to apply to the FY 2025–FY 2029 TIP. Congestion is addressed in Chapter 4: Regional Traffic Signals, Congestion Management Process, and Performance Measures. Transit operations and policies are addressed in Chapter 7: Transit. No road or bridge tolls are in the transportation planning area.

Under the Governor's Executive Order 2011-04, official county population projections are updated three times a decade, typically in the second, fifth and eighth years. These official projections are used by all agencies for planning purposes. The Arizona Office of Economic Opportunity (AOEO, formerly ADOA), under the Arizona Commerce Authority, prepared a new set of Pima County projections based

on the U. S. Census Bureau's 2020 Census and the latest 2022 5-year American Community Survey (ACS) estimates. The subcounty projections in Pima County were developed by PAG staff upon AOEO's approval and in compliance with AOEO's county projections.

PAG develops employment projections for six business sectors including industrial, retail, wholesale, finance-insurance-real estate (FIRE), service and public service. The latest projections utilize PAG's 2023 employment data and the growth rate of the 2023 Q3 employment projections from the University of Arizona's Economic and Business Research Center (EBRC).

PAG's traffic count program collects short-term (48-hour) counts annually in the fall and spring to comply with FHWA HPMS data collection guidelines, plus year-round data from select regional intersections managed by jurisdictional partners.

VMT from TDM (2019) was validated with HPMS VMT based on the collected traffic count data. Speed outputs from TDM (2019) were reviewed with other sources of data, including StreetLight Data. TDM was utilized for VMT and speeds.

On September 12, 2023, the EPA announced the availability of the latest version of the Motor Vehicle Emission Simulator model (MOVES4) for SIPs and transportation conformity modeling in states other than California (88 FR 62567). MOVES4 is a state-of-the science model upgrade to the EPA's modeling tools for estimating emissions from cars, trucks, buses, and motorcycles based on the latest data and regulations. PAG utilized MOVES4 for emissions modeling for the FY 2025–FY 2029 TIP, replacing the previous version, MOVES3.

PAG used MOVES4 for onroad motor vehicle emissions modeling for PM10 from vehicle exhaust, tire wear and brake wear in the Rillito PM10 Nonattainment Area for analysis years 2029, 2035 and 2045. Analysis was conducted using the Travel Demand Model (TDM) to estimate average daily Vehicle Miles Traveled (VMT), speeds and travel pattern characteristics for the various road types in the regional roadway network for the following "Action" scenarios: 2029, 2035 and 2045. MOVES model inputs included the most recent local data for meteorology (2023, Tucson International Airport), vehicle registration (June 2023, ADOT Motor Vehicle Division (MVD)), speeds, HPMS traffic counts, travel patterns, as well as default gasoline and diesel fuel properties. The vehicle inspection/maintenance program does not affect PM10 outputs in MOVES4. The MOVES4 model accounts for all current and future regulatory changes expected over the 2025-2045 period, which extends the full planning horizon of PAG's long-range transportation plan, the Regional Mobility and Accessibility Plan (2045 RMAP).

ADOT MVD vehicle populations are projected forward to 2029, 2035 and 2045 using Pima County resident population ratios. Estimated vehicle populations by the ADOT MVD vehicle types are then distributed to the MOVES source types using ratios developed from the MOVES4 default source type populations for Pima County. These projected vehicle populations, which are classified according to the ADOT MVD vehicle types, are then distributed to the MOVES source types. For motorcycles, passenger cars and motor homes, the MVD vehicle types are identical to the MOVES source types, and these projected vehicle populations are used directly as MOVES inputs. For all other MOVES source types, there is not a clear correspondence between the MVD vehicle types and the MOVES source types. Ratios were developed from the MOVES4 default source type populations for Pima County, and these ratios are applied to the projected vehicle populations (which are classified according the MVD vehicle types). The most significant MVD vehicle type for which this is done is trucks. For each of the MOVES source types that are trucks, a fraction was computed as the ratio of the MOVES4 default

population for Pima County for that source type to the sum of the MOVES4 default populations for Pima County for all truck source types. The fraction was then multiplied by the projected truck population (according to the MVD classification) to obtain the projected population for the MOVES source type.

EPA MOVES4 default age distribution input values for buses and long-haul, single unit, and commercial trucks for Pima County were used for 2029, 2035 and 2045 action scenarios, while the EPA Age Distribution Projection Tool for MOVES4 was used to project age distributions from the 2023 ADOT MVD data age distributions for motorcycles, passenger cars and motor homes. The Age Distribution Projection tool requires accurate current age distributions for each source type for which it is used. As conveyed regarding the source type population input, the classification used in the ADOT MVD data only aligns exactly with the MOVES source types of motorcycle, passenger car and motor home. For all other MOVES source types, it is not possible to compute accurate current age distributions because the MVD data is what must be used to compute age distributions and the MVD vehicle types (particularly trucks) include numerous MOVES source types. Therefore, the EPA MOVES4 default age distributions were used for these other MOVES source types (i.e., all source types except motorcycles, passenger cars and motor homes).

The regionally significant projects modeled within the Rillito PM10 nonattainment area in the proposed FY 2025–FY 2029 TIP were the same as the FY 2022-2026 TIP, and are currently under construction:

- 86.06, widening of Tangerine Road from I-10 to La Cañada Drive, going from 2 to 4 lanes (2029, 2035, 2045 analysis years)

All regionally significant projects from the currently conforming 2045 RMAP were also included in the "Action" scenario analysis years.

- 571.08, Adonis Rd #2, construct 4-lane roadway (2035, 2045 analysis years)
- 169.00, Ina Rd, widen to 3-lane roadway (2035, 2045 analysis years)
- 68.98, Ina Rd #3, widen to 6-lane roadway (2035, 2045 analysis years)
- 86.14, Linda Vista Bl, widen to 4-lane roadway (2035, 2045 analysis years)
- 201.00, Luckett Rd/Moore Rd, widen to 4-lane roadway (2045 analysis year)
- 199.00, Marana Rd, widen to 4-lane roadway (2035, 2045 analysis years)
- 20.14, Sandario Rd #3, widen to 3-lane roadway (2035, 2045 analysis years)
- 257.98, Silverbell Rd, widen to 4-lane roadway (2035, 2045 analysis years)
- 204.00, Tangerine Rd, widen to 4-lane divided highway (2035, 2045 analysis years)

EPA Compilation of Air Pollutant Emission Factors, AP-42, emission factors were used to calculate PM_{10} emissions from re-entrained dust produced by vehicles traveling on paved (section 13.2.1.3) and unpaved (section 13.2.2) roads in the Rillito PM_{10} Nonattainment Area for analysis years 2029, 2035 and 2045.

TRANSPORTATION CONTROL MEASURES

Transportation control measures (TCMs) required by the SIP for the TAPA, such as PAG's Travel Reduction Program (TRP) and the Pima County Department of Environmental Quality's (PDEQ) Voluntary No-Drive Days/Clean Air Program, remain in effect per Arizona Revised Statute §49-404 and Clean Air Act 110(l) and result in PM_{10} emission reductions from onroad motor vehicles in the Rillito

PM_{10} nonattainment area. The Rillito PM_{10} nonattainment area is within the TAPA. The TRP and PDEQ Voluntary No-Drive Days/Clean Air Program are funded by ADEQ through the state Air Quality Fee Fund (ARS §49-551).

PAG operates Sun Rideshare, a regional transportation assistance program, under the Travel Reduction Program (TRP), an employer assistance program for commuters, with an emphasis on reducing congestion and improving air quality. These programs promote the use of alternative transportation for daily trips to reduce energy consumption, pollution and traffic congestion in the region.

As a component of the TRP, the Sun Rideshare program provides outreach services to employers to encourage employees to find carpool and vanpool partners. When more people choose to carpool or vanpool, fewer vehicles are on the road. This helps reduce both traffic congestion and air pollution. Anyone in the greater Tucson region can register in the Sun Rideshare database if they are interested in seeking carpool or vanpool partners to save money or contribute to a healthy environment. A qualifying vanpool may be eligible to receive a travel subsidy from PAG. Employers may offer subsidies as well. Vanpools are viable options for employees who have an extended commute greater than 20 miles and participants can share the cost of a rideshare option.

The Travel Reduction Ordinances (TROs) are in place for Pima County, the cities of Tucson and South Tucson and the towns of Oro Valley, Marana and Sahuarita. The TROs specify that employers with 100 or more full-time equivalent employees at a single or contiguous worksite must participate in the TRP. Employers with fewer than 100 employees can participate voluntarily. Travel reduction services support employer-designated transportation coordinators to provide employees with information about carpooling, vanpooling, using transit or other modes of transportation that help reduce overall traffic congestion. The goal of the program is to reduce traffic congestion, reduce VMT and fuel consumption and improve air quality.

In 2022, the TRP reduced regional vehicle miles traveled by 98,402,259 miles and resulted in reductions of 4.3 tons of PM_{10}, 27.6 tons of NOx, 35.4 tons of VOC, 419.0 tons of CO and 40,793.7 tons of carbon dioxide equivalents. Full remote work and hybrid work (a combination of in-office and remote or telework) have persevered and remain important contributors to cleaner air in the post-pandemic era. In 2023, there were 141 employers and 134,505 employees participating in TRP, of which 8,017 employees, or 5.9% telework.

The PDEQ Voluntary No-Drive Days/Clean Air Program was adopted as an ordinance in Pima County (PCC §17.44.020) and mandated by state statute (ARS §49-506). The principal goals of the program are to reduce vehicle emissions that contribute to air pollution by encouraging no-drive days and the use of alternative modes of transportation; increasing public awareness of air quality issues; and supporting other pollution-reducing activities.

EMISSIONS ANALYSIS

PM_{10} mobile source emissions in the "Action" scenario analysis years were estimated using EPA's MOVES4 model. MOVES4 calculates direct PM_{10} emissions from onroad motor vehicle exhaust, tire wear and brake wear. Modeling analyses included local data for temperature and humidity, vehicle registrations, traffic counts and travel patterns, and default fuel properties. Current socioeconomic information, transportation and traffic data were used to generate VMT, vehicle hours traveled (VHT) and congestion levels.

On January 13, 2011, the EPA released a new method for estimating re-entrained road dust emissions from cars, trucks, buses and motorcycles on paved roads. On February 4, 2011, the EPA published the official release of the January 2011 AP-42 Method for Estimating Re-Entrained Road Dust from Paved Roads approving the January 2011 method for use in regional emissions analysis. The AP-42 equation that calculates PM_{10} emission factors for paved roads requires as input:

- road surface silt loading
- the average weight of vehicles traveling on the roads
- the number of wet days (with at least 0.01 inch of precipitation)

The equation that calculates PM_{10} emission factors for unpaved road fugitive dust requires as input:

- the road surface material silt content
- road surface moisture content
- average vehicle speeds
- the annual number of wet days (with at least 0.01 inch of precipitation)

Data inputs, emission factors and calculations for re-entrained PM_{10} are in Appendix 9. Values for TCM VMT reductions were derived from five-year program averages for 2019-2023 and adjusted for the Rillito PM_{10} nonattainment area population.

The SIP does not identify construction-related fugitive PM_{10} as a contributor to the Rillito PM_{10} nonattainment area; therefore, the fugitive PM_{10} emissions associated with highway and transit project construction are not required to be considered in the regional emissions analysis per 40 CFR §93.122(e).

1990 baseline data was derived from ADEQ's 1994 Rillito SIP submittal. The SIP submittal included an emissions inventory of onroad mobile sources. The inventory used 1990 VMT data and emission factors sourced by EPA to project both 1995 and 1988 emissions. PAG applied linear interpolation to calculate 1990 exhaust, tire wear and brake wear emissions, as well as re-entrained unpaved road dust emissions. Re-entrained paved road dust emissions were calculated using the updated 2011 revision of AP-42 13.2.1 *Paved Roads*.

Table 6-1 details the results of PM_{10} emissions calculated for the Rillito PM_{10} nonattainment area.

Table 6-1: Conformity Interim Emissions ("Action" Scenario / Baseline Year) Test Results

Analysis Year	Rillito PM10 Nonattainment Area PM10 (tons/yr)
1990 Baseline	921.90
2029 "Action" Scenario	209.31
1990 Baseline	921.90
2035 "Action" Scenario	219.08
1990 Baseline	921.90
2045 "Action" Scenario	242.33

CONFORMITY DETERMINATION

As demonstrated by the PM_{10} emission modeling results in Table 6-1, completing the TIP projects as stipulated in the FY 2025–FY 2029 TIP satisfies the requirements of the interim emissions test prescribed by 40 CFR §93.119. Total regional onroad motor vehicle emissions of PM_{10} in the Rillito PM_{10} nonattainment area associated with implementation of the FY 2025–FY 2029 TIP for all years tested are predicted to be less under the "Action" scenario analysis years than the 1990 Baseline year. Additionally, the emissions are reasonably expected to be less during the periods between analysis years.

The PAG Regional Council and U.S. DOT made a conformity determination for the 2045 RMAP Update on September 24, 2020, and January 20, 2021, respectively. Approval of this document by PAG's Regional Council on May 30, 2024, finds that the TIP and all projects contained within are in conformity with the applicable SIP and transportation conformity requirements per consideration and resolution of FHWA and EPA comments.

The final determination of conformity for the FY 2025–FY 2029 TIP is the responsibility of the Federal Highway Administration and the Federal Transit Administration.

CHAPTER 7

TRANSIT

SUN TRAN

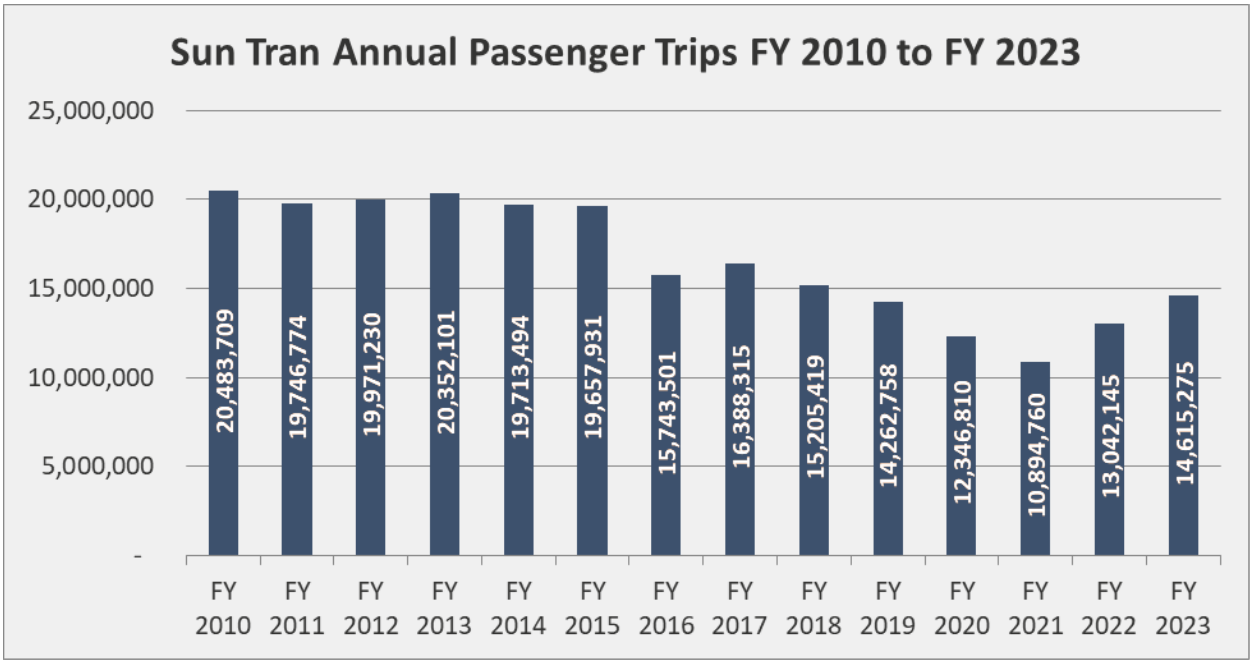
Overview

Sun Tran, with a fleet of 185 buses, provides fixed-route transit service within the City of Tucson and, through intergovernmental agreements, provides service in Pima County, the City of South Tucson, Town of Marana, Town of Oro Valley, and tribal land of the Tohono O'odham Nation and Pascua Yaqui Tribe. The system's 41 fixed routes cover a 335-square-mile area. City of Tucson and/or Sun Tran staff provided the information and data for Sun Tran service within this chapter.

In FY 2023, the Sun Tran system provided 14,615,275 passenger trips, a 12% increase from FY 2022 (13,042,145 passenger trips).

While transit ridership has been declining both in the Tucson region and nationally for several years, the significant drop from FY20 and 21 can be attributed to the global COVID-19 pandemic. Sun Tran is now exceeding pre-Covid 19 levels. Sun Tran has been fare-free since March of 2020.

Figure 7-1: Sun Tran Passenger Trips by Fiscal Year



Source: Data provided by City of Tucson and/or Sun Tran staff. January 2024

Use of RTA Funds to Improve Transit Services

It is a challenge for transit service providers to fund major service improvements with a fixed budget. Transit service expansion in the Tucson region became a reality in 2006, when Pima County voters elected to enact a half-cent excise (sales) tax to fund transportation improvements. Through FY 2026, the 20-year Regional Transportation Authority (RTA) plan earmarks nearly a total of $533 million for transit enhancements, including expanded hours of service, new service areas, greater weekday frequencies, more express service, fleet expansion, and the launch of the Sun Link streetcar.

Sun Tran implemented the first fixed-route improvements funded by the RTA in the fall of 2006, when additional buses were deployed on key routes to relieve overcrowding and extended weeknight service to as late as midnight on 21 routes and implemented expanded weekend service hours on 23 routes.

To offer commuters an alternative during construction on I-10, the Arizona Department of Transportation (ADOT) provided funding for Sun Tran to implement an express route from the Town of Marana to downtown Tucson in May 2007. Originally identified as a project in the RTA plan's transit element, ADOT's resources enabled Sun Tran to accelerate implementation of the service. Additionally, Sun Tran worked with the Town of Marana to secure a park-and-ride lot for commuters. This park-and-ride serves two express routes, one for employees working in Downtown Tucson (104X) and one for Raytheon (204X) employees.

In 2009, the RTA-funded fleet expansion enabled Sun Tran to launch three express routes, two from the Town of Oro Valley and Rita Ranch, respectively, to downtown Tucson and one from the Town of Oro Valley to the Aero Park area where Raytheon and Bombardier are located (Route 203X). Several new park-and-ride lots were established, and additional trips were added to existing express routes serving northwest Tucson (103X) and the Foothills area (105X) to better meet passenger needs. Construction was completed on Phases I and II for the Northwest Bus Facility designed to accommodate an additional 150 buses.

In 2010, RTA funding provided additional trips for express routes 109X and 110X, which run from the Catalina Highway to downtown and Rita Ranch to downtown, as previously noted.

In 2011, Sun Tran completed construction on Phase III of the Northwest Bus Facility, expanding it to include an administration building, bus storage for up to 250 buses and the expansion of the maintenance building to accommodate the entire fleet. Currently, Sun Tran deploys half of its fleet out of this facility and the other half of the fleet is deployed out of the Park Avenue location.

In 2013, bus frequency was improved on Routes 7 and 16, making wait times shorter for passengers.

In 2015, the Broadway/Houghton park-and-ride opened, providing a transit hub on the east side. Broadway/Houghton Park and Ride serve routes 4, 7, 8, 17 and 108. To further evaluate potential transit improvements, a comprehensive operational analysis (COA) was completed in 2024, evaluating all transit routes within the region. The COA was an in-depth study designed to identify strengths and weaknesses of the transit system. The COA included specific recommendations toward the continual improvement of the Sun Tran, Sun Express and Sun Shuttle transit services

In 2015, the Frequent Transit Network (FTN) was expanded, and improvements were made to bus stops. The FTN is composed of routes that offer service every 20 minutes or less on weekdays from 6 a.m. to 6 p.m. Sun Tran added two routes to the FTN, Route 7 and Route 34, and extended Route 9 to Pima Community College West Campus.
In 2018, Route 2 was redirected to travel on Cherrybell Stravenue to serve the El Rio Health Center. In 2019, Route 15 was extended along Kino Parkway to Banner UMC South Campus via the Tucson Marketplace.

In 2022, the City of Tucson in partnership with Pima Association of Governments (PAG) began its analysis of all the region's public transit services with a Comprehensive Operational Analysis (COA). This report evaluates all aspects of existing transit services, access and equity to develop recommendations for improving the value, efficiency and performance of current transit options. This analysis is complete and should be presented to Mayor and Council in Summer of 2024.

Environmental Commitment

Sun Tran demonstrates its commitment to environmental stewardship in many ways, including use of clean-fuel technologies and effective operational management of environmental impacts. A significant achievement was reached in 2007 when Sun Tran converted its remaining diesel vehicles to use biodiesel fuel, creating an entire fleet of buses that run on cleaner-burning fuel technologies.

Sun Tran placed its first hybrid electric bus into service in 2010 to further demonstrate a strong commitment to the importance of our environment. Ten more hybrid-electric buses were purchased in 2015.

Currently, 39 buses run on biodiesel, which emit significantly fewer particulates than traditional diesel-fueled vehicles. Another 126 buses are fueled by compressed natural gas, and eight use hybrid-electric technology.

In September of 2021 Sun Tran launched a full-scale electric bus program with five electric buses, and added an additional five electric buses in 2023 for a total of ten electric buses, fueled by five electric charging stations. The 40-foot GILLIG CNG buses produce lower emissions than standard-fueled vehicles and older CNG vehicles, helping to improve air quality in the community.

Sun Tran was awarded an FTA Low/No grant award to replace the last 39 diesel buses in the fleet with CNG buses. This will make the Sun Tran fleet one of the cleanest in the nation.

One of the goals of the RTA was realized in January 2009 with the introduction of a regional seamless transit system. Components of the regional system were phased in, such as creating the "Sun" family of names and corresponding brand for all regional transit vehicles.

As part of this process, consolidated customer information for the seamless system was developed. Elements included a website featuring trip planning, schedules, maps and fare information, plus a single customer service center with one phone number. To further enhance the ease of riding the regional system, the RTA made Sun Shuttle neighborhood circulator fares mirror those of Sun Tran.

New bus stop signage was installed in July 2017 to provide improved information about the integrated system and service connection information. All existing Sun Tran bus stop signs (approx. 2,200 stops) were replaced with new updated signs that included the updated Sun Tran logo, route

numbers providing service to each location, and the bus stop number which allows passengers to use online trip planning.

Advanced Technology

Sun Tran is committed to utilizing technologies that boost customer satisfaction, improve efficiency, and increase safety. Sun Tran's website features navigation, online trip planning, and accessibility for users with visual disabilities. Sun Tran updated the live bus tracking system to enable passengers to receive up-to-the-minute information about their bus. Developers can access the General Transit Feed Specification (GTFS) data online to create additional web applications to benefit passengers. To date, four known mobile apps, such as Google Transit, were developed by outside organizations and available for use in addition to the official Sun Tran app.

Prior to the decision by the Tucson Mayor and City Council to make Sun-branded transit services fare-free in 2020, the SunGO fare payment system, funded by the RTA, introduced the "smart card" fare payment system in 2013. The SunGO system, used on Sun Tran, Sun Express, select Sun Shuttle routes and the Sun Link streetcar, has simplified the process of transferring from one transit vehicle to another.

Sun Tran also uses high-visibility LED signs which display an individual route's scheduled departure times in each bus bay at transit centers. Airport-style plasma signage is mounted in information booths indicating departure times for all routes. Sun Tran's entire fleet is equipped with Computer-Aided Dispatching/Automatic Vehicle Locator systems (CAD/AVL). This technology facilitates management of transit operations, providing up-to-date information on vehicle locations and schedule adherence. Each bus contains an automated fare collection system, allowing Sun Tran to maximize passenger revenue and ensure accurate rider counts. Other software systems implemented by Sun Tran maximize efficiency by assisting with scheduling, maintenance, customer information and operations functions.

Customer service representatives use the Trapeze COM Module to log customer feedback. With streamlined management of feedback, customers benefit by receiving improved response time in complaint resolution.

Operator and passenger security has also been a priority for Sun Tran. All vehicles contain digital video recorders, and each transit center is equipped with multiple cameras to monitor activity. On the buses, CAD/AVL technology enables operators to trigger a silent alarm system, alerting dispatch if an emergency arises on board.

Sun Tran worked to install driver safety partitions and on-board video screens on all buses. By June of 2020, Sun Tran had driver safety partitions installed on the entire fleet.

In 2020, Sun Tran launched a new transit app, called Sun Tran – Bus Tracker & Trip Planner. The app allows users to track their bus in real time and plan their trip. The app also features an interactive map and alerts and detours notification system.

Sun Tran also launched its new integrated transit website in 2021. The new website allows for a streamlined user experience for users on the City of Tucson's entire transit system. The new platform boasts a mobile-friendly interface and integrates voice technology for ADA accessibility and

compliance and will feature Sun Tran, Sun Van, Sun On Demand, Sun Link, Sun Express and Sun Shuttle.

Enhanced Amenities

In 2014, improvements were made at the Tohono Tadai Transit Center, upgrading kiosks to display trip information. In 2015, upgrades were made at the Ronstadt Transit Center, including brick pavers, fencing, additional security cameras for added safety, as well as new bay signage, benches and trash cans. In 2018, Sun Tran installed new information kiosks at the Laos Transit Center.

In 2018, Sun Tran partnered with Tucson area attractions such as the Reid Park Zoo, University of Arizona and Tucson Botanical Gardens to create posters for the transit centers that feature each attraction. The posters also show which Sun Tran routes passengers can use to get to these attractions. New bus bay maps and transit center decals, located in the information kiosk, were posted to help passengers find transit information more easily. Upgraded decals also were installed on the ticket vending machines to assist passengers with ticket and pass purchases.

Information booths were re-opened at the Ronstadt and Laos transit centers to assist passengers. Smoking is prohibited at all three Tucson transit centers.

Several other transit amenities have been added to attract riders to the system. Sun Tran developed park-and-ride lots at Broadway/Houghton, Rita Ranch, Oro Valley and Casino del Sol, all designed to encourage more transit ridership from the outlying communities.

Sun Tran oversees maintenance of approximately 2,200 bus stops for the City of Tucson including hundreds of bus shelters, benches and trash cans throughout the region. To date a total of 1,020 shelters and 770 benches have been installed in the City of Tucson, City of South Tucson, Town of Marana, Pascua Yaqui and unincorporated Pima County, approximately half of those shelters generate advertising revenue which covers the cost of routine bus maintenance and repair.

The City of Tucson also purchases and installs new bus shelters using a combination of local and federal funds from the Federal Transit Administration (FTA) and U.S. Department of Housing and Urban Development (HUD) programs, as well as Tohono O'odham Nation gaming grants when they become available. Each year, approximately $150,000 a year of FTA Associated Transit Improvement funds are used to implement the basic Americans with Disabilities Act (ADA) bus stop improvements and repairs.

In 2017, 123 Sun Tran bus shelters were refurbished, and five new shelters were installed at bus stop locations throughout Tucson. The shelter refurbishments included new metal screens, benches and new paint. The improvements made each shelter fully accessible to wheelchair users in compliance with the ADA.

The RTA also provided several bus shelters as part of the RTA bus pullout program. To date, the RTA has completed 128 bus pullout projects throughout the region, meeting ADA standards with basic amenities and connections to adjacent sidewalks.

The RTA, in partnership with the City of Tucson, conducted an on-board passenger survey in 2015 and 2019 on all Sun Tran, Sun Express, Sun Shuttle and Sun Link routes in the region. The onboard survey collected passenger trip information to understand how people use transit when traveling throughout

the Tucson region. The survey also included demographic information for system riders. Sun Tran, the City of Tucson, and the RTA use the survey data to make improvements to the transit service.

Commuters can take their bicycles on Sun Tran vehicles at no additional charge. Each vehicle is equipped with a bike rack, and folding bicycles are accommodated on board. In 2018, Sun Tran began replacing two-position bike racks with three-position racks to improve rider experience.

Keeping Community Ties

Sun Tran is an integral and necessary part of the Tucson community. The organization continues its long-standing associations with businesses, social service organizations, schools and other governmental bodies.

Promoting the system through a variety of events continues to strengthen Sun Tran's image in the region. Most notably, the name "Sun Tran" is synonymous with the "Stuff-the-Bus" donation drives. A highly visible community-relations effort, these campaigns generate tremendous media exposure, foster partnerships, and enhance Sun Tran's public image in the community. Since the first event in 2001, Sun Tran has helped to collect 230,000 pounds of food, $150,000 in cash donations, and 176,000 toys and household items to benefit various organizations.

Sun Tran also strives to build strong partnerships with persons with disabilities. All of Sun Tran's fleet is low-floor and wheelchair accessible, which eliminates the need for wheelchair lifts, using instead a ramp to facilitate the movement of persons with disabilities onto or off the bus. To enhance service for persons with visual disabilities, all of Sun Tran's buses provide automatic interior and exterior announcements.

With ongoing outreach and education efforts, Sun Tran's long-term relationship with its passengers with disabilities has continued to develop. Free mobility training is offered through the Sun Tran Accessible Rider Training (START) program. Designed to help individuals with disabilities and seniors, these training sessions assist persons with special needs to use fixed-route services with greater ease and confidence.

Innovative Service

In November 2020, Sun Tran introduced Sun On Demand service with the goal of providing flexibility to customers in areas not easily served by fixed-route service. Sun On Demand provides door-to-door rides for individuals traveling within designated On Demand zones. Riders can make reservations one to seven days in advance, and when possible, on the same day. Services are provided on first-come, first-serve basis for customers traveling outside the designated zones. Sun On Demand will stop at a Sun Tran bus stop, in the zone, or connect to the Sun Link Streetcar in Zone 1.

SUN VAN

Overview

As of June 2022, Sun Van operates with approximately 187 employees, providing paratransit service to the Tucson metropolitan area, portions of Pima County, and the City of South Tucson. Sun Van has a fleet of 136 vehicles.

Sun Van meets the standards set by the ADA by providing demand-responsive public paratransit service for those individuals who, because of their disability, are unable to ride Sun Tran.

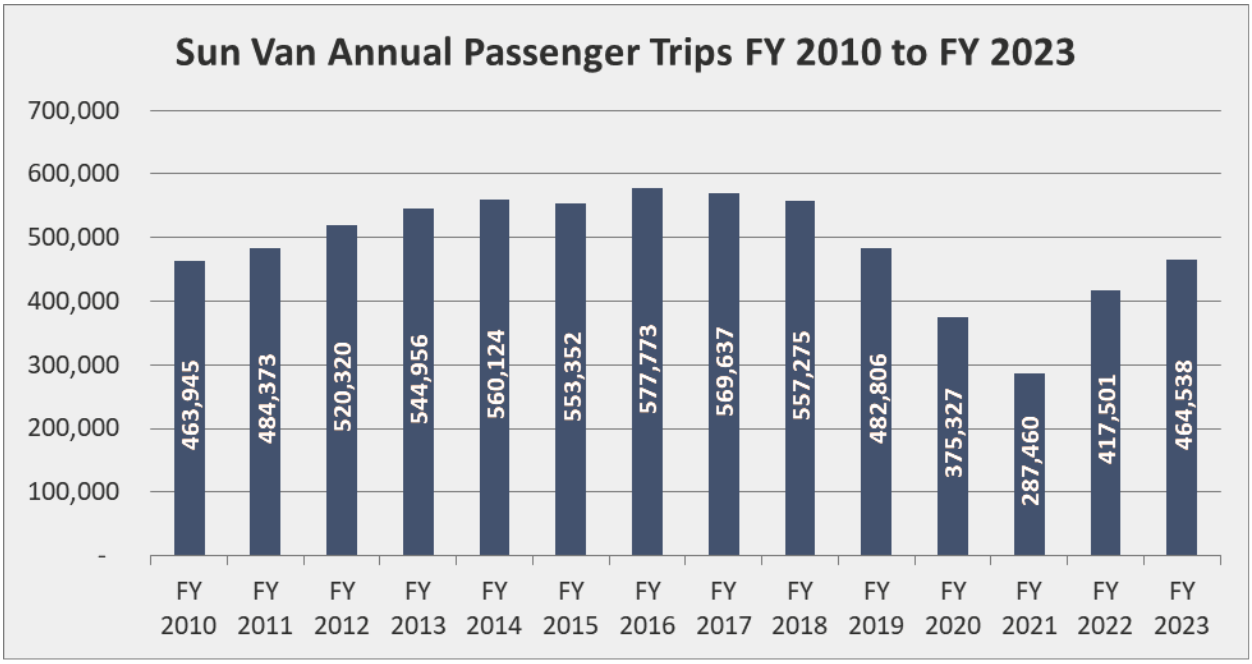
Sun Van's service area includes points within three-quarters of a mile along each Sun Tran fixed route, excluding express routes, during the days and times that Sun Tran routes operate.

Sun Van also provides Optional ADA Service for trips beyond the three-quarters of a mile service area or beyond the hours of operation for nearby fixed-route service for Sun Tran, Sun Link and Sun Shuttle Route 450.

Ridership Trends

In FY 2023, Sun Van provided 464,538 passenger trips, an 11% increase from FY 2022 (417,501 passenger trips). Similar to Sun Tran, Sun Van ridership has been impacted by COVID-19, but ridership is on the rebound.

Figure 7-2: Sun Van Passenger Trips by Fiscal Year



Source: Data provided by City of Tucson and/or Sun Tran staff. January 2024

Sun Van's greatest challenge will be funding service to meet changing demand. Rising costs associated with inflation and other market forces are typical, but 2020 brought additional financial challenges as fares were suspended during the COVID-19 pandemic.

Environmental Commitment & Technology

The use of minivans has been implemented to improve system efficiency when full-sized Sun Van vehicles are not necessary. Sun Van is also widely recognized as an industry leader in paratransit technology. Like Sun Tran, Sun Van's entire fleet is equipped with global positioning systems. Other software systems that maximize system efficiency include Trapeze, Transit Master and Crystal Reports.

Sun Van received recognition for a partnership with Trapeze Software Inc. Sun Van helped develop software that provides trip alternatives that fit within the ADA guidelines and ensures complete and accurate measurement against the comparable fixed-route system without added personnel time or cost to perform the comparison. Sun Van is viewed as a leader with the project, with other paratransit systems now using this module as well. Prior to the decision by the Tucson Mayor and City Council to make Sun-branded transit services fare-free in 2020, Sun Van used a voucherless fare payment system, which allows for automatic deduction from the passenger's account when a trip is scheduled.

Sun Van launched a new app in 2021, called Sun Van – Sun Van Paratransit App, for tracking paratransit trips. This allows passengers to track the transit vehicle's location and see its estimated time of arrival.

SUN LINK STREETCAR

Overview

The Sun Link streetcar service launched in 2014 and provides service seven days a week to five of Tucson's key entertainment districts, including the Mercado District, Downtown Tucson, Fourth Avenue, Main Gate Square and the University of Arizona.

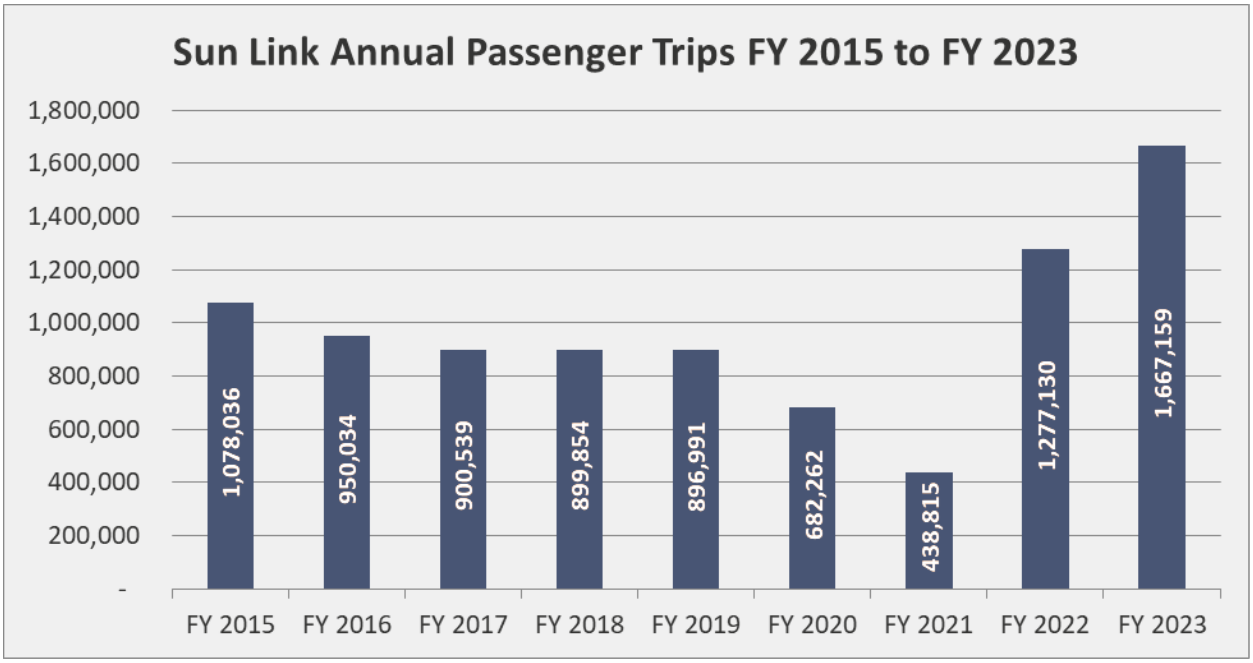
The $196 million project was part of the 20-year RTA plan and was funded by multiple sources, with the RTA being the single largest contributor. Funding partners for system construction and vehicle purchase included: RTA ($75 million), FTA through a Transportation and Infrastructure Generating Economic Recovery (TIGER) grant ($63 million), New Starts federal grant ($6 million) and other regional and local funding ($9 million). The RTA provided another $12.7 million for operations.

Sun Link operates along a 3.9-mile route, has a fleet size of eight streetcars and 42 employees.

Ridership Trends

Since launching in 2014, ridership has exceeded pre-launch projections with an average daily ridership of approximately 4,000 passenger trips provided. In the first year of service, Sun Link provided 1.1 million passenger trips. In FY 2023, Sun Link ridership recorded 1,667,159 passenger trips, which is a 31% increase from FY 2022 (1,277,130 passenger trips). This is the highest recorded ridership in its 9-year history.

Figure 7-3: Sun Link Passenger Trips by Fiscal Year



Source: Data provided by City of Tucson and/or Sun Tran staff. January 2024

Focus on the Customer

Passenger promotions and information have been developed, with a special focus on events in the five entertainment districts to promote the use of transit in general, but with a larger focus on encouraging use of the streetcar. Marketing efforts to encourage ridership for the Tucson Gem & Mineral Show, Festival of Books, 4th Avenue Street Fair, University of Arizona sporting events, and numerous events along the route are done to enhance ridership. In addition, Sun Link has collaborated with organizations including the Tucson Roadrunners, DUSK Music Festival and Downtown Tucson Partnership to provide Free Ride events on the streetcar. Multiple live concerts have been performed on board the streetcar in partnership with special community events, such as the Tucson Jazz Festival.

In partnership with the City of Tucson, Sun Link, Sun Tran, and PAG/RTA, other events have been implemented at times when ridership would be expected to decrease during the holidays or summer months. For example, Sun Link's "Pueblo Express to Santa" was developed and implemented in partnership with KXCI Radio in 2014 to have Santa and carolers on board a streetcar to encourage ridership. Also, a shop local event was promoted to encourage travel on the streetcar on the Saturday after Thanksgiving.

With increased student activity while the University of Arizona is in session, Sun Link offers late-night weekend service until 2:00 a.m. on Thursday, Friday and Saturday nights to help meet demand.

SUN ON DEMAND

Overview

On November 2020, Sun Van launched a pilot program for the new micro-transit service Sun On Demand. The door-to-door transportation provides a more flexible way for riders to travel to nearby destinations within Ward 1 or Ward 5 service areas. Sun On Demand uses a smaller shuttle-style van instead of the standard 40-foot bus for increased mobility within residential streets.

Work on the project got underway in July 2020, when Sun Van hosted two virtual public meetings for residents to learn about the program and give feedback. That August, Sun Tran conducted outreach to neighborhood communities, businesses, and senior housing organizations for the On Demand pilot program. Staff spoke with potential riders about their transit needs and how Sun On Demand could provide them with more flexibility in traveling to nearby destinations.

Since its launch, Sun On Demand has expanded the Zone 1 service area to increase ridership and better meet the needs of riders in that area. The expansion included Barrio Blue Moon, Old Pascua neighborhood and the Tucson House. The new Sun On Demand mobile app also can now be used to schedule trips, along with the traditional method of calling.

In FY 2023, the Sun On Demand provided 12,221 passenger trips, a 75% increase from FY 2022 (6,989 passenger trips).

SUN SHUTTLE

Overview

In 2009, with funding provided by the RTA, Sun Shuttle launched neighborhood fixed-route transit services in the Town of Marana, the Town of Oro Valley, Catalina, the Town of Sahuarita and Green Valley. In 2009, the RTA assumed operations of Pima County Rural Transit (PCRT) routes in San Xavier, Tucson Estates and the Town of Marana. In 2012, a new Sun Shuttle route was launched serving southeast Tucson and Rita Ranch. Sun Shuttle routes offer transportation to passengers within their own community and connections to Sun Tran and Sun Link services, providing an important link to the Tucson metropolitan area from the rural and suburban communities.

Additional services offered by the RTA include the Ajo-Tucson connector, operating as Sun Shuttle Route 486, and the Ajo/Why dial-a-ride services, both formerly operated by PCRT. The RTA, through a local contractor, also provides ADA transit services under the Sun Shuttle Dial-a-Ride brand. Dial-a-ride transit services are available to ADA-certified customers located inside the dial-a-ride service area, but outside of the Sun Van service area.

Historically, the RTA Transit Working Group and RTA Board have favored aligning Sun Shuttle fare rates with rates adopted by Sun Tran and Sun Van to create a seamless regional transit system. Therefore, all Sun Shuttle services have remained fare-free since 2020.

Dial-a-Ride Services

The Sun Shuttle General Public Dial-a-Ride service areas offer a demand-response service more appropriate to the needs of customers in the Town of Oro Valley, Green Valley/Sahuarita and Marana/Avra Valley. In 2011, the Town of Oro Valley's Coyote Run service merged with the regional transit system as part of Sun Shuttle Dial-a-Ride. This merger was cost neutral for the RTA as it removed duplicate optional ADA trips, which were formally being provided by an outside contractor. The merger also provided greater operational efficiencies for the Town of Oro Valley, which helped the town sustain its transit services for seniors. In 2015, the Green Valley/Sahuarita Dial-a-Ride service area was expanded to include the Green Valley Hospital. In 2016, an additional stop was added to Route 486 to allow customers to make connections at the Greyhound terminal in downtown Tucson.

In 2022, Route 410 was converted to the Marana/Avra Valley General Public Dial-a-Ride service. Shifting from a fixed-route to dial-a-ride service in this region has increased accessibility, convenience and efficiency. Riders can now be picked up and dropped off anywhere within the expansive service area, without having to wait for long periods of time at a bus stop.

Ridership

Ridership on Sun Shuttle has experienced a decrease since FY 2015, even though service continues to mature on several routes. With that said, there has been a recent increase in demand following the early period of the COVID-19 pandemic. Total ridership on fixed-route and general public dial-a-ride services for FY 2023 was 190,075 trips, a 13% increase from 169,006 trips in FY 2022. The RTA is continuing to see this upward trend in ridership for the current fiscal year.

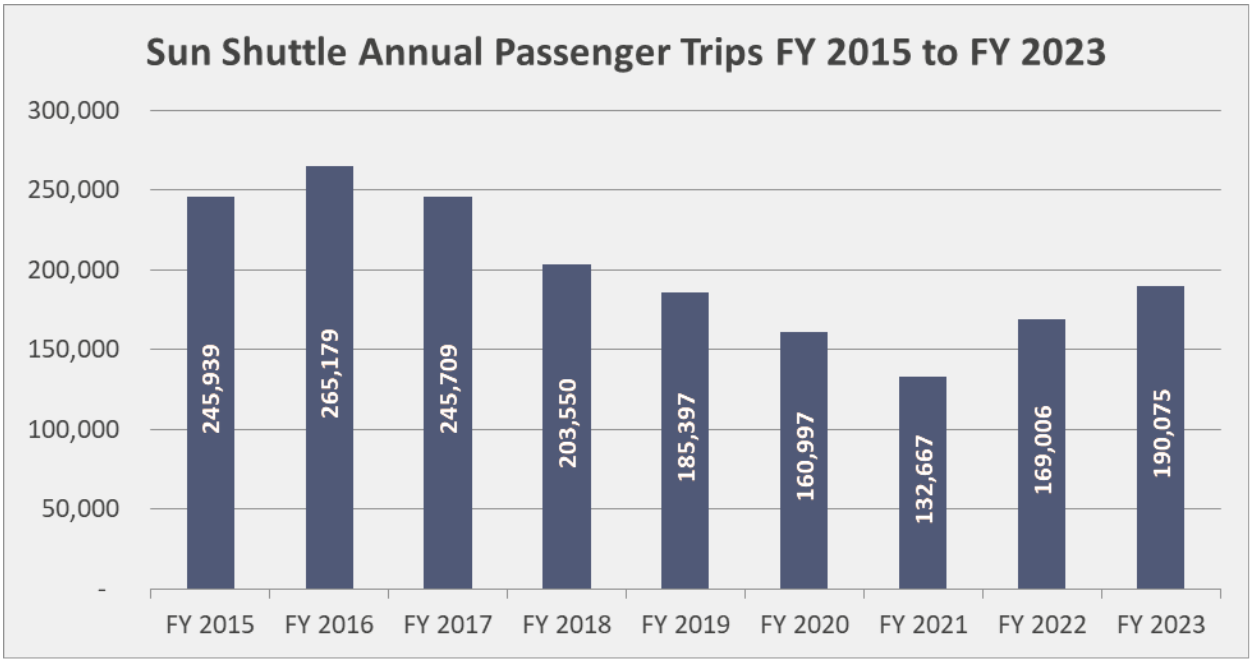
Though most routes continue to perform to expectations, the RTA will continue to respond to underperforming services and make changes accordingly. Routes that provide a direct connection from outlying areas to one of the three main transit centers, routes that represent the only public transit available in an area, and routes that serve areas with higher transit dependent populations tend to have higher ridership overall. Regional branding, marketing and a focus on customer service have helped increase awareness and boost ridership. Schedules and routing are analyzed and adjusted to improve passenger convenience and productivity.

In 2018, the RTA Board approved changes to Sun Shuttle routes to improve service. Route 411 (Continental Ranch) was discontinued due to low ridership, and Route 412 (Thornydale/River) and Route 413 (Marana/I-10) expanded service to serve the Tucson Premium Outlets.

In November 2022, minor routing and schedule changes were made to Sun Shuttle Routes 412 and 413 after seeing unsatisfactory on-time performance. The 2022 service changes were done to address this issue.

In 2023, Route 421 was rebranded as Route 421X to align more closely with the naming conventions of the other regional express services. Additional route and schedule changes were made to routes 401, 421X, and 430 in 2023 to improve efficiency. Sun Shuttle also added new signs to all existing bus stops for the routes operating in greater Tucson. These new signs are double sided and reflective to improve visibility and contain contact information for riders who want more information on Sun Shuttle's public transit services.

Figure 7-4: Sun Shuttle Passenger Trips by Fiscal Year



Source: Data provided by RTA staff. January 2024

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

The Public Transportation Agency Safety Plan (PTASP) final rule (49 C.F.R. Part 673) intends to improve public transportation safety by guiding transit agencies to manage safety risks more effectively and proactively in their systems. It requires certain recipients and subrecipients of Federal Transit Administration (FTA) grants that operate public transportation to develop and implement safety plans which establish processes and procedures to support the implementation of Safety Management Systems (SMS). Agencies are required to fulfill this requirement through an individual or group plan. The PTASP rule provides two tiers of requirements for transit agencies based on size and operating characteristics. In the PAG region, the two tiers include:

Tier I Transit Agencies

- City of Tucson

The City of Tucson finished developing their own PTASP and has provided a copy to the MPO.

Tier II Transit Agencies

- RTA of Pima County
- Town of Oro Valley

ADOT finalized the Tier II group PTASP in August 2020 and provided a copy to the MPO. The 2024 PTASP was approved by the RTA's Transit Safety Committee on December 20, 2023, and by the RTA Board on January 25, 2024.

The performance measurements and targets for plans can be found in each agency's individual or group PTASPs. The goals, objectives, performance measures and targets described in the plans will be integrated into the PAG planning and programming process.

CHAPTER 8

PUBLIC INVOLVEMENT

OVERVIEW

Public involvement for PAG's TIP development process was guided by a Public Participation Plan (PPP) created specifically for the TIP and located in Appendix 5. The TIP PPP describes TIP development phases as well as planned public participation activities and responsibilities. Public involvement activities that occurred consistent with the PPP are described later in this chapter.

The TIP PPP is an extension of PAG's Public Involvement Policy (PIP). The PIP was adopted in 2018 by the PAG Regional Council as an update to previous versions. In compliance with Federal Highway Administration (FHWA) regulations, the PIP outlines how PAG will conduct its public involvement efforts. Per 23 CFR 450.316 [b] [1], the FHWA requires PAG to have a public involvement process to qualify for federal funds dedicated to advancing regional transportation planning efforts. The PIP includes PAG's public involvement goal, objectives and strategies; levels of public involvement; role of the public; public comment opportunities and procedures, and more. It also refers to PAG's process for complying with federal regulations for Title VI, Environmental Justice, and the Americans with Disabilities Act. As an extension of the PIP, this PPP incorporates public involvement strategies listed in the PIP, among other elements. The adopted PIP can be found on the PAG website.

Federal regulations under 23 CFR 450.316 and 23 CFR 456.326 set forth the parameters for providing interested parties opportunities to be involved in the development of the TIP, including:

- Individuals
- Affected public agencies
- Representatives of transportation agency employees
- Public ports
- Freight shippers
- Providers of freight transportation services
- Private providers of transportation
- Representatives of users of public transit
- Representatives of users of pedestrian walkways and bicycle transportation facilities
- Representatives of the disabled
- Other interested parties

The primary PAG-sponsored events for regional public involvement in the development of the FY 2025–FY 2029 TIP were three open houses and a 30-day public comment period. The open houses provided the public with an opportunity to review the candidate list of projects for the proposed TIP, speak with jurisdictional representatives about the projects, and submit written comments; and the 30-day public comment period extended the opportunity to the public to thoroughly review the program on their own and provide comments. Other opportunities for public involvement were provided through PAG's website (www.PAGregion.com) and TPC meetings, which are open to the public.

The public notice of public involvement activities and time established for public review and comments on the TIP will satisfy the Federal Transit Administration-required Program of Projects (POP).

PUBLIC INVOLVEMENT ACTIVITIES

PAG held three open houses to inform the public, answer questions, and receive comments. The first open house was held on Tuesday, March 19, from 3 to 5 p.m. This open house was held in person and virtually, with attendees able to participate via Zoom. The other two open house were held in person only. The dates of these were Wednesday, March 20, from 4 to 6 p.m. and Thursday, March 21, from 11 a.m. to 1 p.m.

Approximately 52 people attended the open houses and a total of 4 TIP Open House comment sheets were submitted. The comment sheets solicited input on the draft TIP project list, TIP maps, project impacts and priorities for selecting projects. Verbatim comments on the proposed TIP project list and the tabulated results of the rating scale survey questions are included in a separate public involvement report.

The TIP presentation at the open houses featured maps of TIP projects and Title VI analysis, along with slides on regional transportation funding sources, how to read the TIP projects section, and common acronyms and funding sources to interpret the TIP projects section. PAG also provided the public with candidate project listings by jurisdiction or agency, background information about the TIP, and other related information, as well as the TIP Open House public comment form. Transportation professionals from PAG member jurisdictions and the Regional Transportation Authority (RTA) were available to answer questions regarding TIP projects.

The TIP open houses were widely publicized in print and electronic media (see Appendix 4). The open houses were advertised in print and digital formats in the Arizona Daily Star and Arizona Bilingual, the latter in ads in Spanish. In addition, the open houses were promoted on PAG's website, Regional Connections newsletter, via email and on social media channels. On-board Sun Tran bus posters in English and Spanish also promoted the open houses. A FY 2025–FY 2029 TIP web page featured the draft TIP project list, which included the candidate project list, project and Title VI maps, an online TIP Open House public comment form and information about the TIP planning process.

A 30-day final notice for public comment and public hearing was published in the Arizona Daily Star on April 19, 2024, with the comment period starting on April 19, 2024 and ending May 19, 2024, in preparation for the May 30, 2024 public hearing and Regional Council meeting considering the final TIP for adoption.

TIP survey results and public comments received during the 30-day public comment period were documented with responses. Prior to the May 30, 2024 meeting, comments and responses were transmitted to the Regional Council for consideration and were posted on PAG's website.

In addition to the PAG regional public participation process, the individual PAG jurisdictions also conduct public involvement activities which help inform the development of the regional TIP. Most jurisdictions conduct public participation efforts in conjunction with the development of their Capital Improvement Programs (CIP) prior to beginning the regional TIP development process. Jurisdictional recommendations for projects to be included in the candidate TIP project list are typically based on these CIP processes.

An additional 15-day comment period was conducted in September and October 2024 for Chapter 6 and Appendix 9 at the direction of the Federal Highway Administration. This was due to a federally requested change in methodology used to determine air quality conformity (per 23 CFR § 450.316(a)(1)(viii)).

Pima Association of Governments
1 E. Broadway, Suite 401, Tucson, AZ 85701
Regional Transportation Programming Open House

Proposed FY 2025–FY 2029 Transportation Improvement Program (TIP)

The region's leaders want to know what you think about the programming of proposed transportation projects for Pima Association of Governments' (PAG's) FY 2025–FY 2029 Transportation Improvement Program (TIP). Please take a moment to review the maps and/or lists of proposed TIP projects, or ask a transportation professional in attendance. Then, please answer the questions below.

1. What specific comments do you have about the suggested programming of projects in the proposed FY 2025–FY 2029 Transportation Improvement Program?

_____

_____

_____

_____

_____

2. In what way do you feel the proposed programming of FY 2025–FY 2029 TIP project(s) might affect you or your immediate neighborhood either positively or negatively?

_____

_____

_____

_____

_____

3. Please provide any other comments or questions you may have regarding the proposed FY 2025–FY 2029 TIP project list or TIP planning process.

_____

_____

_____

_____

_____

_____

4. Given the region's limited funding for transportation improvements, please rate the relative importance of the following factors if you were making decisions about which transportation projects to fund in the next five years:

Factors for project selection	**Please select one for each Factor: 1= Most Important 5=Least Important**		**Factors for project selection**	**Please select one for each Factor: 1= Most Important 5=Least Important**
Improve safety	1 2 3 4 5		Provide air quality benefits	1 2 3 4 5
Maintain and preserve the existing transportation infrastructure	1 2 3 4 5		Widen roads to gain more capacity from the existing system	1 2 3 4 5
Support economic development efforts by improving movement of goods/services and access to jobs, businesses and/or commercial areas	1 2 3 4 5		Provide opportunities for alternative modes of transportation such as transit, bicycling, walking or ridesharing	1 2 3 4 5
Relieve congestion	1 2 3 4 5		Provide improvements that benefit the greatest number of people	1 2 3 4 5
Use new technology to gain more capacity from the existing system	1 2 3 4 5		Solve major problems on a regional level	1 2 3 4 5

ADDITIONAL INFORMATION		
Please provide your five-digit ZIP code (home):		
Did you find the information you expected at this Open House?	Yes	No
Thank you for submitting your comments!		

Completed Comment Forms can be mailed or emailed to:
Pima Association of Governments
Attn: TIP Comments (info@pagregion.com)
1 E. Broadway Blvd., Suite 401, Tucson, AZ 85701

Pima Association of Governments

APPENDIX 1

FY 2025–FY 2029 TIP PROJECT LISTING AND MAPS

The tables on the following pages present PAG's regional TIP for the five-year period beginning in FY 2025 and ending with FY 2029. Project priorities are indicated by the year during which the project is programmed to utilize the designated funds. For federally funded projects, the year programmed refers to the federal fiscal year ending Sept. 30. For state and locally funded projects from sources other than federal, the year programmed refers to the fiscal year ending June 30.

The TIP includes federally funded transportation system improvements (highways, transit, airports, etc.) and any non-federally funded transportation system improvements that are of regional significance. The project sponsor is the agency responsible for implementation and is identified with each project. The tables present information in columns that cover the following:

1. TIP ID: Each project has a project ID number that is used to identify the projects in the text and on any reference maps.
2. Project Name: Each project is identified by its location and beginning and ending points, where applicable.
3. Project Description: The general scope of each project is described.
4. Length: The length of the project in miles, where applicable.
5. Total Cost: The total cost of the project including studies, design and construction in thousands of dollars.
6. Yearly Costs: Costs associated with the project in years one to five as applicable in thousands of dollars.
7. Phase: Phase indicates whether the funds are programmed for (S) Study, (D) Design, (R) Right of Way, (C) Construction or others.
8. Funding Source: The funding source or sources. Funding source acronyms are listed in Appendix 3.
9. Air Quality Status: “Conforms - R” is used for regionally significant projects within the Rillito PM10 nonattainment area that have been evaluated for regional emissions analysis and/or Project level conformity. “Conforms - A” is used for regionally significant project within the Ajo PM10 maintenance area and have been evaluated for Project level conformity. “Conforms” is used for projects not within either the Rillito or Ajo areas and have been evaluated with PAG’s Transportation Conformity Evaluation Checklist.

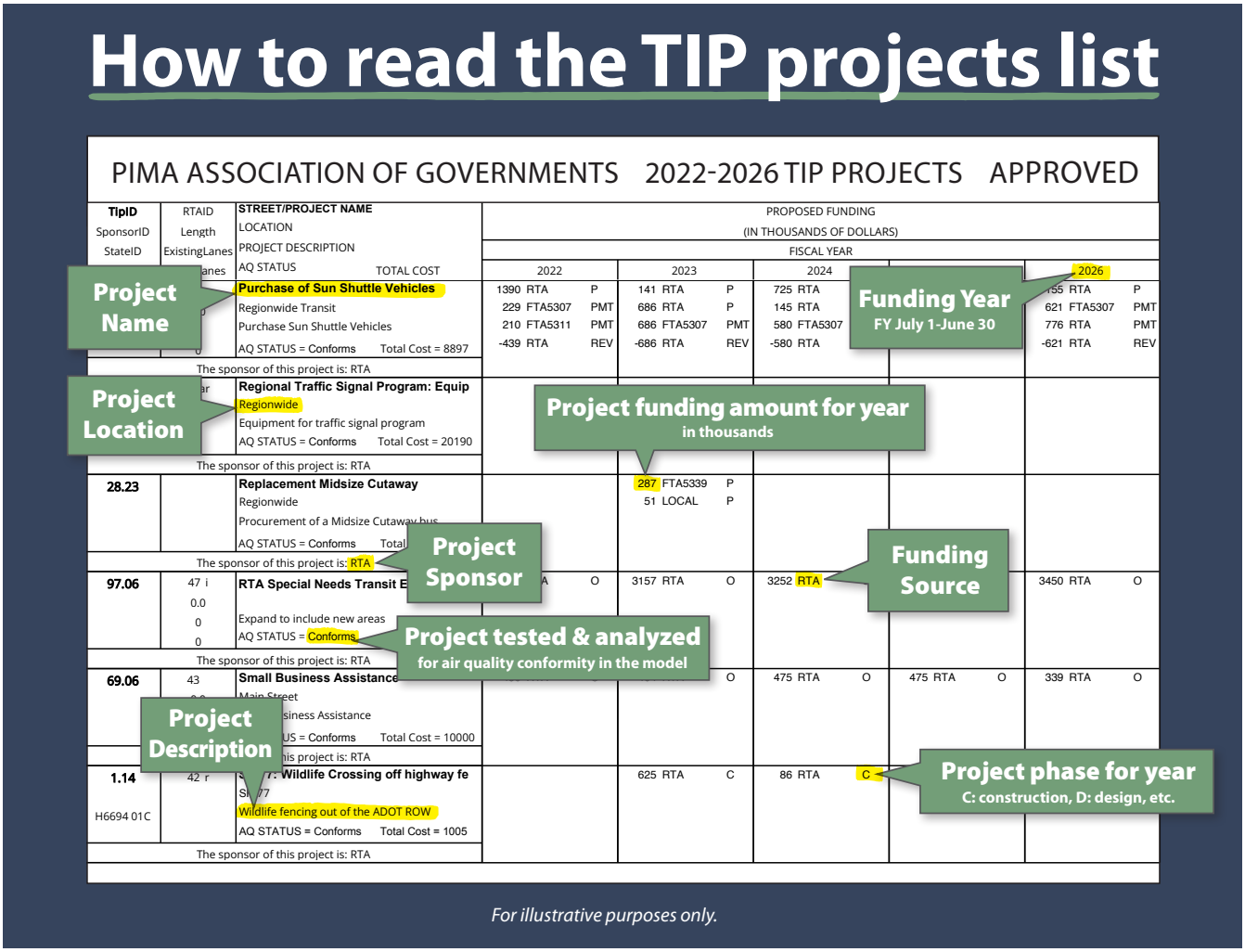
* Unless otherwise designated, the funding ratio for federal projects is assumed to be 94.3% federal and 5.7% local match. Transit projects are 80% federal and 20% local match unless otherwise shown. These ratios conform to historical ratios.

The project costs in this section are expressed in thousands of dollars. So, for example, a listing of 1200, actually means a project cost of $1,200,000. When the project cost amounts are rolled from one fiscal year to the next, such as when a project programmed for the current fiscal year does not expend all the funds programmed for it during that year, then listed TIP amounts are rounded to the nearest thousand.

Maps of projects, by fiscal year, are included after the project list tables featuring construction phase. The Non-Construction symbol includes Study, Design, and Right of way. Lines represent project limits for roadway and safety projects. Points represent spot improvements such as intersections, safety and airport projects. Airport project points on the map are approximate and distributed around the airport for visibility purposes.

Please note that not all traffic signal projects are included in the maps due to space limitations.

How to read the TIP projects list



For illustrative purposes only.

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
87.06	20 2.5 4 6	**Barraza Aviation Pkwy Extension** I-10 Widening Future SR210 connection to I-10 I-10. Alvernon Way to Valencia Rd AQ STATUS = Conforms Total Cost = 258259		9752 NHPP R 4717 NHPP D 585 STMatch R 283 STMatch D 4263 HURF26 R	9434 NHPP D 18580 NHPP R 566 STMatch D 1115 STMatch R 7547 NHPP U 453 STMatch U	95005 NHPP C 5700 STMatch C	124709 NHPP C 7482 STMatch C
The sponsor of this project is: ADOT							
7.23	6 8	**I-10: 6th Ave TI Bridge Widening** I-10: 6th Ave TI Bridge Widening Design, ROW and construction of bridge AQ STATUS = Conforms Total Cost = 28187				2063 NHPP D 124 STMatch D 943 NHPP R 57 STMatch R	23585 NHPP C 1415 STMatch C
The sponsor of this project is: ADOT							
9.23 F0548	1.0 4 6	**I-10: Country Club Rd & Kino Interchan** Traffic Interchanges at Country Club R Design, ROW & reconstruction of TIs & I-10 to AQ STATUS = Conforms Total Cost = 600000	6686 HURF26 C 3314 PCLocal C 41108 NFP C 2466 STMatch C 84683 NHPP C 5080 STMatch C	68181 NHPP C 4091 STMatch C 44023 NFP C 2641 STMatch C	106924 NHPP C 6415 STMatch C		
The sponsor of this project is: ADOT							
6.23	1.4 1 1	**I-10: Park Ave TI Ramp Reconstruction** I-10 at Park Ave and IT Design, ROW and construction of ramps AQ STATUS = Conforms Total Cost = 68241			5477 NHPP D 4717 NHPP R 329 STMatch D 283 STMatch R	54717 NHPP C 3283 STMatch C	
The sponsor of this project is: ADOT							
38.13	22 a	**I-19: Irvington TI** I-19 at Irvington Road Traffic Interchange at Irvington Rd. AQ STATUS = Conforms Total Cost = 91453	30200 NHPP C 1812 STMatch C	44328 NHPP C 2660 STMatch C			
The sponsor of this project is: ADOT							
8.23	3.9 4 6	**I-19: Valencia Rd to I-10** I-19: Valencia Rd to I-10 Phase 3 of I-19 Widening project AQ STATUS = Conforms Total Cost = 9215					11058 NHPP D 663 STMatch D 943 NHPP R 57 STMatch R
The sponsor of this project is: ADOT							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-1

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
833.00		**Local Technical Assistance Program (LT**	50 STP S	50 STP S	50 STP S	50 STP S	50 STP S
	0.0						
RLTAP 06P	0	Training funding for Tucson, Pima County, et.al					
	0	AQ STATUS = Conforms Total Cost = 250					
The sponsor of this project is: ADOT							
20.12	42 m	**SR 86: Kitt Peak Linkage Wildlife Crossi**	4704 RTA C				
	7.0	State Route 86 - Mile posts 127-134					
	2	Construct 2 over-crossings					
	2	AQ STATUS = Conforms Total Cost = 5704					
The sponsor of this project is: ADOT							
562.00		**Pavement Preservation Program**	1800 LOCAL C	1800 LOCAL C			
	0.0	Various Locations					
	0	Reconstruct & Overlay					
	0	AQ STATUS = Conforms Total Cost = 3600					
The sponsor of this project is: Marana							
86.06	01 a	**Tangerine Rd: I-10 to La Canada Dr**	4692 HURF12R C	340 HURF12R C		7401 HURF12R C	20000 HURF12R C
ST098	10.0	Twin Peaks Rd to La Canada Dr	17744 MAR C				
	2	Widen to 4 lanes with sidewalks & multi-use la					
	4	AQ STATUS = Conforms-R Total Cost = 94274					
The sponsor of this project is: Marana							
4.24		**Honeybee Bridge Deck Repairs**	685 CDS C				
	0.1	Along Rancho Vistoso Boulevard	42 LOCAL C				
	4	Bridge repairs					
	4	AQ STATUS = Conforms Total Cost = 727					
The sponsor of this project is: Oro Valley							
27.16	42 t	**La Cholla Blvd: Overton Rd to Tangerin**	0 RTA S				
		La Cholla Blvd: from Overton Rd to Tangerine					
		Wildlife linkages La Cholla Blvd. from Overton t					
		AQ STATUS = Conforms Total Cost = 1740					
The sponsor of this project is: Oro Valley							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-2

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
3.23	41dl 3.5 0 2	**Narania Dr Multi-Use Path: La Cañada** North of Narania Dr.. between La Cañada Dr. Multi-use route for bicycles and pedestrians AQ STATUS = Conforms Total Cost = 3658	165 RTA C 2726 RTAG C				
The sponsor of this project is: Oro Valley							
22.23 103639		**Systemic Flashing Yellow Arrows HSIP** Tangerine Road & 1st Ave, Tangerine Road & L Safety updates & the installation of flashing yel AQ STATUS = Conforms Total Cost = 570	309 HSIP C				
The sponsor of this project is: Oro Valley							
14.22	21 d	**Bus pullout at Valencia Road and Ignac** Valencia Road and Ignacio M. Baumea Drive Bus pullout AQ STATUS = Conforms Total Cost = 350	0 RTA C				
The sponsor of this project is: Pascua Yaqui							
75.06	47 d 0.0 0 0	**Volunteer Transit** Volunteer Service Coordinated w/Pima Council on Aging AQ STATUS = Conforms Total Cost = 500	250 RTA O	250 RTA O	0 RTA O	0 RTA O	0 RTA O
The sponsor of this project is: PCOA							
82.06 4RTFIR	13 1.0 2 4	**1st Ave: Orange Grove Rd to Ina Rd** Orange Grove Rd to Ina Rd Widen to 4 lanes w/bike lanes AQ STATUS = Conforms Total Cost = 9789		700 LOCAL D	1000 HURF12R D	1583 HURF12R C 6506 STP C	
The sponsor of this project is: Pima County							
98.12	 0.0 0 0	**ADA Transit Enhancements** Various Bus Stop enhancements (sidewalks, ramps, pa AQ STATUS = Conforms Total Cost = 625	100 FTA5307 C 25 LOCAL C	100 FTA5307 C 25 LOCAL C	100 FTA5307 C 25 LOCAL C	100 FTA5307 C 25 LOCAL C	100 FTA5307 C 25 LOCAL C
The sponsor of this project is: Pima County							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-3

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
13.22 103371 08258	 0.2 2 2	**Aio Wash Bridge** Telera Street in Aio: Bridge Structure #: 08258 OSB replacement structure to a triple reinforc AQ STATUS = Conforms Total Cost = 1042	44 LOCAL C 717 OSB C				
The sponsor of this project is: Pima County							
24.23 8302 T0540 S01D/ PPM-0(273)D	 0.2 1 2	**Florida Canyon Wash** Madera Canyon Road & Medium Wash OSB: Design & Con bridge replacement AQ STATUS = Conforms Total Cost = 8070		7285 OSB C			
The sponsor of this project is: Pima County							
23.23 T0541 S01D/ PPM-0(274)D	 0.2 1 2	**Medium Wash Canyon Bridge Replace** Madera Canyon Road at Medium Wash Design & construct bridge replacement at Mad AQ STATUS = Conforms Total Cost = 4630		4028 OSB C			
The sponsor of this project is: Pima County							
45.23		**Palo Verde Rd and Michigan St. HAWK** HSIP: Palo Verde Rd and Michigan St Construct and install a Pedestrian Hvrid Beaco AQ STATUS = Conforms Total Cost = 589		414 HSIP C			
The sponsor of this project is: Pima County							
4.23	41dm 1.0 0 2	**Palo Verde Road Sidewalks** Palo Verde Road, from approx 4700 S. Palo Ver 4700 S. Palo Verde Road to 4100 S. Palo Verde AQ STATUS = Conforms Total Cost = 2328		121 RTA C 2007 RTAG C			
The sponsor of this project is: Pima County							
25.23	 0.1	**Romero Road and Ruthrauff Road, Flas** Intersection of North Romero Road and West HSIP: Design & Construction vellow warning ar AQ STATUS = Conforms Total Cost = 707		457 HSIP C			
The sponsor of this project is: Pima County							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-4

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
10.23 CTR.4VALMR	 1.3 4 6	**Valencia Road - Mission Road to Camin** Valencia Road - Mission Road to Camino de la Reconstruct West Valencia Rd and widen from AQ STATUS = Conforms Total Cost = 1540	1540 LOCAL D				
The sponsor of this project is: Pima County							
57.16		**FTA 5311 Administration** Administration of FTA 5311 Grant AQ STATUS = Conforms Total Cost = 750	379 FTA5311 O 95 RTA O				
The sponsor of this project is: RTA							
59.16		**FTA 5311 Intercity Transit** Intercity Transit AQ STATUS = Conforms Total Cost = 492	152 FTA5311 O 110 RTA O				
The sponsor of this project is: RTA							
60.16		**FTA 5311 Operating Grant** Transit Operations AQ STATUS = Conforms Total Cost = 2424	1010 FTA5311 O 731 RTA O				
The sponsor of this project is: RTA							
58.16		**FTA 5311 Preventative Maintenance** Maintenance for FTA 5311 grant AQ STATUS = Conforms Total Cost = 300	80 FTA5311 PMX 20 RTA PMX				
The sponsor of this project is: RTA							
33.12	48 g 0.0 0 0	**Purchase of Sun Shuttle Vehicles** Regionwide Transit Purchase Sun Shuttle Vehicles AQ STATUS = Conforms Total Cost = 4707	817 FTA5307 PMT 1022 RTA P -817 RTA REV	1020 FTA5307 PMT 1275 RTA P -1020 RTA REV	0 RTA P 0 RTA REV 0 FTA5307 PMT	0 RTA P 0 RTA REV 0 FTA5307 PMT	0 RTA P 0 RTA REV 0 FTA5307 PMT
The sponsor of this project is: RTA							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-5

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
97.06	47 i 0.0 0 0	**RTA Special Needs Transit Expansion** Expanded service area New areas - Include OV ADA DAR AQ STATUS = Conforms Total Cost = 7950	3916 RTA O	4034 RTA O	0 RTA O	0 RTA O	0 RTA O
The sponsor of this project is: RTA							
69.06	43 0.0 0 0	**Small Business Assistance** Main Street Small Business Assistance AQ STATUS = Conforms Total Cost = 10000	475 RTA C	339 RTA C	0 RTA C	0 RTA C	0 RTA C
The sponsor of this project is: RTA							
72.06	4870 0.0 0 0	**Sun Shuttle Base Transit Services** Route Service 413, 430, 440, Aio DAR, Marana DAR AQ STATUS = Conforms Total Cost = 5487	2703 RTA O -631 RTA REV 631 FTA5311 PMT	2784 RTA O -650 RTA REV 650 FTA5311 PMT	0 RTA O 0 RTA REV 0 RTA PMT	0 RTA O 0 RTA REV 0 RTA PMT	0 RTA O 0 RTA REV 0 RTA PMT
The sponsor of this project is: RTA							
42.10	487e 0.0 0 0	**Sun Shuttle Expanded Transit Services** Regionwide Exp.Svc 401, 412, GV DAR, OV DAR, Aio-Tuc, Aio-Gila AQ STATUS = Conforms Total Cost = 8439	4157 RTA O -431 RTA REV 431 FTA5311 PMT	4282 RTA O 444 FTA5311 PMT -444 RTA REV	0 RTA O 0 RTA REV 0 FTA5311 PMT	0 RTA O 0 RTA REV 0 FTA5311 PMT	0 RTA O 0 RTA REV 0 FTA5311 PMT
The sponsor of this project is: RTA							
93.06	4671 0.0 0 0	**Sun Tran - Frequency and Area Expansi** Improve frequencies along major routes, exte AQ STATUS = Conforms Total Cost = 4726	2328 RTA O	2398 RTA O	0 RTA O	0 RTA O	0 RTA O
The sponsor of this project is: RTA							
13.11 11.80.00	473a 0.0 0 0	**Transferred Special Needs Transit Serv** Operating funds for Expanded Transit Services AQ STATUS = Conforms Total Cost = 5173	2548 RTA O 4757 MOE PMT -4757 RTA REV	2625 RTA O 4900 MOE PMT -4900 RTA REV	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT
The sponsor of this project is: RTA							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-6

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
7.18	36bv	**Intersection Improvement: 6th Av and** Intersection of 6th Av and 40th St Intersection improvements AQ STATUS = Conforms Total Cost = 1000	0 RTA C				
The sponsor of this project is: South Tucson							
6.18	36bu	**Intersection Improvement: 4th Av and** Intersection of 4th Av and 40th St Construct Intersection to improve capacity and AQ STATUS = Conforms Total Cost = 1000	0 RTA C				
The sponsor of this project is: South Tucson							
16.10	37ao 0.0 0 0	**Safety improvements on 10th Ave. and** 10th Ave. and other locations Safety improvements AQ STATUS = Conforms Total Cost = 200	0 HURF12R C 0 RTA C				
The sponsor of this project is: South Tucson							
12.21 10113336		**Joint Seal Air Freight Apron - Phase 2** TUS: Joint Seal Air Freight Apron - Phase 2 TUS Project No.10110090: Joint Seal Air Freight AQ STATUS = Conforms Total Cost = 764	764 LOCAL D				
The sponsor of this project is: TAA							
5.21		**Runway 15/33 construct, asphalt, mill,** Ryan Airfield - Runway 15/33 RYN No. 20120300: 4,000 asphalt, mill, and ov AQ STATUS = Conforms Total Cost = 1260	126 LOCAL C 1134 SAF C				
The sponsor of this project is: TAA							
48.23 20109023		**Ryan Airfield - Land Aquisition** Ryan Airfield Conduct EA and Acquire 39.5 acres for expansi AQ STATUS = Conforms Total Cost = 1012				225 SAF S 25 LOCAL S	686 SAF R 76 LOCAL R
The sponsor of this project is: TAA							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-7

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
43.10 20109018	0.0 0 0	**Ryan Airfield Apron Construction** Apron construction - Phase 1 & 2 AQ STATUS = Conforms Total Cost = 7580 The sponsor of this project is: TAA			183 LOCAL C 3731 FAA C 183 SAF C		
27.14 20112225		**Ryan Airfield CCTV Cameras** Ryan Airfield Install CCTV Cameras AQ STATUS = Conforms Total Cost = 150 The sponsor of this project is: TAA					150 LOCAL C
9.21		**RYAN: Design Runway 6R/24L Extensio** Ryan Airfield: Design Runway 6R/24L Extension RYN Project No. 20120304: Extend Runway AQ STATUS = Conforms Total Cost = 10263 The sponsor of this project is: TAA		62 LOCAL S 563 SAF S		4891 FAA D 240 SAF D 240 LOCAL D	191 LOCAL C 191 LOCAL C 3885 FAA C
1.21		**TUS Airport Authority Master Plan** Tucson Airport - Master Plan TUS Project No.10119124: Master Plan Update AQ STATUS = Conforms Total Cost = 1000 The sponsor of this project is: TAA				100 LOCAL S 900 SAF S	
25.04 10100-362	0.0 0 0	**TUS Economy Overflow Lot** Upgrade Paving on economy overflow lot Buildout north portion of Economy lot AQ STATUS = Conforms Total Cost = 3521 The sponsor of this project is: TAA				3521 LOCAL C	
4.15		**TUS Near Parallel Runway** TUS Relocate runway 11R/29L and associated taxiw AQ STATUS = Conforms Total Cost = 255101 The sponsor of this project is: TAA	23647 LOCAL C 61081 FAA C 2999 SAF C	1503 LOCAL C 36632 FAA C 1503 SAF C	1471 LOCAL C 1471 SAF C 36969 FAA C		

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-8

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
32.14 10113366		**TUS Taxiway A** TUS Reconstruct Taxiway A and shoulders AQ STATUS = Conforms Total Cost = 1848 The sponsor of this project is: TAA			83 LOCAL C 1682 FAA C 83 SAF C		
96.10 10106575	0.0 0 0	**TUS Taxiway G - Phase 3** Construct Taxiway G AQ STATUS = Conforms Total Cost = 2305 The sponsor of this project is: TAA					103 LOCAL C 103 SAF C 2099 FAA C
16.23 10122471(80		**TUS Terminal Expansion and Renovati** TUS Terminal Expansion and Renovation- Phase 1 AQ STATUS = Conforms Total Cost = 93284 The sponsor of this project is: TAA			88620 FAA C 4664 LOCAL C		
17.23 10122471(80		**TUS Terminal Expansion and Renovati** TUC Terminal Expansion and Renovation- Phase 2 AQ STATUS = Conforms Total Cost = 97948 The sponsor of this project is: TAA			93050 FAA C 4898 LOCAL C		
14.23 10122471(80		**TUS Terminal Expansion and Renovati** TUS Terminal Expansion and Renovation- EA & Prel AQ STATUS = Conforms Total Cost = 5604 The sponsor of this project is: TAA	5323 FAA S 281 LOCAL S				
37.23 103608		**18 Signalized Intersections, Tucson** Flashing Yellow Arrow Conversions Replace sig HSIP:Design, construct, install traffic signal infr AQ STATUS = Conforms Total Cost = 1811 The sponsor of this project is: Tucson	1440 HSIP C				

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-9

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
11.22	41 8.0	**18th St. 8th Ave. S. Campbell/Pinal Bicy** Various corridors Design and construct Bike Blvd improvements AQ STATUS = Conforms Total Cost = 1160	0 RTA C				
The sponsor of this project is: Tucson							
81.06 SR11	14 3.1 4 6	**1st Ave: Grant to River** Grant Rd. to River Rd. Widen to 6 lanes AQ STATUS = Conforms Total Cost = 61621	17400 RTA D 16000 RTA C	19348 RTA C			
The sponsor of this project is: Tucson							
32.00	30 2.0 2 4	**22nd St: Camino Seco to Houghton Rd** Camino Seco to Houghton Rd Widen to 4-lane roadway AQ STATUS = Conforms Total Cost = 33416	644 HURF12R C 531 RTA C 1000 TUC C	11115 HURF12R C 1000 TUC C	17251 HURF12R C		
The sponsor of this project is: Tucson							
131.00 SR5A	19 a 3.7 5 6	**22nd St: I-10 to Tucson Blvd** I-10 to Tucson Blvd Widen to 6 lanes AQ STATUS = Conforms Total Cost = 145700	15643 STP C 879 HURF12R C	1940 HURF12R C 13911 STP C	3081 HURF12R C 10447 STP C	15069 HURF12R C 9450 STP C	2318 HURF12R C 15956 STP C
The sponsor of this project is: Tucson							
38.23 103609		**4 Signalized Intersections, Tucson** Four locations HSIP: Four Intersections, Positive Offsets & FYA AQ STATUS = Conforms Total Cost = 4045		3081 HSIP C 24 LOCAL C			
The sponsor of this project is: Tucson							
83.12 SP11	41cp 0.0 0 0	**5th St Bike Boulevard: 7th Avenue to U** 5th Street, from 7th to University Design and construct a bike boulevard AQ STATUS = Conforms Total Cost = 375	0 RTA C				
The sponsor of this project is: Tucson							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-10

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
36.23 103611		**9 Crosswalk Locations, Tucson** Design and construct HAWK at 9 Location HSIP Design, construct&install traffic signal infr AQ STATUS = Conforms Total Cost = 4442 The sponsor of this project is: Tucson	3664 HSIP C				
35.23 103610	0.7	**Aio Way: Benson Hwy to I-10, Tucson** Lighting - 28 Light Poles w/6 Control Cabinets HSIP: Design, construct, and install new street l AQ STATUS = Conforms Total Cost = 1307 The sponsor of this project is: Tucson	1045 HSIP C				
46.23	9.0 0 0	**Alamo Wash Greenway** Loop@ Rillito River Park to Aviation Bikeway 10 ft wide asphalt path, lighting, landscaping, a AQ STATUS = Conforms Total Cost = 27000 The sponsor of this project is: Tucson		10496 LOCAL C			
76.12 SP09	41cr 0.0 0 0	**Arrovo Chico Greenway: Country Club** Winsett Blvd between Country Club and Treat signalized crossing, greenway segment AQ STATUS = Conforms Total Cost = 600 The sponsor of this project is: Tucson	0 RTA C				
41.23	1.0	**Atrevesando Comunidades Tuc Gway** W. Nebraska St. over 1-19 Planning & design of bike ped bridge: I-19 and AQ STATUS = Conforms Total Cost = 1125 The sponsor of this project is: Tucson	900 FEDAID D 225 LOCAL D				
32.15 49B4	41cz	**Bike Boulevard Package I** Citywide Bike Boulevards AQ STATUS = Conforms Total Cost = 1000 The sponsor of this project is: Tucson	0 RTA C				

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-11

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
19.10 49B3	41bl 0.0 0 0	**Bike Lane Package III** Various Locations TBD Design and Construction of bike lane package I AQ STATUS = Conforms Total Cost = 400 The sponsor of this project is: Tucson	0 RTA C				
22.05 SR3A	17 1.5 5 6	**Broadway Blvd: Euclid Ave to Country** Euclid Ave to Country Club Rd widen to 6 lanes, bus pullouts, sidewalks, bike AQ STATUS = Conforms Total Cost = 74761 The sponsor of this project is: Tucson	0 RTA C				
34.23 103612	1.0	**Broadway Blvd; Pantano Rd to Camino** Lighting - 67 Light Poles w/12 Control Cabinets HSIP:Design, construct, and install new street li AQ STATUS = Conforms Total Cost = 2090 The sponsor of this project is: Tucson		1720 HSIP C			
33.23 T048201D 103613		**Camp Lowell Rd, Columbus Blvd to Sw** HSIP: Lighting - 26 Light Poles w/4 Control Cabi Camp Lowell Rd from Columbus Blvd to Swan AQ STATUS = Conforms Total Cost = 940 The sponsor of this project is: Tucson		716 HSIP C			
25.21		**Country Club Rd - Street Lighting, Gran** Country Club Rd between Grant Rd and 22nd S HSIP: Design and Construct continuous street l AQ STATUS = Conforms Total Cost = 1576 The sponsor of this project is: Tucson			1401 HSIP C		
81.04 S30N	16 a 0.5 0 4	**Downtown Links: Broadway to I-10** Broadway to I-10 Construct new 4 lane roadway AQ STATUS = Conforms Total Cost = 100537 The sponsor of this project is: Tucson	0 RTA C				

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-12

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
47.23		**Drexel Bridge**		4000 LOCAL C 12400 STATE C			
	5.0	Midvale Park Road to Calle Santa Cruz					
	0	A new two-lane bridge over the Santa Cruz Riv					
	2	AQ STATUS = Conforms Total Cost = 38000					
The sponsor of this project is: Tucson							
27.21		**Flashing Yellow Arrow and Backplates**	325 HSIP C				
		Citywide- 22 locations listed					
		HSIP: Convert signals to flashing yellow arrows					
		AQ STATUS = Conforms Total Cost = 436					
The sponsor of this project is: Tucson							
28.21		**Flashing Yellow Arrow, Backplates and**	1034 HSIP C				
		Citywide - 40 Locations					
		HSIP: Convert signals to FYA					
		AQ STATUS = Conforms Total Cost = 1187					
The sponsor of this project is: Tucson							
55.06	18	**Grant Rd: Oracle Rd to Swan Rd**	12675 RTA C 8979 HURF12R C				
SR2A	5.0	Oracle Rd to Swan Rd					
	4	Widen to 6 lanes + bike lanes & sidewalks					
	6	AQ STATUS = Conforms Total Cost = 90374					
The sponsor of this project is: Tucson							
84.06	15	**Grant Rd: RR Underpass Reconstructio**	7838 HURF12R C	3000 HURF26 C			
SR16	0.0	Grant Rd near I-10					
	4	Reconstruct existing RR underpass					
	6	AQ STATUS = Conforms Total Cost = 25119					
The sponsor of this project is: Tucson							
38.00	31	**Harrison Rd: Irvington Rd to Golf Links**	1169 HURF12R D	1831 HURF12R D 10261 HURF12R C			
	3.0	Irvington Rd. to Golf Links Rd.					
	2	Bridge over the Pantano Wash only					
	6	AQ STATUS = Conforms Total Cost = 22619					
The sponsor of this project is: Tucson							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-13

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
29.21		**HAWK Package 1** Various Locations HSIP: Pedestrian Hybrid Beacon (PHB)/HAWK AQ STATUS = Conforms Total Cost = 2569 The sponsor of this project is: Tucson			2065 HSIP C		
30.21		**HAWK Package 2** 2 locations: Speedway Blvd/Sahuara, Silverlake HISP: PHB HAWK Pedestrian Safety projects AQ STATUS = Conforms Total Cost = 660 The sponsor of this project is: Tucson			29 LOCAL C 505 HSIP C		
29.15 SH31-33	37bf	**HAWKs Speedway+Richey Grant+Arcad** Speedway/Richey, Grant/Arcadia, 22nd/Belved Design and construction of 3 HAWK crossings AQ STATUS = Conforms Total Cost = 501 The sponsor of this project is: Tucson	0 RTA C				
16.15 SR1I	32 i	**Houghton Rd: 22nd St to Irvington Rd** Houghton Rd from 22nd St to Irvington Rd Widen Houghton Road AQ STATUS = Conforms Total Cost = 39928 The sponsor of this project is: Tucson		5982 PCDIFO C	8000 HURF12R C	6461 HURF12R C	9691 HURF12R C
10.22	41 1.3	**Mary Ann Cleveland Way Shared-Use P** Houghton Rd to Atterbury Wash, along north s Design & construct new biking & walking path AQ STATUS = Conforms Total Cost = 2038 The sponsor of this project is: Tucson	0 RTA C				
26.21 T0380 TUC-0(271)D		**Nogales Highway - Street Lighting** Nogales Highway between Drexel Road and Lo HSIP: Design and Construct continuous lightin AQ STATUS = Conforms Total Cost = 1400 The sponsor of this project is: Tucson			1263 HSIP C		

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
32.23 103615		**Park Ave & Ohio St. Tucson** Street Lighting - 8 Light Poles w/1 Control Cabi HSIP: Design, construct, and install new street l AQ STATUS = Conforms Total Cost = 401	231 HSIP C				
The sponsor of this project is: Tucson							
5.23 104826	41dn 14.9 0 1	**Sahuara Bike Blvd & Copper/Flower Bi** Two bicycle pathways: one north-south, one e RTAG: 2 projects will assist in safe routes for n AQ STATUS = Conforms Total Cost = 2439		104 RTA C 1725 RTAG C			
The sponsor of this project is: Tucson							
56.06 SR6A	05 7.6 2 4	**Silverbell Rd: Grant to Ina** Grant to Ina Widen to 4 lanes w/ bike lanes AQ STATUS = Conforms Total Cost = 46869	4760 HURF12R C	6326 HURF12R C			
The sponsor of this project is: Tucson							
31.23 103617	0.3	**Swan Road: Camp Lowell Dr - Fort Low** Lighting - 14 Light Poles w/4 Control Cabinets HSIP: Design, construct, and install new street l AQ STATUS = Conforms Total Cost = 820		598 HSIP C			
The sponsor of this project is: Tucson							
30.23 103618	0.5	**Tanque Verde Rd: Tanque Verde Wash** Tanque Verde, Bridge Limits to Woodland Rd HSIP: Design, construct, and install new street l AQ STATUS = Conforms Total Cost = 882		660 HSIP C			
The sponsor of this project is: Tucson							
90.12 SP14	41di 0.0 0 0	**UA 2nd Street Bike and Pedestrian Imp** 2nd Street, from Park to Highland Bike and pedestrian safety improvements AQ STATUS = Conforms Total Cost = 278	0 RTA D				
The sponsor of this project is: Tucson							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-15

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
60.06	23 4.4 6 6	**Valencia Rd: I-19 to Alvernon** I-19 to Alvernon Construct controlled access improvements AQ STATUS = Conforms Total Cost = 9890		2045 STP C 1740 HURF12R D	499 HURF12R C 5509 STP C		
The sponsor of this project is: Tucson							
59.06 SR14	25 4.7 4 6	**Valencia Rd: Kolb Rd to Houghton Rd** Kolb Rd to Houghton Rd Widen to 6 lanes AQ STATUS = Conforms Total Cost = 28596	5200 RTA C 1500 TUC C				
The sponsor of this project is: Tucson							
20.23 T0466 TUC-0(275)D	11.7	**Western Hills Neighborhood Revitaliza** Western Hills. Western Hills II. Las Vistas neigh Rehabilitate pavement and address ADA ramp AQ STATUS = Conforms Total Cost = 10718	2483 FEDAID C 8235 LOCAL C				
The sponsor of this project is: Tucson							
471.00 ALI 11.12.01	46 b 0.0 0 0	**Bus Replacements** Citywide Replacement buses AQ STATUS = Conforms Total Cost = 51768	633 FLEX P 5683 FTA5307 P 1688 FTA5339 P 1462 LOCAL P	633 FLEX P 7506 FTA5307 P 1688 FTA5339 P 1784 LOCAL P	1688 FTA5339 P 633 FLEX P 7681 FTA5307 P 1815 LOCAL P	1688 FTA5339 P 633 FLEX P 1998 FTA5307 P 812 LOCAL P	1688 FTA5339 P 633 FLEX P 7048 FTA5307 P 1703 LOCAL P
The sponsor of this project is: Tucson Transit							
3.15		**CNG Fueling System NW** SunTran NW Facility Sun Tran NW Facility/CNG Fueling System AQ STATUS = Conforms Total Cost = 876	350 FTA5307 O 88 LOCAL O	350 FTA5307 O 88 LOCAL O			
The sponsor of this project is: Tucson Transit							
6.19 5/24/2018		**Electric Bus Charging Infrastructure** System Wide Charging infrastructure for EV AQ STATUS = Conforms Total Cost = 1250	1000 FTA5307 O 250 LOCAL O				
The sponsor of this project is: Tucson Transit							

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
12.22 Tucson Trans	41	**FTA 5337 State of Good Repair Formula** Region wide FTA 5337 AQ STATUS = Conforms Total Cost = 3050	488 FTA 5337 PMX 122 LOCAL PMX	488 FTA 5337 PMX 122 LOCAL PMX	488 FTA 5337 PMX 122 LOCAL PMX	488 FTA 5337 PMX 122 LOCAL PMX	488 FTA 5337 PMX 122 LOCAL PMX
The sponsor of this project is: Tucson Transit							
2.13	4675 0.0 0 0	**Marana Transit Services** Marana, various locations Transit services in Marana AQ STATUS = Conforms Total Cost = 197	97 RTA O 121 MOE PMT -121 RTA REV	100 RTA O 125 MOE PMT -125 RTA REV	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT
The sponsor of this project is: Tucson Transit							
42.12	4672 0.0 0 0	**Pima County Transit Services** Various locations Replace service formally provided by Pima Cou AQ STATUS = Conforms Total Cost = 9426	4643 RTA O 3171 MOE PMT -3171 RTA REV	4783 RTA O 3266 MOE PMT -3266 RTA REV	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT	0 RTA O 0 RTA REV 0 MOE PMT
The sponsor of this project is: Tucson Transit							
68.03 11.7A.00	 0.0 0 0	**Preventative Maintenance** SunTran & VanTran Provide capital maintenance AQ STATUS = Conforms Total Cost = 39320	5648 FTA5307 O 1412 LOCAL O	6178 FTA5307 O 1545 LOCAL O	6000 FTA5307 O 1500 LOCAL O	6204 FTA5307 O 1551 LOCAL O	6000 FTA5307 O 1500 LOCAL O
The sponsor of this project is: Tucson Transit							
16.18		**Preventative Maintenance (Real Prope** Regionwide Preventative maintenance on real property AQ STATUS = Conforms Total Cost = 4563	750 FTA5307 O 188 LOCAL O	750 FTA5307 O 188 LOCAL O	700 FTA5307 C 175 LOCAL C	700 FTA5307 C 175 LOCAL C	700 FTA5307 C 175 LOCAL C
The sponsor of this project is: Tucson Transit							
9.22	41	**Safety for Transit** Tucson Funding will be used to support performance t AQ STATUS = Conforms Total Cost = 920	147 FTA5307 O 37 LOCAL O	147 FTA5307 O 37 LOCAL O	147 FTA5307 O 37 LOCAL O	147 FTA5307 O 37 LOCAL O	147 FTA5307 O 37 LOCAL O
The sponsor of this project is: Tucson Transit							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-17

Appendix 1 - TIP Development

TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
64.03		Security for Transit	196 FTA5307 O 49 LOCAL O	196 FTA5307 O 49 LOCAL O	196 FTA5307 O 49 LOCAL O	196 FTA5307 O 49 LOCAL O	196 FTA5307 O 49 LOCAL O
	0.0	1% of FTA Apportionment Required					
	0	Install					
	0	AQ STATUS = Conforms Total Cost = 1225					
		The sponsor of this project is: Tucson Transit					
43.12	4674	South Tucson Transit Services	577 RTA O	594 RTA O	0 RTA O	0 RTA O	0 RTA O
	0.0						
	0	Providing transit services in South Tucson					
	0	AQ STATUS = Conforms Total Cost = 1171					
		The sponsor of this project is: Tucson Transit					
42.13		Sun Shuttle OV DAR Bus Replacements	269 FTA5307 P 68 LOCAL P	403 FTA5307 P 101 LOCAL P	269 FTA5307 P 68 LOCAL P	292 FTA5307 P 73 LOCAL P	292 FTA5307 P 73 LOCAL P
		Region wide					
		Replace sun shuttles on OV DAR rotues					
		AQ STATUS = Conforms Total Cost = 1908					
		The sponsor of this project is: Tucson Transit					
95.06	4976	Sun Tran - Express Service Expansion	1960 RTA O 318 FTA5311 PMT -318 RTA REV	2019 RTA O 328 FTA5311 PMT -328 RTA REV	0 RTA O 0 RTA REV 0 FTA5311 PMT	0 RTA O 0 RTA REV 0 FTA5311 PMT	0 RTA O 0 RTA REV 0 FTA5311 PMT
	0.0	Expand existing express routes					
	0	New routes including Sun Shuttle Rte 421X					
	0	AQ STATUS = Conforms Total Cost = 3979					
		The sponsor of this project is: Tucson Transit					
70.06	44	Sun Tran - Weekday Evening Service Ex	2411 RTA O	2484 RTA O	0 RTA O	0 RTA O	0 RTA O
	0.0						
	0	Expand weekday evening service along major r					
	0	AQ STATUS = Conforms Total Cost = 4895					
		The sponsor of this project is: Tucson Transit					
94.06	45	Sun Tran - Weekend Service Expansion	2115 RTA O	2178 RTA O	0 RTA O	0 RTA O	0 RTA O
	0.0						
	0	Expand weekend service along major routes					
	0	AQ STATUS = Conforms Total Cost = 4293					
		The sponsor of this project is: Tucson Transit					

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-18

Appendix 1 - TIP Development

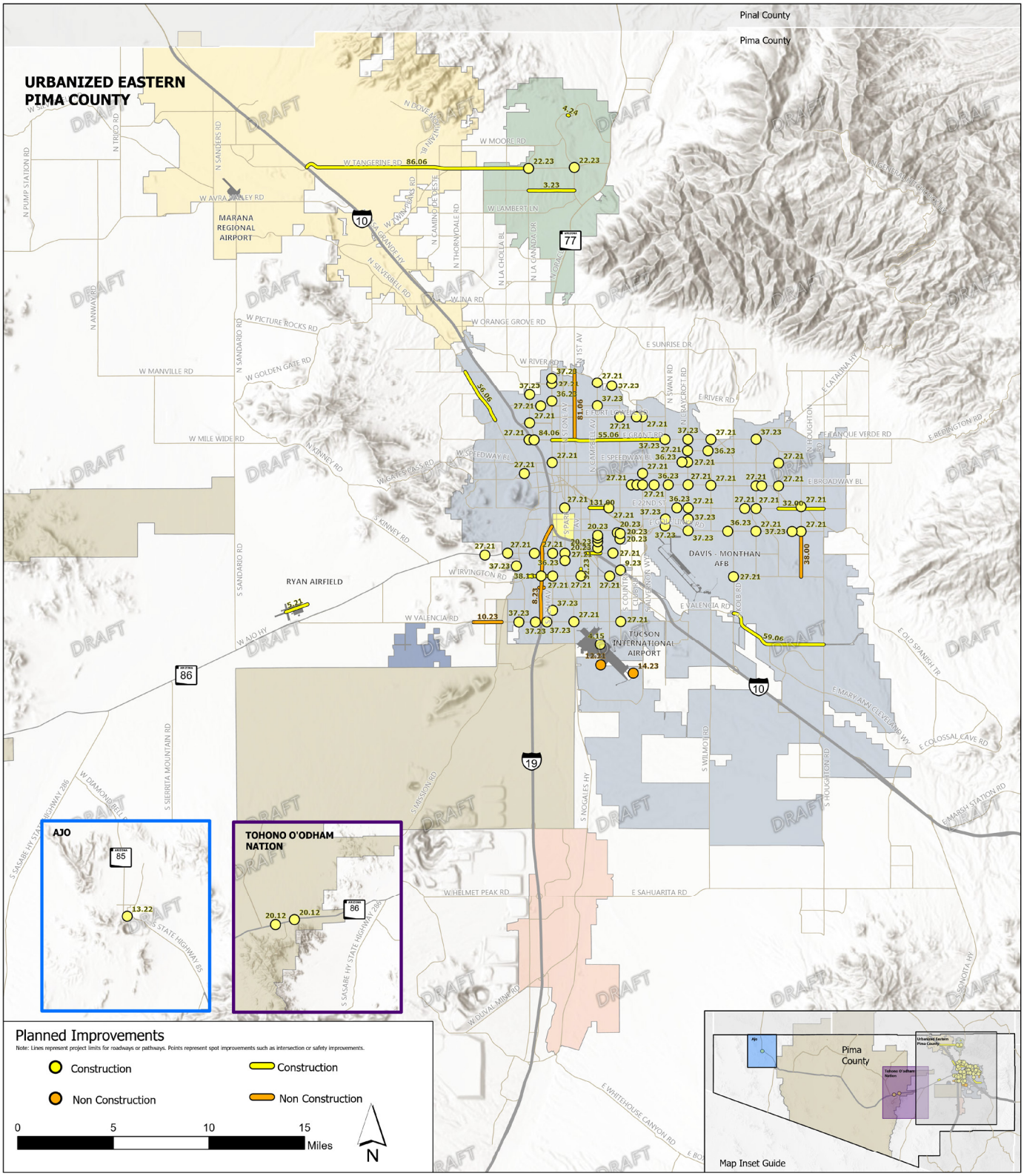
TipID / SponsorID / StateID / FedID	RTAID / Length / ExistingLanes / AfterLanes	STREET/PROJECT NAME / LOCATION / PROJECT DESCRIPTION / AQ STATUS / TOTAL COST	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR 2025	2026	2027	2028	2029
27.03		**Sun Van Replacement Vans**	3400 FTA5307 P 600 LOCAL P	2500 FTA5307 P 442 LOCAL P	3866 FTA5307 P 683 LOCAL P	9503 FTA5307 P 1677 LOCAL P	4657 FTA5307 P 822 LOCAL P
	0.0	Citywide					
	0	Purchase replacement paratransit vehicles					
ALI 11.12.15	0	AQ STATUS = Conforms Total Cost = 28150					
The sponsor of this project is: Tucson Transit							
71.06	473b	**Sun Van/Paratransit Expansion**	2397 RTA O	2469 RTA O	0 RTA O	0 RTA O	0 RTA O
	0.0						
	0	Expand ADA paratransit services regionwide					
	0	AQ STATUS = Conforms Total Cost = 4866					
The sponsor of this project is: Tucson Transit							
77.08		**Support Vehicles - Sun Tran**	360 FTA5307 P 90 LOCAL P	240 FTA5307 P 60 LOCAL P	391 FTA5307 P 98 LOCAL P	210 FTA5307 P 53 LOCAL P	210 FTA5307 P 53 LOCAL P
	0.0	Support vehicles for Sun Tran operations					
	0	Support vehicles for Sun Tran operations					
	0	AQ STATUS = Conforms Total Cost = 1765					
The sponsor of this project is: Tucson Transit							
8.19		**Transit Employee Training**	25 FTA5307 O 7 LOCAL O	25 FTA5307 O 7 LOCAL O	25 FTA5307 O 7 LOCAL O	25 FTA5307 O 7 LOCAL O	25 FTA5307 O 7 LOCAL O
		System Wide					
5/24/2018		Employee Training					
		AQ STATUS = Conforms Total Cost = 160					
The sponsor of this project is: Tucson Transit							
32.03		**Transit Enhancements/ADA**	156 FTA5307 C 39 LOCAL C	156 FTA5307 C 39 LOCAL C	196 FTA5307 C 49 LOCAL C	196 FTA5307 C 49 LOCAL C	196 FTA5307 C 49 LOCAL C
	0.0	Citywide					
	0	1% of FTA Apportionment					
	0	AQ STATUS = Conforms Total Cost = 1125					
The sponsor of this project is: Tucson Transit							
66.03	46 i	**Transit Grant Administration**	160 FTA5307 O 40 LOCAL O	160 FTA5307 O 40 LOCAL O	160 FTA5307 O 40 LOCAL O	160 FTA5307 O 40 LOCAL O	160 FTA5307 O 40 LOCAL O
	0.0						
	0	Transit Grant Administration					
ALI 11.79.00	0	AQ STATUS = Conforms Total Cost = 1000					
The sponsor of this project is: Tucson Transit							

9/19/2024 Projects with empty funding boxes in all five fiscal years have been identified as having potential carry forward funding from FY 2024 A-1-19

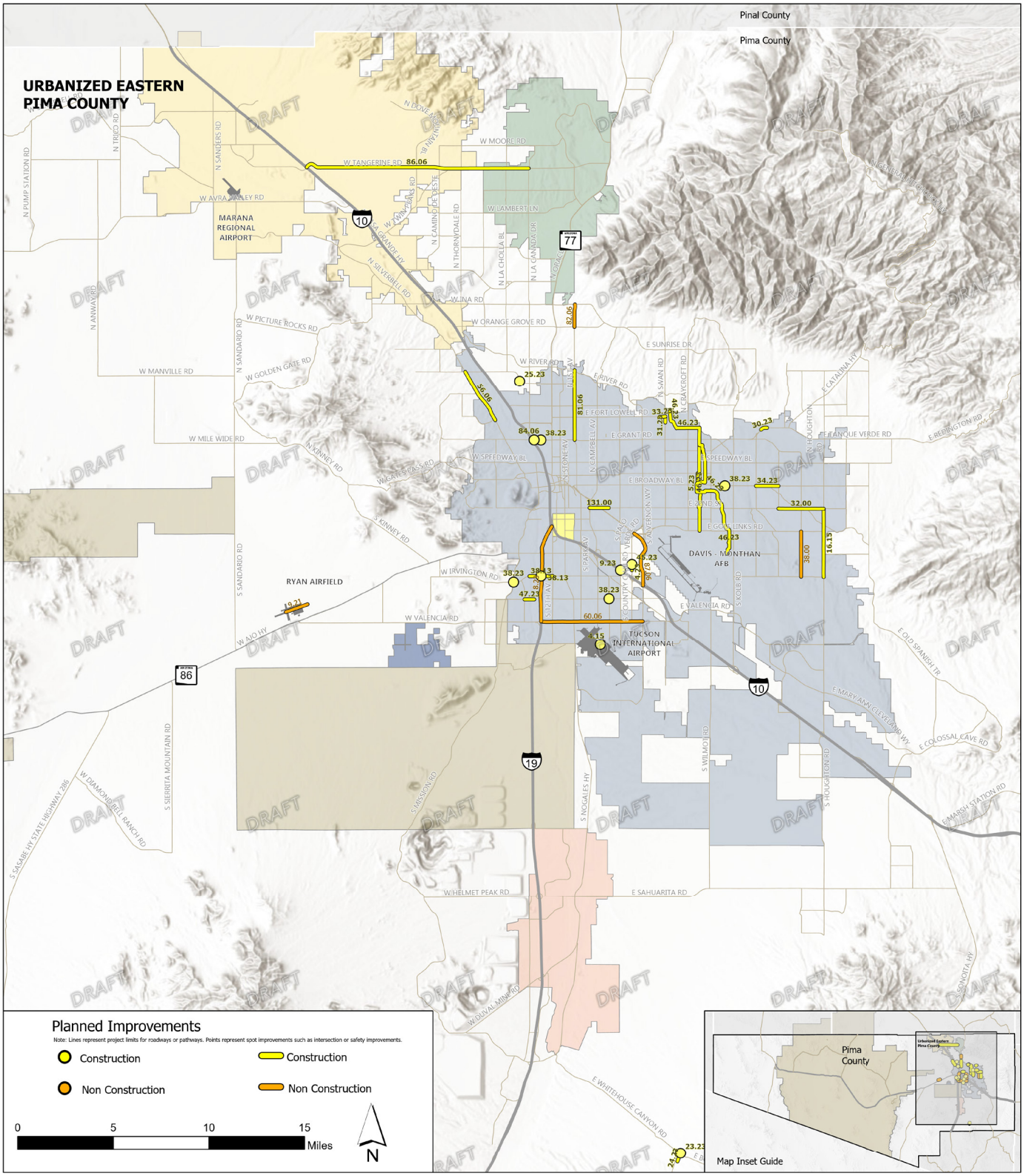
Appendix 1 - TIP Development

TipID	RTAID	STREET/PROJECT NAME	PROPOSED FUNDING (IN THOUSANDS OF DOLLARS) FISCAL YEAR				
SponsorID	Length	LOCATION					
StateID	ExistingLanes	PROJECT DESCRIPTION					
FedID	AfterLanes	AQ STATUS TOTAL COST	2025	2026	2027	2028	2029
5.19		Transit Technology Upgrades: Mainten	300 FTA5307 O	300 FTA5307 O	300 FTA5307 O	300 FTA5307 O	300 FTA5307 O
		Svstem Wide: Maintenance	75 LOCAL O	75 LOCAL O	75 LOCAL O	75 LOCAL O	75 LOCAL O
5/24/2018		Technology upgrades for transit					
		AQ STATUS = Conforms Total Cost = 4685					
The sponsor of this project is: Tucson Transit							

FY 2025 TIP Projects



FY 2026 TIP Projects

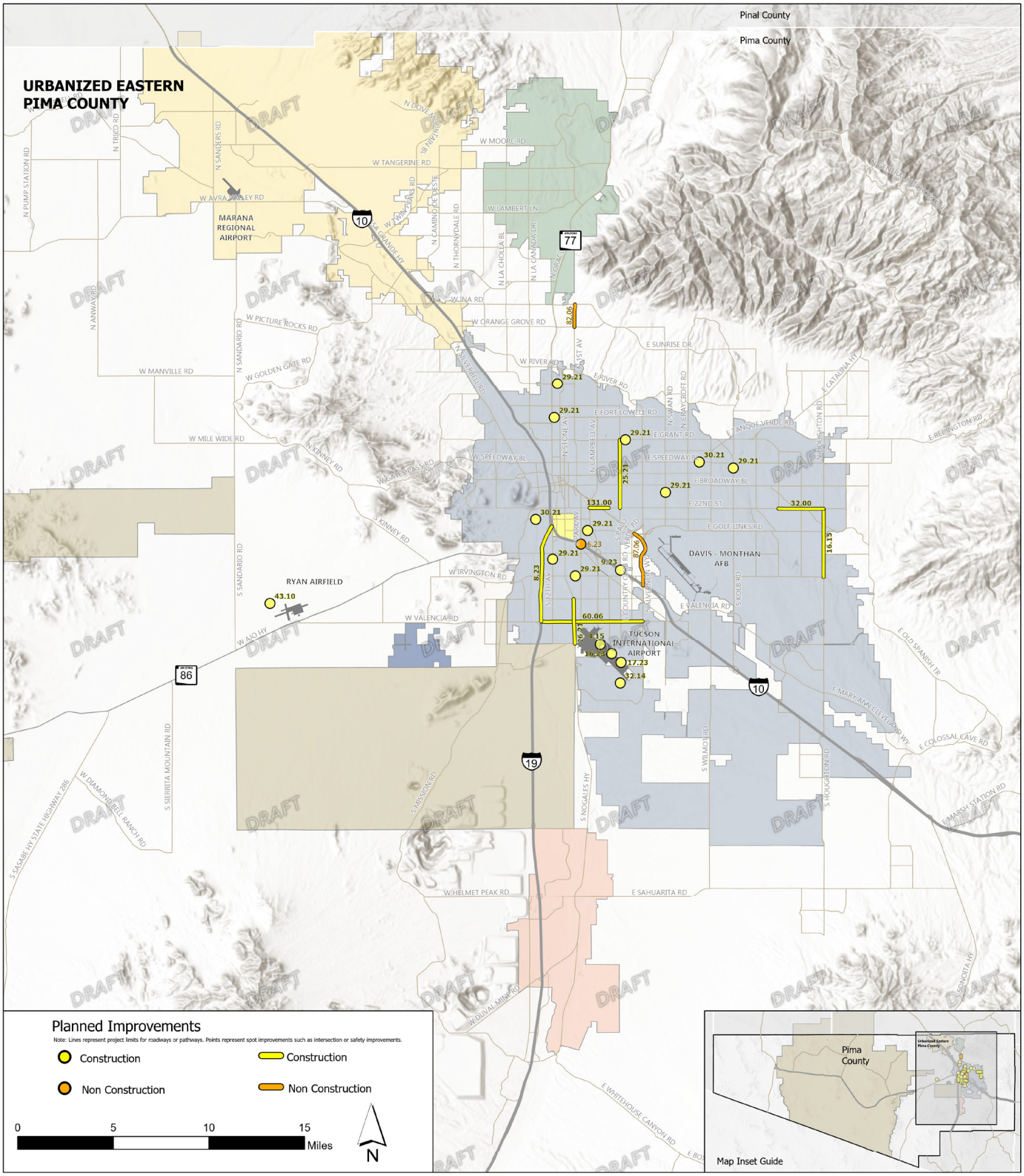


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

FY 2027 TIP Projects

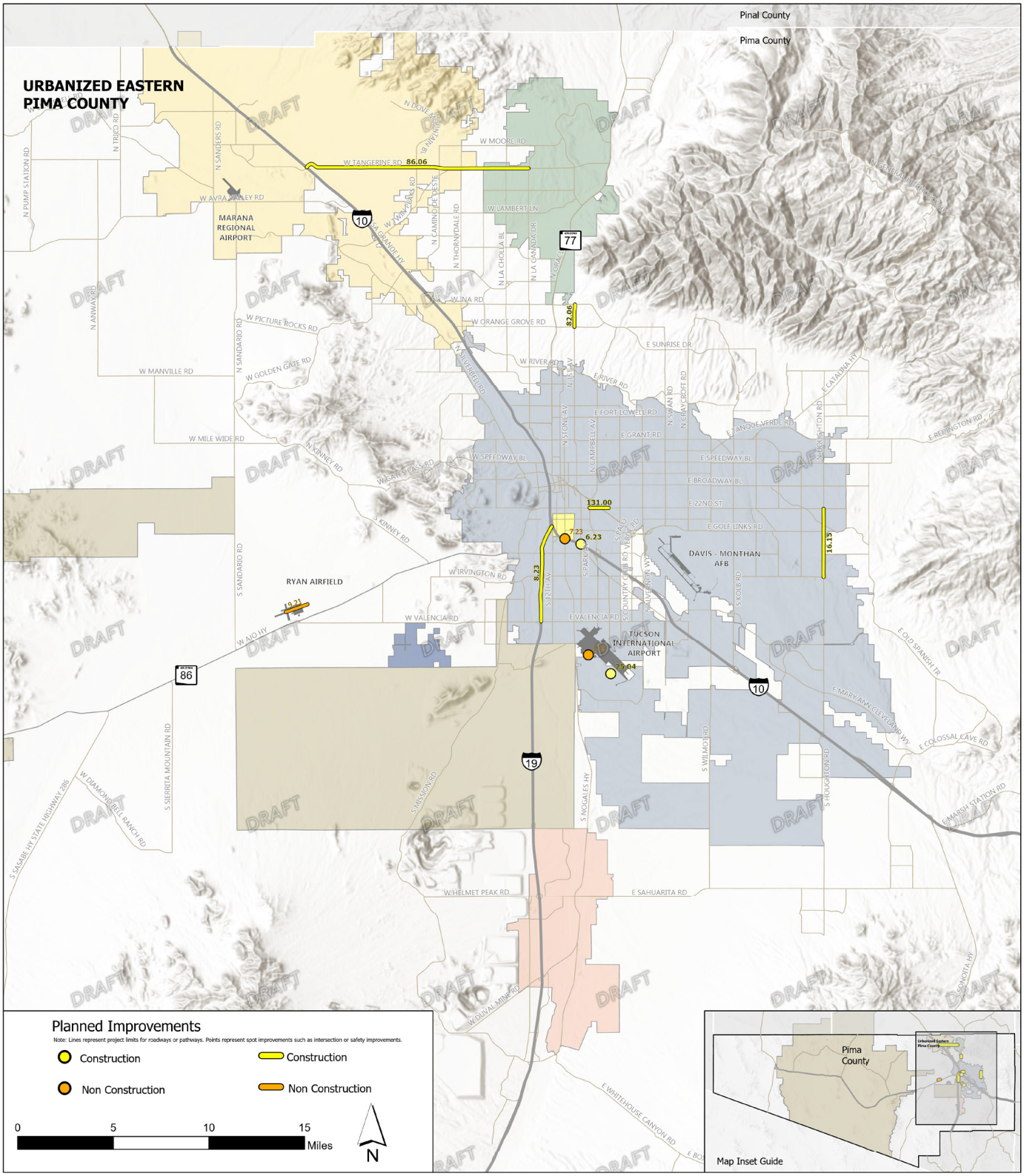


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

FY 2028 TIP Projects

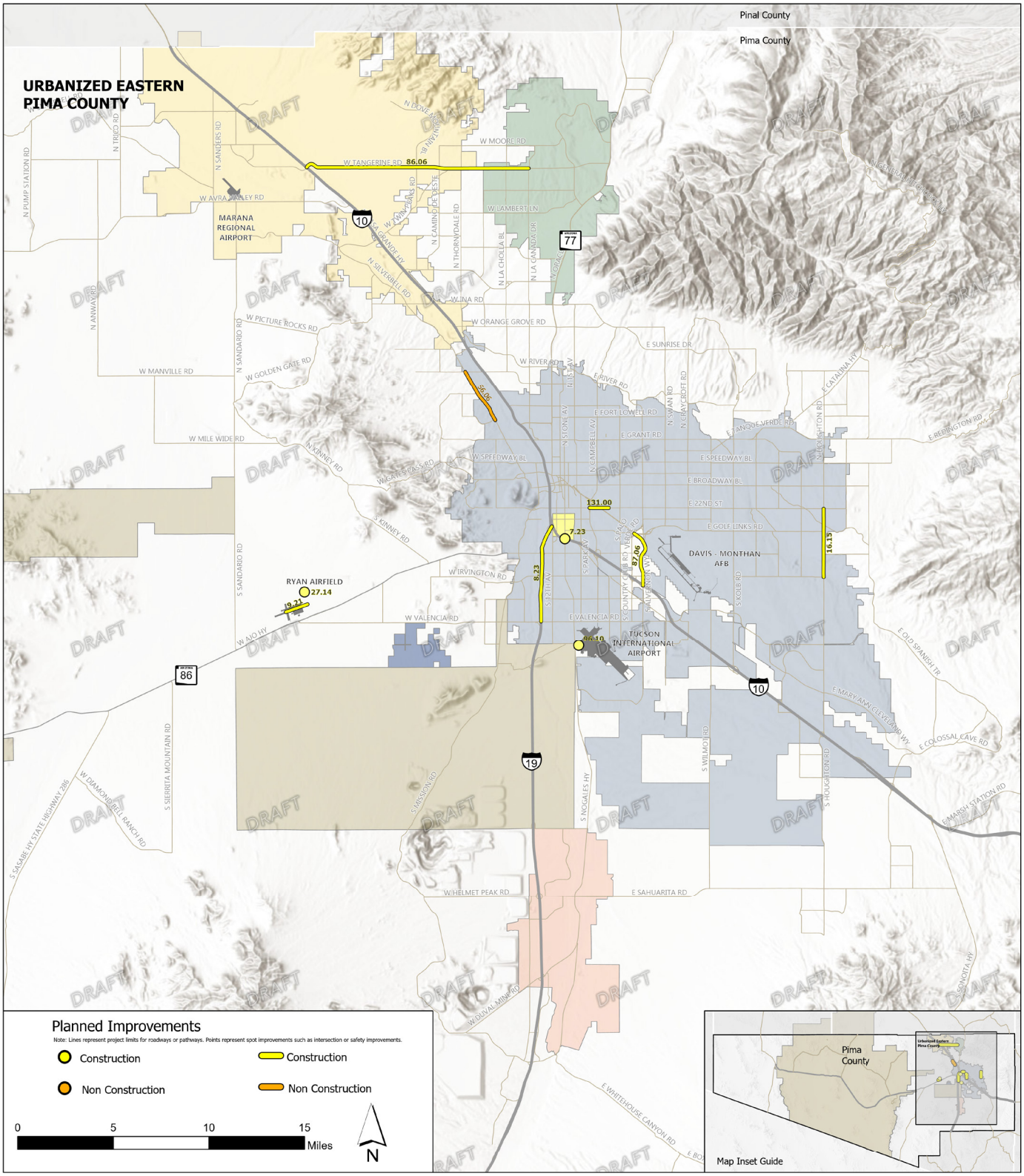


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

FY 2029 TIP Projects

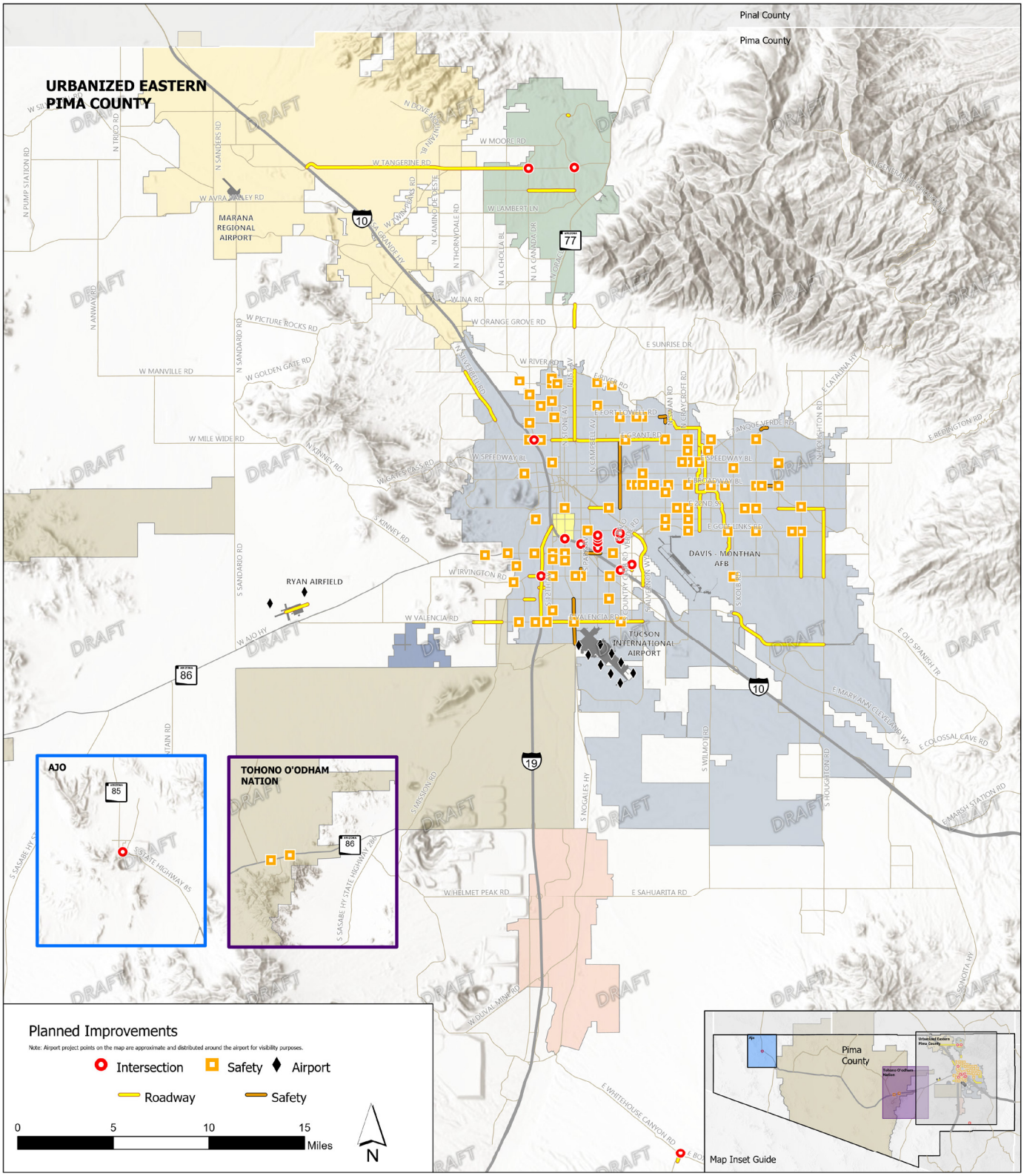


Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

All TIP Projects (FY 2025 - FY 2029)



Transportation Improvement Program | FY 2025 - FY 2029

PAGregion.com

GIS data for TIP projects up to date as of May 22, 2024. Map produced on May 22, 2024.

APPENDIX 2

FISCAL CONSTRAINT ANALYSIS

Table 1: HURF 12.6% and HURF 2.6% Forecasts by ADOT

State HURF Revenues - Forecast		
Fiscal Year	**12.6% Funds**	**2.6% Funds**
2025	28,419,000	5,864,000
2026	29,283,000	6,043,000
2027	30,137,000	6,219,000
2028	30,972,000	6,391,000
2029	31,824,000	6,567,000

Table 2 Historical distributions of HURF 12.6% and HURF 2.6%

State HURF Revenues Distributed to PAG		
Fiscal Year	**12.6% Funds**	**2.6% Funds**
2015	19,468,263	4,046,123
2016	20,379,729	4,241,596
2017	22,186,379	4,441,305
2018	23,079,799	4,739,959
2019	23,126,924	5,270,928
2020	24,465,835	5,267,212
2021	24,922,077	5,188,190
2022	26,680,967	5,550,822
2023	28,966,452	6,464,297
Estimated Revenues		
2024	27,485,000	5,672,000

* The development of the FY 2025–FY 2029 TIP occurred during FY 2024

Table 3: Forecasted Federal Surface Transportation Block Grant Funding

Estimated Federal STBG Funds Distributed to PAG	
Federal Fiscal Year	**STBG Total**
2025	21,061,321
2026	21,374,195
2027	21,374,195
2028	21,374,195
2029	21,374,195

Table 4: Historical STBG distributions to PAG

Historical Distributions	
Federal Fiscal Year	STBG Total
2015	17,398,021
2016	17,860,885
2017	18,314,740
2018	18,871,741
2019	19,443,925
2020	19,985,188
2021	19,886,087
2022	21,302,559
2023	21,620,258
2024	20,754,581

Table 5: State Discretionary Funds (NHPP, NFP, and State Match)

State Discretionary Funds (a combination of state and federal funding, the amounts shown are the amounts provided for programming.)	
Fiscal Year	Amount Provided to PAG
2025	165,349,535
2026	181,261,357
2027	170,615,135
2028	161,892,313
2029	169,912,045

Table 6: Historical Distributions of State Discretionary Funds

State Discretionary Funds (a combination of state and federal funding, the amounts shown are the amounts provided for programming.)	
Fiscal Year	Amount provided to PAG area
2015	60,100,000
2016	37,250,000
2017	50,900,000
2018	42,941,000
2019	62,194,000
2020	84,596,000
2021	60,785,000
2022	81,330,000
2023	45,088,050
2024	135,189,000

Table 7: FY 2025–FY 2029 TIP Fiscal Constraint Analysis

FY 2025–FY 2029 TIP Fiscal Constraint Analysis					
	HURF 2.6%	HURF 12.6%	STP/STBG > 200k	FTA 5307	RTA
FY 2024 Ending Balance		11,932,000	-		
FY 2025 Revenues	6,686,000	28,419,000	15,643,000	20,031,000	114,429,000
FY 2025 Expenses	6,686,000	29,311,000	15,643,000	20,031,000	73,323,000
FY 2025 Balance	-	11,040,000	-	-	41,106,000
FY 2026 Revenues	7,677,000	29,283,000	15,956,000	20,031,000	116,760,000
FY 2026 Expenses	7,263,000	33,903,000	15,956,000	20,031,000	41,454,000
FY 2026 Balance	414,000	6,420,000	-	-	75,306,000
FY 2027 Revenues		30,137,000	15,956,000	20,031,000	
FY 2027 Expenses		30,181,000	15,956,000	20,031,000	
FY 2027 Balance		6,376,000	-	-	
FY 2028 Revenues		30,972,000	15,956,000	20,031,000	
FY 2028 Expenses		30,864,000	15,956,000	20,031,000	
FY 2028 Balance		6,484,000	-	-	

FY 2029 Revenues		31,824,000	15,956,000	20,031,000	
FY 2029 Expenses		32,359,000	15,956,000	20,031,000	
FY 2029 Balance		5,949,000	-	-	

The TIP development process is a snapshot established in Fall of 2023. The TIP is developed based on projected "available STBG funds" developed in partnership with ADOT and PAG through the TIP subcommittee process.

Completing RTA's promise is still our priority and so balancing programming to ensure RTA eligible projects are able to obligate the available funding is a major consideration. The available STBG fund is used on major roadway projects and to ensure fiscal constraint with the apportionments of STBG > 200k, of which 100% of the federal apportionments are programmed.

The actual amount of Federal STBG is determined on an annual basis and is subject to change. Based on direction from FWHA, ADOT may adjust the amount of STBG based on obligation limitation rate modifications, adjustments to federal apportionments, or other factors. For example, PAG's STBG >200k apportionments were recently reduced by ADOT to reflect 2020 Census urban area rebalancing. Thus, PAG and ADOT finance staff coordinate throughout the year to monitor and adjust to changes to the federal ledger, including tracking the status of projects that are expected to obligate STBG prior to annual deadlines. This is to ensure that fiscal constraint is maintained by not programming more STBG than is available while also avoiding the loss of funding to the region. If changes to the federal ledger result in additional STBG becoming available, PAG staff coordinate with member agencies to identify eligible projects that meet RTA commitments, such as through a supplemental call for projects.

Smaller suballocations of STBG are also used to fund smaller projects consistent with RTA category #41 through the competitive Regional Transportation Alternative Grants (RTAG) process, and suballocations are adjusted to ensure that obligation limitation is not exceeded each year.

The HURF 2.6% in this table shows funding available for new programming as part of the TIP development process and is based on the Q1 ADOT HURF 2.6% cashflow worksheet. The PAG TIP Policies and Procedures indicate that PAG HURF 2.6% funding should not be programmed more than two years in advance.

The RTA is required by law to pass a budget annually. The RTA Board approves a contingency budget for pay-as-you-go funding as part of its budget for projects under construction that require supplemental RTA funding. The RTA Board must take this action first for any RTA funds to be considered by PAG Regional Council as part of the TIP. RTA revenue projections shown above are the from pessimistic series of the 2022 RTA forecast developed by the University of Arizona's Eller Economic and Business Research Center. RTA revenues include sales tax revenue, transit revenues, miscellaneous revenues and repayments. RTA revenues are estimates. Actual RTA revenues and budget to be formally established by the RTA Board.

APPENDIX 3

TIP POLICIES AND PROCEDURES

Pima Association of Governments

Transportation Improvement Program (TIP)
Policies and Procedures

Introduction: These policies and procedures govern the programming of available regional funds through Pima Association of Governments' Transportation Improvement Program (TIP). Proposed projects that are regionally significant[1], regardless of fund source, are required to be included in the TIP document and, as such, portions of the TIP Policies and Procedures apply to those projects as indicated below. Additionally, funds associated with the Regional Transportation Authority (RTA) are governed by the RTA Memorandums of Policy and the RTA Policy, Objectives and Procedures documents within the 2006 RTA Administrative Code.

Goal: To provide consistency in the development of the TIP, which creates a common ground from which everyone can plan and to establish consistent and efficient use of the regional funds to comply with all applicable state, federal and other guidelines.

Nothing in the TIP Policies and Procedures is intended to contradict or supersede federal rules, the Arizona Constitution or statutes and/or the RTA Memorandum of Policies (MOPs) or RTA Policies, Objectives and Procedures (POPs).

Process: It must be stressed that while the PAG regional funds programming process strives for consistency, there are fundamental differences in the role, and associated authority, that PAG has in the programming of federal vs. state vs. regional funding. The process tries to balance federal requirements for a performance-based planning and programming approach overall.

Federal regulations state that metropolitan planning organizations (MPOs) shall develop long-range transportation plans and transportation improvement programs through a performance-driven, outcome-based approach to planning for metropolitan areas of the state. At the same time, the enabling legislation for the Regional Transportation Authority (RTA) calls for expenditures to be consistent with the RTA plan approved by the voters in 2006.

[1] As defined by 40 CFR 93.101, regionally significant project means 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, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally 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.

Concepts and Definitions:

Policies – for the purposes of this document, refers to the consistent rules to be followed by PAG staff and the jurisdictional sponsors in developing and implementing the TIP.

Procedure – for the purposes of this document, refers to the set processes that are followed by PAG to develop and update the TIP and manage the regional program.

OWP – Overall Work Program. The OWP describes the amount of local, state and federal funds programmed for PAG's operations including how they are used for personnel and outside professional services.

HURF – Highway User Revenue Fund.

TPC – Transportation Planning Committee. TPC is the PAG committee responsible for development of the TIP document.

PAG HURF 12.6% Funds – Regional funds that come from the state Highway User Revenue Fund set aside for roadway projects.

PAG HURF 2.6% Funds – Regional funds that come from the state Highway User Revenue Fund set aside for roadway projects on the state system. This fund source is cooperatively programmed with ADOT.

RTA – The Regional Transportation Authority is the government entity that manages the $2.1 billion, 20-year RTA plan, which was approved by Pima County voters on May 16, 2006.

RMAP – Regional Mobility and Accessibility Plan is the region's long-range transportation plan.

STBGP Funds – Federal Surface Transportation Block Grant Program funds. Sometimes abbreviated as STP.

RTAG – Regional Transportation Alternatives Grant. The portion of statewide apportionments of Transportation Alternatives funds that are suballocated to the PAG region for programming through a competitive selection process.

PDAF – Project Development Activity Fund. A set-aside of PAG HURF 12.6% funds used to jumpstart projects by doing the necessary study or preliminary design that prepares projects for construction.

Advanced Construction Agreement – An agreement between PAG, ADOT and a project sponsor that allows a project to begin even in the absence of sufficient federal-aid obligation authority in the current fiscal year. The agreement identifies a future date when the obligation authority will be available.

Severability – Any parts of these policies and procedures that do not apply for any reason – including but not limited to federal rules, Arizona Revised Statutes, or RTA policies – to a given set of circumstances, do not void their application where possible.

Compatibility with Existing Legislation – The Arizona State Constitution and Arizona Revised Statutes are already in place for HURF funds; use and reimbursement requirements remain in place and are not impacted by these policies and procedures.

Existing federal rules for federal funds' use, match and obligation requirements remain in place and are not impacted by these policies and procedures. These policies and procedures will be administratively updated to reflect changes necessitated by changes in federal regulations.

Policies:

TIP Development

PO1.0 - Continuation – The TIP Policies and Procedures are to remain in effect unless modified by action of the PAG Regional Council. Additional guidelines and procedures may be modified, added or deleted by the PAG Executive Director acting upon the Regional Council's policies in lieu of Regional Council action. Change in FHWA or FTA policy or regulations may also necessitate revision of these policies and procedures.

PO2.0 – The TIP shall be fiscally constrained in each individual fund source in each of the first four years of the TIP. The region shall establish a fifth year of the TIP; however, it does not need to be fiscally constrained.

> PO2.1 – Only projects that are consistent with the region's long-range transportation plan, the Regional Mobility and Accessibility Plan (RMAP), are eligible to be in the TIP.

PO3.0 – The TIP document may contain an appendix that provides programming for years six through 10 for planning purposes. This appendix will be called the "Development Program" and will allow the jurisdictions to plan and evenly space projects in the program. Additionally, FHWA may require certain studies or design projects to demonstrate the need for future construction funds prior to obligation, or a portion/phase thereof.

> PO3.1 – While fiscal constraint is not required for the Development Program, the utility of the planning exercise would be diminished if some level of constraint is not used. Years six through 10 of the Development Program shall be constrained within 10% of the funding estimates for the fourth year of the TIP.
>
> PO3.2 – The region is not required to advance projects in the Development Program into the fifth year of the TIP as part of the TIP development process. However, if the sponsoring jurisdiction has been developing the project, advancing these projects should be strongly considered.

PO4.0 – No individual jurisdiction may request more funding in any given year from any individual funding source than the total amount available to the region.

> PO4.1 – Privately funded projects must provide evidence of funding to be included in the TIP. The sponsoring jurisdiction shall confirm in writing to PAG that the private funding is reasonably expected in the year of expenditure programmed in the TIP.
>
> PO4.2 - Jurisdictions shall confirm in writing that their local match and any other funds necessary to complete the project will be made available within the specified timeframe.

PO5.0 – Construction projects may not appear in the first two years of the TIP unless the phase shown within those years is fully funded.

PO5.1 – Construction ("C") projects may not be shown in the first two years of the TIP document unless the project is fully funded. Construction funds should not be shown in year three of the TIP unless the jurisdiction has an "Advanced Construction" plan. The funding set-aside (FS) designation shall be used when a jurisdiction is compiling the necessary funding for a phase. The phase of the project shall be included in the FS designation, e.g. design set-aside funds will be labeled as DFS and construction set-aside as CFS.

PO5.2 – Advanced Construction (AC) funds must be sufficient to complete the construction project and are provided at the sponsor's risk. Reimbursement of AC funds in later years of the TIP are to be viewed as tentative commitments and are subject to adjustments based on funding availability and other project priorities.

PO6.0 – Non-infrastructure programs should be regional in nature and be included in both the TIP and the OWP.

PO6.1 – Requests to be included in the OWP shall be made to PAG, in writing, by November of the year prior to the funding request.

PO6.2 – Programmatic funding is not guaranteed; no long-term commitments should be made by the jurisdiction beyond the first year of the TIP.

PO7.0 – Should HURF funds not be available for a reimbursement request, reimbursements will be done on a first-come, first-serve basis.

PO8.0 – For STBG and PAG HURF 12.6% projects in excess of $3 million, jurisdictions over 100,000 in population may request up to three new projects, and jurisdictions under 100,000 in population may request one new project biennially for consideration.

PO9.0 – Jurisdictions can request additional funds for projects already in the TIP if those funds are going toward project elements. Such additions should not be more than 10% of the budget beyond the original scope, or $200,000, whichever is less. Increases in scope or budget beyond that amount requires a review and approval of the project MOU.

PO10.0 – Jurisdictions shall not enter into STPX exchanges or loan agreements if other regional resources are available to take their place.

PO11.0 – PAG HURF 2.6% funds are available to the region to cooperatively program with ADOT for projects or studies on the state system. The policies below are unique to this fund source.

PO11.1– PAG 2.6% funds shall be programmed using the existing TIP process. The steps shall include:

- Jurisdictions requesting 2.6% funding should submit that request during the normal TIP process using the TIP application by the established deadline.

- PAG will cooperatively review the requests with ADOT and jointly develop the ADOT program recommendation for review at the TPC TIP development meeting.

- During an off-cycle TIP development year, ADOT may seek a waiver from this requirement and request available PAG 2.6% through the formal TIP development process.

PO11.2 – PAG HURF 2.6% funding should not be programmed more than two years in advance.

PO11.3 – Priority for 2.6% funding shall be given to projects that:

1. Fund RTA projects that are on a state facility.
2. Supplement funding for a jurisdictional project that is located on an ADOT route or highway.
3. Cover a local share contribution to an ADOT project.
4. Fund additional elements in a state project as requested by the region but that were not part of the original ADOT project. The additional elements must be HURF eligible. For example: rubberized asphalt.
5. Augment the funding of a state project.
6. Fund a study of a state facility.

PO11.4 – PAG HURF 2.6% funds shall be prioritized to keep the RTA-related time periods on schedule.

Project Charters

PO12.0 – A Project Charter document is required for all RTA roadway element projects while in the project planning phase and must be on file before the project moves to final design.

Project MOUs

PO13.0 - The purpose of the Transportation Improvement Program Memorandum of Understanding is to ensure that all stakeholders have the same understanding of the project that will be delivered. The jurisdictions will commit to delivering the project as scoped in the MOU.

PO13.1 - In the case of federal funding, the jurisdiction will affirm its understanding that federal funds must be authorized in the year for which they are programmed and will commit to deliver federally funded projects in the years indicated in the MOU.

PO13.2 - A project will be required to have an MOU in place before funds can be programmed in years one or two of the TIP. A project sponsor may, at its own option, enact an MOU for phases in years three, four or five.

PO13.3 - Projects that already have an RTA IGA in place are not required to also establish an MOU. The RTA IGA is sufficient in these cases.

PO13.3.1 – Items outside of the scope of the RTA IGA that are funded with regional funds will require an MOU.

PO13.4 - An MOU covering the phase in question will be required prior to any project programming regional funding sources for design, construction, right of way or operations. Regional funding sources include HURF 12.6%, HURF 2.6%, STBG, RTAG and HSIP funds.

PO13.5 - A single project can have separate MOUs for each project phase. Or, at the discretion of PAG and the sponsoring jurisdiction, a single MOU can be amended each time a new project phase would otherwise require a new MOU.

PO13.6 - Programmatic or non-infrastructure projects will require an amended MOU for each fiscal year in which regional funding has been programmed.

PO14.0 - An MOU amendment may be required when the scope of work or programmed amounts change as described herein. An MOU amendment may also be used, at the discretion of PAG and the sponsoring jurisdiction, to add a new phase to an existing MOU. A formal TIP amendment may also be required and will be processed concurrently.

PO14.1 - Substantive changes to the scope that would require an MOU amendment include:

- Change in project end points resulting in a change to the project length of a quarter mile or more.
- Change in outcomes, deliverables, or affected jurisdictions or organizations.
- Addition or elimination of key project features.

PO14.2 - A significant change in funding amount is one that changes the total amount programmed of regional funding sources in the TIP by more than 10% of its original programmed amount, or $200,000, whichever is less.

PO14.3 - An MOU amendment also will be required if a change requests that all funding be removed from the current fiscal year, or if the project will be removed from the program entirely.

PO14.4 - An MOU amendment is not required to shift funds between phases, as long as the total amount of programmed funding of that source does not change. Likewise, an MOU amendment is not required for end-of-year rollovers.

PO14.5 - The MOU amendment will be reviewed by the PAG Regional Council prior to PAG Regional Council approval. The sponsoring jurisdiction can advance the MOU amendment through its own approval process concurrently, if so desired.

TIP Amendments

PO15.0 – PAG has multiple methods by which the TIP may be amended. See the matrix at the end of this document for details.

PO16.0 –A jurisdiction can request an expedited approval of an amendment. Expedited approval involves scheduling the item at either TPC or Management and placing the item on the agenda for the Regional Council.

PO17.0 – Amendments, as required of all TIP projects, may not add projects that are not consistent with the adopted RMAP.

PO18.0 – Amendments shall not include project funding beyond the current fiscal year unless needed to maintain fiscal constraint and regional balance.

PO18.1 – Changes for future fiscal years should only be included as part of the TIP development process.

PO19.0 – Amendments may not add capacity-changing projects unless applicable requirements of the CMP are met and an air quality conformity analysis is run for the region that includes the proposed project.

PO19.1 – Amendments that impact the conformity analysis (capacity projects that must be modeled) require the same public notice and opportunity for comment as the original TIP document.

PO19.2 – Due to the nature of the modeling process, an amendment that requests a new capacity-changing project will not have the ability to be expedited. Jurisdictions are asked to plan accordingly.

PO19.3 – For the purposes of these policies and procedures, a capacity-changing project is defined as one that adds or removes a vehicular travel lane one mile or more per the CMP. Turn lanes, road widening (without adding additional travel lanes), bicycle, pedestrian and transit projects that do not remove travel lanes are not, for the purposes of this policy, considered capacity changing.

PO20.0 – Amendments must maintain fiscal constraint by fund type and by year.

PO21.0 – The programming of available regional funds will follow a regional programming process. This includes funds that are returned to the region at the conclusion of a project or funds that are identified as no longer needed to complete a project.

PO21.1 – Reprogramming of available funds shall go through the regular TIP process.

PO21.2 – Once a jurisdiction becomes aware of excess funding on a project, it should contact PAG, in writing, with the approximate time frame of the return and funding amount.

PO21.3 – PAG staff will notify all jurisdictions of the available funds in an email that will serve as a "supplemental Notice of Funding Availability." The email shall include:

- the type and amount of funding
- the approximate time frame the funding will become available
- any deadlines associated with the spending or obligation of the funding
- deadline for applications requesting the funding
- the day/time of the PAG meeting where the programming of those funds will occur

PO21.4 – Any jurisdiction returning the funds shall be required to follow the same process as all the other jurisdictions requesting the returned funds for other projects.

Regional Priorities

PO22.0 – Regional planning and programming are dependent on responding to a variety of different factors (e.g. land use, populations, environment and economic) that require an understanding of current priorities. The PAG programming process should be consistent with established Regional Council or RTA Board priorities.

PO22.1 – Current established priorities include:

1 - Payments for work already completed.
2 - RTA corridor projects already under construction to complete work included in the scope of work described in the voter-approved RTA ballot.
3 - RTA corridor projects within two (2) years of the "period" deadline by which construction was mandated to be started per the RTA ballot language, provided that the funds needed are for work described in the voter-approved RTA ballot.
4 - Non-RTA projects that are already under construction in need of additional funds to complete the original scope of work.
5 - Payments for jurisdictionally bonded projects that are payments for work already completed.
6 - RTA corridor projects already in the adopted TIP.
7 - Non-RTA projects already in the adopted TIP.
8 - Major RTA categorical projects, intersections for example, that are in need of additional funding.
9 - New regional projects.

Procedures:

TIP Development

PR1.0 – During the fall of the year prior to the adoption of a new TIP, PAG staff shall work to develop and/or compile the fund estimate for the upcoming TIP document. Development of these estimates shall be done in conjunction with the FHWA and/or State of Arizona. These estimates shall reconcile previous estimates vs. actual revenues, if available for previous years, as well as determine estimates for the "out" year of the upcoming TIP.

PR2.0 – PAG staff shall present the fund estimate outlined in PR1.0 to TPC. PAG staff shall adjust the estimates based on the recommendations of the TPC as appropriate for the development of the Notice of Funding Availability. The fund estimates should be consistent with ADOT's estimates. TPC may use a limited duration task force or subcommittee to hold a special meeting to review the funding estimates in detail.

PR2.1 – PAG should reserve up to 10% of the estimated HURF 12.6% funds available for the current fiscal year and 5% in future years as a contingency. Contingency funds will allow the region to assist jurisdictions with projects in construction to cover any cost overruns or unforeseen circumstances. It should be stressed that the intent of the contingency fund is for jurisdictions to provide estimates for projects they are developing that are not overly conservative.

PR2.2 – The contingency is not intended to increase the scope of a project beyond what is outlined and agreed upon in the Memorandum of Understanding (MOU) or IGA for the project.

PR2.3 – The programming of contingency funds will follow the procedures outlined for the reprogramming of available funding, as set forth in PO20, including a supplemental NOFA. If a jurisdiction makes a request for the programming of contingency funds for an eligible project, then all other jurisdictions will be notified of the request and will be permitted to submit eligible projects to be considered for the programming of contingency funds.

PR 2.4 – Staff will review requests for the use of contingency funds for eligibility and compliance with TIP policies prior to the TPC meeting in which the requests are reviewed.

PR2.5 – Projects selected for the programming of contingency funds will be included in the next available TIP amendment request.

PR3.0 – Biennially, on or about Sept. 1, PAG shall make available the Notice of Funding Availability, which outlines the funds available over the next five years that cover the upcoming TIP period, by fund source.

PR3.1 - The fund sources included in the Notice of Funding Availability may include: STBG, RTA Categorical funds, HURF 12.6%, HURF 2.6%, HURF PDAF, and any other regional funds determined to be specifically available to the region.

Specific fund sources that require a competitive selection process may be included in the Notice of Funding Availability. However, that competitive process will follow separate grant selection requirements (see PR6.1).

PR3.2 – The Notice of Funding Availability will include the "Year of Expenditure" (YOE) factor to be used in the calculation of expenditures anticipated in future years of the TIP.

PR3.3 – The Notice of Funding Availability shall include the due date to receive funding requests from the project sponsors.

PR3.3.1 – No funds can be programmed until after the submittal deadline, when all project requests can be considered together.

PR3.4 – PAG shall make available, as attachments or web postings, all of the necessary forms associated with the Notice of Funding Availability.

PR3.5 – The Notice of Funding Availability will provide direction on current regional priorities as set by the PAG Regional Council/RTA Board.

PR4.0 – Biennially, each project sponsor shall submit a status update of all current, programmed and requested projects (if requests are in response to a Notice of Funding Availability). The update shall include a report on progress toward RMAP performance targets. PAG shall distribute a spreadsheet to each jurisdiction with its TIP projects and programs listed by TIP ID number. Information requested shall include project cost estimate, source, and date of that estimate, project status, and an estimate (month/year) of project start and completion. The request shall contain a date the completed status report is due back to PAG.

PR4.1 – At this time, projects requiring an MOU will be identified.

PR4.2 – Each project sponsor will submit its funding requests with its own prioritized ranking by fund source based on its own priority system for new projects. Project applications may only be submitted to PAG by the jurisdiction's TPC representative. Applications submitted by other jurisdictional personnel will not be considered during the programming process.

PR4.3 – Because of the implementation of performance measures in federal legislation, it should be noted that regional performance measure requirements may take precedence over jurisdictional priorities.

PR5.0 - Prior to TIP development, PAG shall review the status of RTA projects in the current and next period with the project sponsors and identify any opportunities to supplement RTA funding. Outcomes of that review should be reflected in the project sponsor's funding requests.

PR5.1 - Non-federalized RTA projects should remain non-federalized to maximize regional funding. For example, HURF funds should be considered to supplement non-federalized RTA projects.

PR5.2 - Federalized RTA projects should maximize the use of STBG, RTAG and HSIP funding as opportunities arise, provided obligation deadlines can be accommodated. Consideration should be given to entering into Advance Construction Agreements in order to efficiently use the region's entire federal obligation authority.

PR5.3 - Should STBG funding be in jeopardy of not meeting obligation deadlines, the TPC shall investigate flexing those STBG funds to transit projects, provided that a like amount of RTA funds which would otherwise be committed to RTA transit projects are returned to the RTA to be used where it is needed most to keep the RTA plan on schedule or for corridor or categorical projects.

PR6.0 – After project applications have been submitted in response to the Notice of Funding Availability, PAG will develop a matrix of project applications and their corresponding impacts on the congestion management process and performance measures.

PR6.1 – Federal grants that have been identified to be programmed "competitively" will have a few additional steps to ensure, to the extent practicable, that there is separation between agencies/individuals that are developing the selection criteria, applying for the grant, and making grant award recommendations.

PR6.1.1 – The competitive selection criteria shall be developed by PAG staff based on federal guidance, applicable performance measures and regional priorities as defined by the PAG Regional Council/RTA Board. Projects not consistent with these priorities will be returned to the sponsoring agency for revision and will not be considered in the programming process.

PR6.1.2 – A competitive selection panel may be formed by PAG staff from the existing membership of appropriate PAG committees or subcommittees.

PR6.1.2.1 – Members of the competitive selection panel must not have a conflict of interest, defined for these purposes as:

- Employed by a jurisdiction that is sponsoring an application.
- Employed by a public/private entity that has worked on the project application.
- Employed by, or has an interest in, a public/private entity that is a sub-contractor or subrecipient of the requested grant funds.
- Directly or indirectly benefit as a recipient or subrecipient of the project/program.

PR6.1.3 – To preserve the integrity of the competitive selection process, decisions made by the selection panel are final. Applicants are prohibited from lobbying or interfering with the selection panel's decisions.

PR6.2 – At the discretion of the PAG Executive Director, additional fund sources or types of projects may also follow a compatible competitive process to gather additional input from subject matter experts.

PR6.3 – Technical-related projects may be assigned by PAG to the appropriate subcommittee to work through the recommendation process.

PR7.0 – The Transportation Planning Committee is tasked with the development of a draft project list. The TPC may need to hold three special meetings during the TIP development if they do not address these issues during the normally scheduled TPC meetings: a meeting to review fund estimates (PR2.0), another meeting to provide technical review of the performance data matrix, and a meeting to develop the draft project list. TPC may use a limited duration task force or subcommittee to conduct these special meetings.

PR7.1 – TPC will review the Performance Measure matrix prior to the TIP development meeting. Based on the technical knowledge and expertise of those reviewing the matrix, the performance measure scores may be adjusted, if necessary.

PR8.0 –The TPC shall meet after project applications have been submitted and performance data has been generated to develop a draft TIP. The time, day and duration of the meeting(s) is at their discretion but should be within the final quarter of the calendar year.

PR8.1 – TPC shall review the performance data matrix populated with each project application and its impact on regional performance measures.

PR8.2 – New projects submitted for consideration in the draft TIP shall include a TIP Criteria Sheet. These forms are used to objectively compare competing projects for the limited available funding.

PR8.2.1 – The Congestion Management Process (CMP), which is required by federal regulation, shall be incorporated into the project selection process. Consideration of congestion mitigation strategies shall be included as part of the TIP application process for capacity-increasing projects. However, congestion mitigation strategies

also will be considered for inclusion as part of non-capacity increasing TIP projects when appropriate.

PR8.3 – After reviewing the funding available, by fiscal year and fund source, TPC shall review the funding requests made by fiscal year.

PR8.4 – Fiscal constraint must be achieved in the first four years of the TIP by fund source.

PR8.4.1 – Projects that are not programmed in the first five years of the TIP may be placed in years six through 10 of the Development Program. The Development Program must be constrained within 10% of the revenue estimate of year five of the draft TIP.

PR8.4.2 – Additional adjustments may need to be made to the Development Program to maintain the appropriate fiscal constraint.

PR8.4.3 – Projects and programs included in the Development Program do not automatically move forward each year; status of the project development and jurisdictional priorities will dictate its location in the Development Program.

PR9.0 – The December TPC meeting is the recommended deadline for finalizing the proposed project list.

PR9.1 – The proposed project list will be reviewed by the Management Committee and Regional Council at their January meetings.

PR10.0 – Once a proposed project list has been drafted, it will be modeled for air quality conformity and Title VI compliance.

PR11.0 - Development of draft TIP materials shall be scheduled so that TIP public open house(s), conducted for the public to review the proposed project list and the results of the TIP modeling process, can occur in March.

PR12.0 – After development of a draft TIP, PAG is required to hold at least one open house to solicit public comment. After review of the public comments, PAG staff shall finalize the draft TIP which shall be noticed for a 30-day public comment period while it concurrently moves through the PAG committee process. Both the public comment period and the PAG committee process shall culminate in a PAG Regional Council meeting where the TIP is properly noticed for adoption. The Regional Council meeting should take place in May or June, prior to the end of the fiscal year, June 30.

PR13.0 – Funding resources that are designed to accelerate projects, such as HELP loans, shall not be programmed in the TIP, just the re-payment of these resources, to avoid “double counting” of regional funds.

Memorandums of Understanding

PR14.0 – In April, PAG will identify projects that will require an MOU prior to adoption of the next TIP. In general, projects identified will be those that will be in year two of the next TIP and are beginning a new project phase or have not yet been programmed with regional funds.

> PR14.1 - At the discretion of PAG, a project that is beginning a new phase can amend its existing MOU, instead of drafting a separate MOU.

PR15.0 – As part of the annual TIP rollover meetings, the sponsors of the identified projects will submit a detailed scope of work, as outlined in the MOU template. At this time, programmed amounts will be estimated based on current revenue estimates. These amounts may be adjusted later at the TIP development meeting.

PR16.0 – Using the submitted scopes of work, PAG will draft MOUs for all identified projects. Draft MOUs will be sent to the project sponsors at the same time as the Notice of Funding Availability.

PR17.0 - The sponsors of the identified projects will submit comments on the draft MOUs, along with their new project applications. The due date for these comments will be the same due date as the new project applications.

> PR17.1 – If a jurisdiction submits a project application for a project to be inserted directly into years one or two of the TIP, the project application will include a Scope of Work (SOW). PAG will use the SOW to draft an MOU for the project but will not submit the MOU to the jurisdiction for review and approval until and unless the project is selected for inclusion in the TIP at the TIP development meeting.

PR18.0 – The TIP development meeting will refine revenue projections and adjust programmed project amounts as needed, including those projects in years one or two of the draft TIP and/or those otherwise requiring an MOU. These adjustments will be made to the draft MOUs.

> PR18.1 – The TIP development meeting may result in projects being added directly to years one or two of the TIP. Jurisdictions will have already submitted scopes of work for these projects, and once they are selected for inclusion in the TIP, PAG will submit the previously prepared draft MOU for jurisdictional review and approval.

PR19.0 - Based on comments and corrections from the jurisdictions, PAG will prepare a final MOU for a jurisdiction's final approval. The signed MOUs must be in place 10 days prior to the day of the February TPC meeting. If there are outstanding MOUs at that time, the TPC may, at its discretion, remove a project from the draft TIP. If funds are removed from a project, those funds will be re-programmed as part of the February TPC meeting. At the discretion of the committee, the reprogramming of HURF 12.6% funds and HURF 2.6% funds may be delayed until the TIP development meeting the following year. However, any deprogrammed federal funds (STBG, RTAG, HSIP) must be reprogrammed at this time.

> PR19.1 – If projects of regional significance are removed from the proposed project list, PAG will re-model the new proposed project list as soon as possible.

PR20.0 - The PAG Regional Council will approve the MOUs prior to the start of the TIP public comment period. If there are outstanding MOUs at that time, the Regional Council may, at its discretion, remove the project(s) that do not have MOUs in place.

TIP Amendments

PR21.0 – When a TIP amendment is requested by a jurisdiction, PAG staff will first determine if the request follows PAG policies that govern TIP amendments. If so, the request will be presented at the next TPC meeting for a vote. If the nature of a TIP amendment request is such that time is of the essence, a jurisdiction can request an expedited approval.

PR21.1 – If the nature of the request falls within the parameters of an Administrative Amendment, the PAG Executive Director may, at his/her discretion, administratively approve the amendment.

PR21.2 – If an expedited amendment is appropriate, the proposed amendment can be scheduled on the agenda for the next TPC or Management Committee meeting. If no meetings are scheduled and there is an urgent need, a special TPC meeting can be called prior to the Regional Council meeting to discuss the amendment, provided that the TPC special meeting is properly noticed and a quorum is present.

PR22.0 – Ensuring that the policies are complied with is the responsibility of PAG staff and all committee members. However, individual jurisdiction requests may at times require an exception be made to one or more policies. Having a robust and well-managed set of policies on how to deal with requested exceptions allows the committee(s) to be proactive, rather than reactive, when it comes to compliance management.

PR22.1 – Following any proposed new TIP funding request(s) or amendment(s) to an already approved TIP, PAG staff shall conduct a compliance review in advance of any TPC meeting scheduled to consider the request(s) and to present compliance management considerations for the committee's discussion.

PR22.2 – Upon completion of compliance management review, any individual funding request that requires an exception to established policy, procedures or manner for inclusion in the TIP shall require a waiver request by the jurisdiction's Management Committee representative. PAG staff will seek Management Committee's review and recommendation prior to the request being considered by other committees or the Regional Council. The TPC is a standing technical committee of the RTA Technical Management Committee (TMC) and PAG Management Committee. The RTA Technical Management Committee or the PAG Management Committee may wish to seek input from TPC prior to making a recommendation.

Special TPC Meetings

PR23.0 – Deadlines associated with different fund sources necessitate special TPC meetings to be held from time to time. Special meetings can be called by PAG staff or the TPC Chair.

PR23.1 – If the nature of the special meeting is to develop a draft work product, neither notice nor quorum is required. No action may be taken at these working meetings.

PR23.2 – If action is anticipated to be taken by the committee, the meeting shall be properly noticed with the posting of an agenda within the time period specified by the Arizona Open Meeting Law.

Payments and Obligations

PR24.0 – Regional HURF funds are provided on a reimbursement basis. Thus, if funds appear in the current year of the TIP, a jurisdiction may proceed with the project and submit billings for reimbursement. Federal funds also are provided on a reimbursement basis and projects must first comply with all federal requirements prior to funding.

PR24.1 – HURF 12.6% funds are reimbursed by submitting a completed "drawdown" request to PAG, including documentation of work performed. After PAG review/concurrence, the request can either be sent back to the jurisdiction for further explanation/documentation, adjusted by PAG to reflect eligible cost items only or forwarded to ADOT for payment.

PR24.2 – Federal STBG reimbursements work differently. A jurisdiction must obligate federal funds before the work starts for design, right-of-way and construction activities. "Obligate" means PAG and FHWA authorize the federal funds and move them from a general PAG account into a project specific account. The jurisdictions then receive reimbursement from that project specific account. Construction obligation cannot occur until the project plans are completed and the Plan, Specification and Estimate (PS&E) submittal has been approved. This requires all necessary clearances for right-of-way, environmental, utilities, railroad, etc.

PR24.2.1 – Due to the cost and scope of some large infrastructure projects, there will be occasions when a project sponsor needs to obligate more federal funding for a project than is available in the current fiscal year. A jurisdiction may obligate the available funds in the current fiscal year and then obligate the remaining amount(s) in subsequent fiscal year(s). Before the project begins, the sponsoring jurisdiction shall enter into an Advance Construction Agreement with ADOT or FHWA, which outlines the estimated total cost of the project and the schedule for subsequent obligations. Within the agreement, the sponsor acknowledges that they are starting the project at "their own risk" as future federal fund availability cannot be guaranteed.

PR24.3 – For HURF projects, drawdown requests will not be processed if the request does not agree with the scope or budget provided in the MOU.

PR24.4 – For STBG projects, obligations and/or additional obligations will not be supported if the obligation request does not agree with the scope or budget provided in the MOU.

PR24.5 - For federally funded projects, project closeout follows federal procedure. For RTA and regionally funded HURF projects, jurisdictions should inform the RTA and PAG when a project is substantially completed and develop a schedule for when the final invoice from the contractor will be processed and the project closed. Additional billings associated with utility bills, staff time and warranty inspections are the responsibility of the sponsor and are ineligible for reimbursement. See RTA Policies, Objectives and Procedures (POPs) for specific RTA policies related to the project closeout process.

PR25.0 – Federal funds typically become available on an annual basis. The region will work cooperatively to make sure that obligations for the coming year are identified early so that no federal funds are lost because they were not obligated in a timely fashion.

PR26.0 – If a project using federal funds in the current fiscal year is not ready to obligate, the sponsoring jurisdiction shall notify PAG immediately so that other plans to obligate those funds can be made.

PR26.1– For programmed amounts of $3,000,000 or greater, if a jurisdiction fails to notify PAG by Oct. 31 of the current fiscal year, and if the federal obligation authority is lost, the jurisdiction in question may be required to "make the region whole" by providing an amount equal to those lost funds for that project with jurisdictional funds.

PR26.2 – For programmed amounts of less than $3,000,000, if a jurisdiction fails to notify PAG by March 1 of the current fiscal year, and if the federal obligation authority is lost, the jurisdiction in question may be required to "make the region whole" by providing an amount equal to those lost funds for that project with jurisdictional funds.

PR26.3 – Excess obligation of federal funds also may require repayment to "make the region whole." Jurisdictions should only obligate the amount of federal funds that will be needed for the project, as excess funds must be de-obligated later. De-obligated funds must be re-obligated within the same federal fiscal year in which they were de-obligated, or they will be lost. In addition, they will count against the current year's Obligation Authority (OA), meaning the OA from the original year is lost.

PR27.0 – Projects showing no progress or activity for five (5) years may be removed from the TIP and the funds reprogrammed. Federal funds in the first two years of the TIP must demonstrate progress toward obligation (completed clearances, approved construction drawings, etc.) in order to avoid losing the funding to the region (see PR26).

PR27.1 – For obligated funds, federal rules will dictate if previously expended funds would need to be repaid to the region if a project is removed from the TIP or canceled.

PR27.2 – For regional HURF, the expectation is that a jurisdiction may be required to repay any already expended funds if a project is removed from the TIP or not completed per the MOU.

PR28.0 – A jurisdiction may appeal to the Management Committee to have regional HURF repayments waived. The Management Committee may recommend canceling the regional HURF project because of extenuating circumstances beyond the control of the jurisdiction. Repayment of federal STBG funds previously received for a canceled project cannot be waived.

PR29.0 – When a jurisdiction no longer needs funding for a project, it needs to notify PAG that the funds are available for reprogramming.

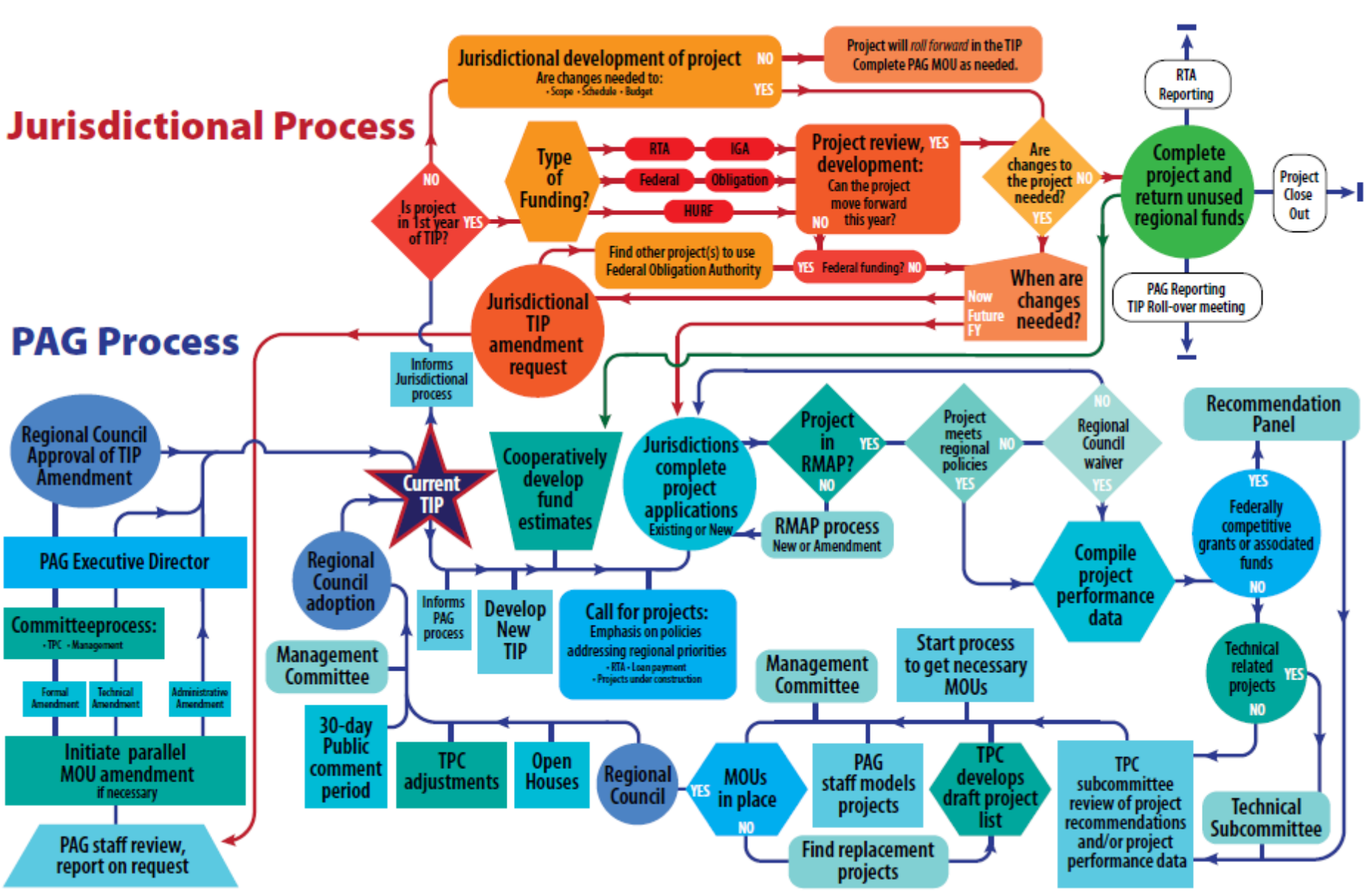
PR29.1 - The TIP is a financial document and even if a project has not yet received its certificate of completion if the billing activities have significantly ceased, the jurisdiction is expected to notify PAG and return any unused funding. It is acceptable for a jurisdiction to maintain an

appropriate amount of funding for landscape establishment remembering that this amount needs to continue in the TIP as it is the mechanism for which the funds can be drawn.

> PR29.1.2 – Within 30 days of bid acceptance, the jurisdiction shall notify PAG and return bid savings funds to the region. Jurisdictions are encouraged to maintain within the project contract an appropriate contingency fund not to exceed 10%.

PR29.2 - Once regional STBG funds are obligated to a project, the region has no way of tracking closeout or landscape establishment. When unused STBG funds are returned to the region after project closeout, the OA must be used in the year it was returned, or it is lost to the region.

Amendment Type	May be Initiated by:	Recommendation for Approval Needed from:	Final Approval Required by:	Air Quality Conformity	Fiscal Constraint	Other/Notes Examples
Administrative Amendment	PAG, Implementing Agency, or Previous approval by ADOT or RTA.	PAG Staff or Implementing Agency	PAG Executive Director	Projects Must be Exempt or the Amendment of a nature that does not require analysis	Must have no adverse impact	• Scrivener's errors • Revisions to Project Name • Change in type of federal funding source • Change in program year of no more than one year (non-federal funds only). • Transfer of funds of $100,000 or less between projects already in the TIP, as long as total project cost does not increase on any project. • Changes in the distribution of funding between phases • Minor change to project description or scope, as determined by the Executive Director. • Correction of other minor oversights that do not impact air quality, fiscal constraint, or project scope • Incorporation of RTA funding levels as outlined in IGAs • Incorporation of projects or funding from grants and other funds previously approved by a public funding agency • Increase of local funding contributions to federalized projects • Incorporation of projects from an established reserve or conditional list, upon completion and approval of an MOU.
Technical Amendment	Implementing Agency	TPC and Management Committee	PAG Executive Director, subsequently reported at the next available Regional Council meeting	Projects must be exempt or the amendment of a nature that does not require analysis	Must have no adverse impact	• Change of funding source • Transfer of funds of over $100,000 but less than $200,000 between projects already in the TIP • Increases or decreases in existing project funding of $200,000 or less • Change of project sponsor • Change in funding schedule over one year • Deletion of non-regionally significant projects • Other adjustments which would not trigger a formal amendment
Formal Amendment	Implementing Agency	TPC, Management Committee, and PAG Executive Director	Regional Council	Project impact may require new conformity analysis	Fiscal impact must be addressed	• Additions or deletions of projects which require an air quality analysis • Reasonably substantive change in project description, limits, scope, or phase start dates • Adding new projects for which funding has been identified • Increases or decreases in existing project funding in excess of $200,000. • Transfers of funding amounts in excess of $200,000, between projects already in the TIP.


Jurisdictional Process
Jurisdictional development of project
Are changes needed to:
• Scope • Schedule • Budget
NO
YES
Project will roll forward in the TIP
Complete PAG MOU as needed.
RTA Reporting
Is project in 1st year of TIP?
NO
YES
Type of Funding?
RTA
IGA
Federal
Obligation
HURF
Project review, development:
Can the project move forward this year?
YES
NO
Are changes to the project needed?
NO
YES
Complete project and return unused regional funds
Project Close Out
Find other project(s) to use Federal Obligation Authority
YES
Federal funding?
NO
When are changes needed?
Now
Future FY
Jurisdictional TIP amendment request
PAG Reporting
TIP Roll-over meeting
PAG Process
Informs Jurisdictional process
Regional Council Approval of TIP Amendment
Current TIP
Cooperatively develop fund estimates
Jurisdictions complete project applications
Existing or New
Project in RMAP?
YES
NO
RMAP process
New or Amendment
Project meets regional policies
NO
YES
Regional Council waiver
NO
YES
Recommendation Panel
PAG Executive Director
Regional Council adoption
Informs PAG process
Develop New TIP
Call for projects:
Emphasis on policies addressing regional priorities
• RTA • Loan payment
• Projects under construction
Compile project performance data
Federally competitive grants or associated funds
YES
NO
Committeeprocess:
• TPC • Management
Management Committee
Management Committee
Start process to get necessary MOUs
Technical related projects
YES
NO
Formal Amendment
Technical Amendment
Administrative Amendment
30-day Public comment period
TPC adjustments
Open Houses
Regional Council
YES
MOUs in place
NO
PAG staff models projects
TPC develops draft project list
TPC subcommittee review of project recommendations and/or project performance data
Technical Subcommittee
Initiate parallel MOU amendment
if necessary
Find replacement projects
PAG staff review, report on request

APPENDIX 4

PUBLIC NOTICES

Note to the reader: This Appendix will be added to the approved draft and will include press releases, display ads, public notices, etc. used to notify the public of opportunities to review and comment on the draft TIP.

APPENDIX 5

TIP PUBLIC PARTICIPATION PLAN

FY 2025–FY 2029 Transportation Improvement Program (TIP)
Public Participation Plan

INTRODUCTION

Pima Association of Governments (PAG) has developed a Public Participation Plan (PPP), per federal regulations, to promote meaningful community involvement for the development of the fiscal years 2025–2029 Transportation Improvement Program (TIP). As a short-range, five-year capital improvement program, the TIP identifies how federal, state, regional and local transportation dollars will be invested to improve the greater Tucson region's transportation system. The PPP describes the tools PAG will use to inform the public about the FY 2025–FY 2029 TIP development process and identify opportunities for community involvement.

As the federally designated metropolitan planning organization for Pima County, PAG is required to develop a TIP at least every four years. It must draw from projects included in the region's long-range transportation plan, which PAG refers to as the Regional Mobility and Accessibility Plan (RMAP). The current RMAP, the "*2045 RMAP Update*," was approved by the PAG Regional Council in September 2020.

The current FY 2022–FY 2026 TIP was adopted by the PAG Regional Council in 2021. PAG began the development process for the FY 2024–FY 2028 TIP in August 2022, which was postponed in March 2023 and later modified to cover FY 2025–FY 2029.

CONSISTENCY WITH THE PAG PUBLIC INVOLVEMENT POLICY

The TIP PPP is an extension of PAG's Public Involvement Policy (PIP). The PIP was adopted in 2018 by the PAG Regional Council as an update to previous versions. In compliance with Federal Highway Administration (FHWA) regulations, the PIP outlines how PAG will conduct its public involvement efforts. Per 23 CFR 450.316 [b] [1], the FHWA requires PAG to have a public involvement process to qualify for federal funds dedicated to advancing regional transportation planning efforts. The PIP includes PAG's public involvement goal, objectives and strategies; levels of public involvement; role of the public; public comment opportunities and procedures, and more. It also refers to PAG's process for complying with federal regulations for Title VI, Environmental Justice, and the Americans with Disabilities Act. As an extension of the PIP, this PPP incorporates public involvement strategies listed in the PIP, among other elements. The adopted PIP can be found on the PAG website under the "Get Involved" menu, and "public policies" tab or accessed directly here.

TIP DEVELOPMENT PHASES, PUBLIC PARTICIPATION ACTIVITIES AND RESPONSIBILITIES

The FY 2025–FY 2029 TIP will be developed under the guidance of existing PAG committees. The process can be divided into three phases, which will include the public participation elements listed below. Since the PAG RMAP and TIP are both required to be fiscally constrained – beginning with the

projects and programs included in the approved RMAP – individual jurisdictions propose candidate RMAP projects for inclusion in the TIP. Proposals are submitted based on a response to a PAG notice of funding availability, when and if funding is available for new programming.

Phase 1: TIP scoping and process kickoff. Notify PAG member agencies of funding available for the FY 2025–FY 2029 TIP and provide information about the TIP development process. This step typically occurs in August and includes the distribution of a memo on the TIP development process and notice of available funding. It also involves interactions with PAG committees.

Phase 2: Project list development, review and approval. Begin project list review with input from member jurisdictions at meetings, which are noticed and open to the public. Public meeting notices for all committees will be posted on the PAG website and in the lobby.

Phase 3: Complete proposed FY 2025–FY 2029 TIP and finalize.

- Hold public virtual, in person and/or hybrid open house event(s) to provide additional opportunity for the public to review draft project lists and other components of the proposed FY 2025–FY 2029 TIP. Possible promotional channels include paid media advertisement, news release, email distributions, social media and the PAG website. When possible, in-person open houses will be held along a transit route.
- Hold a 30-day public comment period on the proposed FY 2025–FY 2029 TIP, which satisfies federal requirements since that is consistent with PAG's Public Involvement Policy; promote via paid advertisement/legal notice, news release, email distributions, social media and the PAG website. PAG committees will also review the proposed draft TIP.
- Hold a public hearing for the proposed FY 2025–FY 2029 TIP; promote via paid advertisement/legal notice, news release, email distributions, social media and the PAG website.

PUBLIC COMMENT PERIOD

A public comment period of 30 calendar days will be observed for review of the proposed TIP, which is consistent with federal regulations. PAG will provide adequate public notice and reasonable opportunity to comment on the proposed TIP. During the comment period, typically in the mid-April to mid-May timeframe, the public can comment in the following ways:

- Email: info@PAGregion.com
- Website: PAGregion.com
- Mail: 1 E. Broadway Blvd., Suite 401, Tucson, AZ 85701
- Phone: (520) 792-1093
- Website: Comments may be submitted through PAG's Public Comment form.

PUBLIC NOTICES

PAG publishes legal notices, as required by law, to notify the public of the 30-day public comment period and public hearing and promotes opportunities to provide input by posting notices at the office, online, on social media sites and through email distributions. Individuals may request to be added to PAG's email distribution list to receive newsletters and notices to stay current on the latest information.

PUBLIC MEETINGS AND HEARINGS:

Committee meetings

Since the TIP development process is one of PAG's core functions, several committees and sub-committees are involved in the process. These include the Regional Council, Management Committee, Transportation Planning Committee (TPC), TIP Subcommittee and Transit Working Group. PAG's meetings are open to the public, and notices are posted onsite in the office lobby and on the website Meetings and Events calendar. PAG will strive to schedule meetings at convenient and accessible locations and times.

Open house(s)

PAG will hold at least one open house, which may be virtual, in-person or hybrid. An open house will provide the public with an opportunity to review elements of the proposed TIP, speak with jurisdiction representatives about the projects, respond to any air conformity issues, and submit written comments. A staff member of PAG is present to provide translation services, as needed. Title VI information is presented at the beginning of the open house(s).

Public hearing

After the open house(s) and public comment period, one public hearing will be held. This is currently planned for spring 2024. Note: Code of Federal Regulations §450.326 requires that in nonattainment Transportation Management Areas, the Metropolitan Planning Organization shall provide at least one formal public meeting during the TIP development process.

Public participation process for PAG member agencies

In addition to the public participation process for the PAG planning area, the individual PAG jurisdictions also conduct public involvement activities which feed into the development of the regional TIP. Most jurisdictions conduct public participation efforts in conjunction with the development of their capital improvement programs (CIP) prior to beginning the regional TIP development process. Jurisdictional recommendations for projects to be included in the candidate TIP project list are typically based on these CIP processes.

INFORMATION REPOSITORIES FOR THE PROPOSED FY 2025–FY 2029 TIP

Information repositories are places where the public may read and review the proposed FY 2025–FY 2029 TIP including documents that are subject to public comment. In addition to making the document available on the website (PAGregion.com), PAG has established the following repositories for the proposed FY 2025–FY 2029 TIP:

- Pima Association of Governments – 1 E. Broadway Blvd., Suite 401, Tucson, AZ 85701
- Pima County Public Library – 101 N. Stone Ave. Tucson, AZ 85701

Distribution List

PAG uses an email list via an email marketing software for all electronic distributions to the public. It includes individuals, groups, public agencies, elected officials, private businesses, governmental agencies and non-profit organizations. Per federal requirements, Indian tribal government(s) and federal public lands within the planning area will be included, as the TIP development process includes these. The email list will be used to inform them of public meetings, comment opportunities

and important updates. The list will be maintained by PAG and will be updated when individuals request to be added or removed.

Website

The PAG website (PAGregion.com) will have information about public comment periods, public meetings and future updates, and a sign-up form for email notifications.

Legal Notices

PAG will place legal notices with translation taglines and Title VI information in the *Arizona Daily Star* to announce the required public comment period and public hearing for the TIP. Separate ads in Spanish will be placed in *Arizona Bilingual* or *La Estrella* in Spanish to announce the comment period and public hearing.

Other Outreach Communication Channels

Public comment periods, open houses or public hearings also may be announced in English and Spanish through paid advertisements, email distributions, the website and/or via social media channels.

PAG Contacts

If you have questions or need more information about the FY 2025–FY 2029 TIP development process, please contact Jamie Brown, PAG Director of Strategic Planning, Programming and Policy, at jbrown@pagregion.com.

Reasonable Accommodations and Translation Assistance

Persons with a disability or language barrier may request documents in alternative formats or translations or other reasonable accommodations by contacting Sheila Storm at (520) 792-1093. Requests should be made as early as possible to allow time to arrange the accommodation. Translation taglines: If you need assistance with translation, please contact Zonia Kelley at (520) 792-1093. *Si necesita ayuda con traducción, llame por favor al (52) 792-1093 y comuníquese con Zonia Kelley*.

Appendix 1 – FY 2025–FY 2029 TIP Committee Structure

The following is a description of PAG committees and other groups who will assist with and guide the FY 2025–FY 2029 Transportation Improvement Program (TIP) development.

TIP Subcommittee – This subcommittee of the PAG Transportation Planning Committee is composed of staff from PAG member agencies. During the TIP development process, the TIP Subcommittee provides technical planning services including, for example, reviewing revenue projections to establish financial constraint. The TIP Subcommittee also provides input on transportation project selection and funding recommendations. Members of the TIP Subcommittee also serve as primary points of contact for questions about their respective jurisdiction's projects, etc.

Transit Working Group (TWG) – This working group is composed of representatives from PAG member agencies with involvement in transit planning, programming and operations. The TWG recommends, prioritizes and programs federal transit funds for the region. The working group also serves as an evaluation committee for the planning of future transit capital projects and system

operations of regional significance. The TWG meets in the fall to review applications for new projects to be included in the TIP from sources such as Federal Transit Administration programs 5307, 5337 and 5339 as well as federal Surface Transportation Block Grant Program Flex funds. The TWG also may provide recommendations on Regional Transportation Authority (RTA) transit funding and programming for the TIP.

Transportation Planning Committee (TPC) – This is PAG's technical advisory committee on transportation issues. TPC's membership includes transportation directors, or assignees, from each of PAG's member agencies, as well as representatives from other non-transportation focused entities. TPC's role in the FY 2025–FY 2029 TIP development process will include receiving periodic progress updates about the TIP and providing recommendations to staff. TPC will be asked to provide a technical review and recommend approval of the proposed FY 2025–FY 2029 TIP to the PAG Executive Director prior to Management Committee review.

Management Committee – The Management Committee is a policy advisory committee for PAG. The committee reviews and makes recommendations to the PAG Executive Director on information, reports and plans developed by PAG that address regional problems and needs. For the TIP development process, the Management Committee will receive periodic progress updates, either in writing or during regularly scheduled meetings. The Management Committee also will review draft project lists and recommend approval to the Executive Director of the proposed FY 2025–FY 2029 TIP.

Regional Council – The nine-member Regional Council is the governing body of PAG and acts on policies, plans or reports that pertain to cross-jurisdictional issues on transportation, air quality, water quality, land use or human services. The Regional Council will be responsible for making a final determination on the approval of the proposed FY 2025–FY 2029 TIP.

Appendix 2 – Regional Transportation Leads

The table below includes the contact information for transportation leads who can assist with questions about projects in the TIP that are sponsored by their agency.

REGIONAL TRANSPORTATION LEADS	
Roderick F. Lane Southcentral District Engineer Az Department of Transportation 1221 S 2nd Ave. Tucson, AZ 85713-1602	Kathryn Skinner Director Pima County Dept of Transportation 201 N Stone Ave 4th Floor Tucson, AZ 85701
Sam Credio Director City Of Tucson Dept. of Transportation and Mobility 201 N. Stone Ave. 6th Floor Tucson, AZ 85701	Fausto Burruel Town Engineer Town of Marana 11555 W Civic Center Rd Marana, AZ 85653
Mark Pugh Planning Administrator San Xavier District of The Tohono O'odham Nation 2018 W San Xavier Rd Tucson, AZ 85746	Patricia Pablo Grant Writer Supervisor Tohono O'odham Nation Planning Department P.O. Box 837 Sells, AZ 85634-0837
Jose Rodriguez Engineering Division Manager Town of Oro Valley	Galo Galovale Public Works Director Town of Sahuarita

11000 N La Cañada Drive Oro Valley, AZ 85737	375 W Sahuarita Center Way Sahuarita, AZ 85629
Josué Licea Planner City of South Tucson 1601 S 6th Ave South Tucson, AZ 85713	Jason Bahe Transportation/Construction Project Manager Pascua Yaqui Tribe 7474 S Camino De Oeste Tucson, AZ 85757
Scott Robidoux Manager of Planning Tucson Airport Authority 7250 South Tucson Blvd, Suite 300 Tucson, AZ 85756	

APPENDIX 6

GLOSSARY OF TERMS

ADA: The Americans with Disabilities Act, which was passed by Congress in 1990 and requires certain accessibility requirements on public facilities.

ADEQ: Arizona Department of Environmental Quality

ADT: Average Daily Traffic, a measure used in transportation planning. Traditionally, it is the total volume of vehicle traffic on a highway or road for a year, divided by 365 days.

ADOT: The Arizona Department of Transportation is the transportation planning agency responsible for planning, building, and operating state highways and routes in Arizona.

AHSIP: The state's apportioned share of the federal Highway Safety Improvement Program.

ANG: Air National Guard

ASTBG: ADOT discretionary funds. These funds can originate from a variety of state and federal funding sources. During this TIP development cycle, the fund code "ASTBG" is being replaced by the specific federal funding programs, including the National Highway Performance Program (NHPP) and National Highway Freight Program (NHFP or NFP).

ASTP: ADOT discretionary funds now known as ASTBG.

BIA: Bureau of Indian Affairs

Bond: Project funding from local jurisdictional bonds

CAA: Clean Air Act, passed by Congress in 1963, and amended in 1967, 1970, 1977 and 1990. The U.S. law designed to control air pollution on a national level, in coordination with state, local and tribal governments.

CFR: The Code of Federal Regulations, which is the codification of the general and permanent rules and regulations published by the executive departments of the federal government. The CFR is divided into 50 titles that represent broad areas subject to federal regulation.

CIP: Capital Improvement Plan, a short-range plan, usually four to ten years, which identifies capital projects and equipment purchases, provides a planning schedule, and identifies options for financing the plan.

CMP: Congestion Management Program. The use of analytic tools to define and identify congestion within a region, corridor or project area, and the development and selection of appropriate strategies to reduce congestion or mitigate its impacts.

Drawdown Request: A request to ADOT to reimburse the jurisdiction for expenses incurred.

DIFO: Development Impact Fees. Fees collected by some local jurisdictions from new or proposed development projects to pay for all or a portion of the costs of providing public services to the new development.

DOT: Department of Transportation. Often the acronym includes the jurisdiction. For example USDOT (United States Department of Transportation), ADOT (Arizona Department of Transportation), TDOT (Tucson Department of Transportation) or PCDOT (Pima County Department of Transportation)

EPA: U.S. Environmental Protection Agency, the agency of the federal government tasked with the protection of human health and the environment.

FAA: The Federal Aviation Administration is the division of the U.S. Department of Transportation that specializes in and oversees aviation.

FLEX: STBG funds that have been designated for transit purposes.

FHWA: The Federal Highway Administration is the division of the U.S. Department of Transportation that specializes in and oversees highway transportation.

FTA: The Federal Transit Administration is the division of the U.S. Department of Transportation that specializes in and oversees transit. Grants from the FTA are named after specific sections of legislation that authorizes that grant, and each type of grant is for a specific transit purpose or program.

FTA 5307: A formula grant program for urbanized areas providing capital, operating and planning assistance for mass transportation.

FTA 5310: FTA grant program that provides formula funding to states for the purpose of assisting private nonprofit groups in meeting the transportation needs of the elderly and persons with disabilities.

FTA 5311: FTA formula grant program for rural areas.

FTA 5339: FTA grant program that provides capital funding to replace, rehabilitate and purchase buses and related equipment, and to construct bus-related facilities.

Fiscal Constraint: Fiscal Constraint is a demonstration that sufficient funds are available or likely to be available for the proposed transportation improvements by comparing estimated revenues with total project costs.

Fiscal Year, Federal: The Federal Fiscal Year begins on October 1 of the previous calendar year and ends on September 30 of the year with which it is numbered.

Fiscal Year, PAG: The PAG Fiscal Year begins on July 1 of the previous calendar year and ends on June 30 of the year with which it is numbered.

HSIP: Highway Safety Improvement Funds. HSIP provides funding for roadway and systematic projects that can demonstrate a positive and significant safety benefit.

HSIP-HRRR: Highway Safety Improvement Funds for High Risk Rural Roads.

HURF: Highway User Revenue Funds are revenues from the state gas tax and the vehicle license tax that are distributed to the State Highway Fund and directly to the cities, towns, and counties in Arizona for transportation purposes.

HURF 2.6%: HURF funds that are distributed to PAG, to be used for projects on state facilities.

HURF 12.6%: HURF funds that are distributed to PAG, to be used on any arterial project in the RMAP.

IGA: Intergovernmental Agreement, a contract between two jurisdictions.

IIJA: The Infrastructure Investment and Jobs Act was signed into law in November 2021 and authorizes federal transportation programs and funding. It was preceded by the Fixing America's Surface Transportation (FAST) Act.

LOCAL: Funds provided by the sponsoring jurisdiction.

MAR: Town of Marana funds provided for projects sponsored by other agencies.

MOE: RTA funds from Maintenance of Effort Agreements

MOU: Memorandum of Understanding, an agreement between two or more parties. Projects programmed with funding in the first two years of the TIP must generally have either an MOU with PAG or an IGA with the RTA.

MPO: Metropolitan Planning Organization, a federally mandated transportation policy-making organization that is made up of representatives from local government and governmental transportation authorities. PAG is the MPO for Pima County.

NHS: National Highway System, the network of highways within the United States, including the Interstate Highway System and other roads serving major airports, ports, rail or truck terminals, railway stations, pipeline terminals, and other strategic transport facilities.

Obligate: A federal designation indicating funds are available for reimbursement.

OA: Obligation Authority, the amount of a state or region's federal allocation of transportation dollars that can be obligated to specific projects. Obligation Authority is usually expressed as a percent.

OSB: Off-System Bridge program funding.

OV: Town of Oro Valley funds provided for projects sponsored by other agencies.

OWP: Overall Work Program, the planning document prepared by PAG on a biennial basis which identifies the transportation and other work to be undertaken within the metropolitan planning area.

PAG: Pima Association of Governments is the metropolitan planning organization for the Pima County region.

PCBonds: Pima County bonds.

PCDIFO: Pima County Development Impact Fees. This designation is used when Pima County provides DIFO funds for a project sponsored by another jurisdiction, to distinguish PCDIFO from any DIFO that the sponsoring jurisdiction may be contributing to the project.

PCLocal: Pima County funds that are provided to a project sponsored by another jurisdiction, to distinguish PCLocal from Local funds that the sponsoring jurisdiction may be contributing to the project.

Regionally Significant Project: A transportation project that is on a facility which serves regional transportation needs and would normally be included in the modeling of the metropolitan area's transportation network. At a minimum, that includes all principal arterial highways and all fixed-guideway transit facilities that offer a significant alternative to regional highway travel.

RTA: The Regional Transportation Authority is the government entity that manages the $2.1 billion, 20-year RTA plan, which was approved by Pima County voters on May 16, 2006.

RTAG: Regional Transportation Alternatives Grant. A federally funded program generally used for alternate mode projects such as bicycle and pedestrian projects.

RMAP: The Regional Mobility and Accessibility Plan. The region's long-range plan for transportation.

SAF: State Aviation Fund.

SPR: State Planning and Research Funds. These are federal funds and require a 20% match from a non-federal funding source.

STATE: Non-federal funds provided by the state.

STBG: Surface Transportation Block Grant (STBG) program funding is a flexible federal transportation funding source allocated to the state. A portion of STBG is further suballocated to the PAG planning area by census-designated population regions, such as the Tucson Urbanized Area.

STMatch: State Match

STP: Surface Transportation Program. Renamed the Surface Transportation Block Grant Program (STBGP) in recent federal transportation legislation.

STIP: State Transportation Improvement Program. The state's TIP, which includes the TIPs of all other COGs and MPOs as well as the ADOT Five-Year Program.

TAP: See RTAG.

TIP: The Transportation Improvement Program is a five-year schedule and budget of proposed transportation improvements within eastern Pima County.

TIP Amendment: An amendment to the TIP alters the approved TIP in some way. A formal TIP amendment must be approved by the Regional Council.

TPC: Transportation Planning Committee, consisting of the transportation directors of each jurisdiction in Pima County, including Pima County, including other regional stakeholders such as ADOT, the Tucson Airport Authority, the University of Arizona, and Pima County Department of Environmental Quality. TPC reports to the PAG Executive Director.

Travel Demand Model: Model that approximates trip generation and trip destinations, which can be used to estimate how the projects in the TIP will impact congestion and travel times in the future.

TUC: City of Tucson funds that are provided to a project sponsored by another jurisdiction, to distinguish them from Local funds that the sponsoring jurisdiction may be contributing to the project.

USC: United States Code, the official compilation of the general and permanent federal statutes of the United States.

VLT: Vehicle License Tax, a tax paid to the state of Arizona upon registration of a motor vehicle. A portion of the VLT collected is deposited in the HURF, while another portion is distributed directly to individual counties for transportation uses. Other portions of the VLT are distributed to the general fund of cities, towns and counties.

VMT: Vehicle Miles Traveled, a measurement of miles traveled by vehicles within a specified region for a specific time period (e.g., Daily VMT or Annual VMT).

Phase Codes Used in the PAG TIP

- S = Study
- D = Design
- R = Right-of-way acquisition
- U = Utilities relocation
- C = Construction
- O = Operations
- P = Procurement
- PMT = Payment, the repayment of funds previously expended by the project sponsor
- REV = Revenue

APPENDIX 7

PREVIOUS TIP PROJECTS OBLIGATIONS AND DRAWDOWNS

Appendix 7 is a TIP database generated report that lists previous drawdowns and obligations for projects with ledger entries in the TIP database. Thus, since drawdowns and obligations are recorded in different financial systems depending on the fund source, project type, and sponsor, not all TIP projects are included in this report. For example, transit and aviation projects are not included since the drawdowns are not recorded in the TIP database.

Appendix 7 - Previous TIP Projects Obligations and Drawdowns

TipID	StateID	Project Name	Drawdowns and Obligations		Sponsor
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2000	$325,000.00	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2007	$1,760.91	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2008	$590,909.47	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2009	$1,529,068.44	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2010	$2,858,766.90	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2011	$6,697,755.16	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2012	$1,490,333.58	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2013	$6,869,347.27	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2014	$7,773,579.94	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2015	$5,125,231.13	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2016	$9,257,209.79	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2017	$1,534,829.08	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2019	$177,668.94	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2020	$73,184.20	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2021	$77,744.56	Tucson
131.00		22nd St: I-10 to Tucson Blvd	Total for FY 2022	$1,349,978.36	Tucson
			Grand Total	$45,732,367.73	
44.12		Aerospace Parkway Expansion	Total for FY 2012	$5,237.45	Pima County
44.12		Aerospace Parkway Expansion	Total for FY 2013	$12,664.61	Pima County

44.12	Aerospace Parkway Expansion	Total for FY 2014	$1,398,118.41	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2015	$1,680,920.99	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2016	$6,895,914.30	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2017	$2,502,278.27	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2018	$2,569,818.55	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2019	$5,362,444.95	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2020	$1,049,285.10	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2021	$28,594.92	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2022	$222,479.31	Pima County
44.12	Aerospace Parkway Expansion	Total for FY 2023	$974.27	Pima County
		Grand Total	$21,728,731.13	
81.04	Downtown Links: Broadway to I-10	Total for FY 2005	$105,002.75	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2006	$219,355.65	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2007	$808,543.08	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2008	$725,075.66	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2009	$1,594,504.04	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2010	$4,170,794.41	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2011	$1,998,560.96	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2012	$8,963,869.85	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2013	$2,872,812.98	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2014	$7,390,582.85	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2015	$3,432,731.61	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2016	$7,449,233.21	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2017	$4,248,220.01	Tucson

81.04	Downtown Links: Broadway to I-10	Total for FY 2018	$2,949,033.13	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2019	$822,339.26	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2020	$1,248,519.04	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2021	$11,191,305.93	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2022	$18,014,860.15	Tucson
81.04	Downtown Links: Broadway to I-10	Total for FY 2023	$17,221,978.03	Tucson
		Grand Total	$95,427,322.60	
13.15	Elemental Level Bridge Inspection	Total for FY 2016	$1,340.66	Pima County
13.15	Elemental Level Bridge Inspection	Total for FY 2017	$1,096.48	Pima County
13.15	Elemental Level Bridge Inspection	Total for FY 2018	$890.35	Pima County
13.15	Elemental Level Bridge Inspection	Total for FY 2019	$59,443.46	Pima County
13.15	Elemental Level Bridge Inspection	Total for FY 2020	$110,506.76	Pima County
13.15	Elemental Level Bridge Inspection	Total for FY 2023	$106,145.88	Pima County
		Grand Total	$279,423.59	
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2007	$205,792.55	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2008	$1,634,842.65	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2009	$1,501,754.26	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2010	$5,361,080.72	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2011	$5,745,270.70	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2012	$4,162,049.76	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2013	$3,620,298.55	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2014	$7,395,062.59	Tucson
55.06	Grant Rd: Oracle Rd to Swan Rd	Total for FY 2015	$6,035,410.73	Tucson

55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2016	$17,944,890.02	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2017	$8,537,334.38	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2018	$5,271,741.61	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2019	$14,474,860.72	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2020	$10,912,034.50	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2021	$13,402,706.56	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2022	$8,277,335.58	Tucson
55.06		Grant Rd: Oracle Rd to Swan Rd	Total for FY 2023	$3,267,264.03	Tucson
			Grand Total	$117,749,729.91	
16.15		Houghton Rd: 22nd St to Irvington Rd	Total for FY 2017	$592,593.51	Tucson
16.15		Houghton Rd: 22nd St to Irvington Rd	Total for FY 2018	$3,221.85	Tucson
16.15		Houghton Rd: 22nd St to Irvington Rd	Total for FY 2019	$46,947.00	Tucson
16.15		Houghton Rd: 22nd St to Irvington Rd	Total for FY 2020	$1,039,311.90	Tucson
16.15		Houghton Rd: 22nd St to Irvington Rd	Total for FY 2023	$337,924.59	Tucson
			Grand Total	$2,019,998.85	
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2014	$848,700.00	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2015	$51,300.00	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2016	$600,367.16	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2017	$21,983,835.89	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2019	$6,338,323.82	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2020	$2,255,110.61	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2021	($4,386,796.66)	ADOT
3.02	H847901C	I-10: Ina Rd TI	Total for FY 2022	$6,346.88	ADOT

3.02	H847901C	I-10: Ina Rd TI	Total for FY 2023	$65.42	ADOT
			Grand Total	$27,697,253.12	
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2014	$83.29	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2017	$520,000.00	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2019	$2,562,569.98	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2020	$33,418.46	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2021	$643,780.17	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2022	$135,346.19	ADOT
5.12	H8480	I-10: Ruthrauff Rd TI	Total for FY 2023	$21,955.35	ADOT
			Grand Total	$3,917,153.44	
41.01	H8467	I-19: Ajo TI	Total for FY 2012	$52.88	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2014	$164,372.70	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2015	$12,516,454.55	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2016	$427,784.29	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2017	$1,888,063.01	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2018	$2,267,629.21	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2019	$971,988.67	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2020	$5,929,552.59	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2021	$945,878.51	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2022	$95,206.42	ADOT
41.01	H8467	I-19: Ajo TI	Total for FY 2023	$4,234.24	ADOT

		Grand Total	$25,211,217.07	
85.01	PAG Consultant Services	Total for FY 2002	$572,101.13	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2003	$728,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2004	$520,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2005	$527,436.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2006	$575,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2007	$500,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2008	$500,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2009	$500,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2010	$499,270.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2011	$200,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2012	$1,190,327.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2013	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2014	$150,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2015	$300,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2016	$300,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2017	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2018	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2019	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2020	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2021	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2022	$100,000.00	OWP-PAG
85.01	PAG Consultant Services	Total for FY 2023	$100,000.00	OWP-PAG
		Grand Total	$7,862,134.13	

25.16	Roadway Lane and Shoulder Width Study	Total for FY 2021	$19,499.39	Sahuarita
25.16	Roadway Lane and Shoulder Width Study	Total for FY 2022	$7,587.12	Sahuarita
		Grand Total	$27,086.51	
56.06	Silverbell Rd: Grant to Ina	Total for FY 2009	$84,070.77	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2010	$1,280,346.28	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2011	$891,457.82	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2012	$363,564.37	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2013	$281,430.63	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2014	$959,965.84	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2015	$436,917.14	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2016	$5,030,262.91	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2017	$5,551,107.44	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2018	$45,231.36	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2019	$977,836.39	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2020	$300,778.05	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2021	$1,268,147.80	Tucson
56.06	Silverbell Rd: Grant to Ina	Total for FY 2022	$1,321,338.68	Tucson
		Grand Total	$18,792,455.48	
1.16	SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2018	$714,821.16	ADOT
1.16	SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2019	$789,379.67	ADOT
1.16	SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2020	$1,334,718.95	ADOT
1.16	SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2021	$558,501.97	ADOT

1.16		SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2022	$248,254.42	ADOT
1.16		SR 410: Sonoran Corridor Tier 1 EIS	Total for FY 2023	($60,553.75)	ADOT
			Grand Total	$3,585,122.42	
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2014	$521,015.30	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2015	$530,496.92	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2016	$143,269.71	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2017	$166,144.76	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2018	$479,861.47	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2019	$34,942.70	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2020	$4,543,502.11	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2021	$5,685,076.08	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2022	$29,284.30	ADOT
47.06	H8469	SR 86: Fresnal Segment	Total for FY 2023	$575.73	ADOT
			Grand Total	$12,134,169.08	
659.00		Transportation Planning Program	Total for FY 1998	$1,588,100.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 1999	$2,475,997.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2000	$1,027,879.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2001	$686,001.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2002	$1,631,285.13	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2003	$696,700.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2004	$881,000.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2005	$1,500,000.00	OWP-PAG
659.00		Transportation Planning Program	Total for FY 2006	$1,812,000.00	OWP-PAG

659.00	Transportation Planning Program	Total for FY 2007	$1,500,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2008	$1,529,435.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2009	$1,500,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2010	$1,470,564.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2011	$1,500,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2012	$1,837,040.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2013	$6,084,605.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2014	$1,029,036.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2015	$2,100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2016	$3,726,057.49	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2017	$3,222,981.90	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2018	$100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2019	$100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2020	$100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2021	$100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2022	$100,000.00	OWP-PAG
659.00	Transportation Planning Program	Total for FY 2023	$100,000.00	OWP-PAG
		Grand Total	$38,398,681.52	

APPENDIX 8

FY 2025–2029 TIP PERFORMANCE ASSESSMENT

PERFORMANCE MEASURES REPORT

TRACKING TO RMAP PERFORMANCE TARGETS

There are thirty-eight performance measures that have targets for 2045. **Figure A8.1** provides a summary of the region's progress toward achieving those targets. Performance measures that are on pace to meet the 2045 targets are listed opposite the performance measures that are behind pace.

Figure A8.1 Status of RMAP Performance Measures, as of 2020

Goal Area	On Pace	Not on Pace
System Maintenance	• Federal aid pavement in poor condition • Public bridges in poor condition	• Average age of public buses
Safety	• Total fatality rate • Total serious injuries • Bicycle serious injuries • Total serious injury rate	• Total fatalities • Pedestrian fatalities • Pedestrian fatality rate • Pedestrian serious injuries • Pedestrian serious injury rate • Bicycle fatalities • Bicycle fatality rate • Bicycle serious injury rate • Transit crash rate
Multimodal Choices	• Total miles of pedestrian facilities • Total miles of bicycle facilities • Average transit speed	• Walk/bike/transit mode share (work trips) • Walk/bike/transit mode share (all trips) • Total transit trips • Average transit travel time
System Performance	• Percent of peak-hour VMT under severe congestion • Travel time index	• Daily vehicle miles traveled per capita • Daily vehicle hours traveled per capita
Environmental Stewardship	• Weekday metric tons of NOx emissions • Weekday metric tons of VOC emissions • Weekday metric tons of CO emissions • Weekday metric tons of PM2.5 emissions • Weekday metric tons of PM10 emissions	• Annual on-road greenhouse gas emissions (GHG) per capita
Land Use and Transportation	None	• Jobs reachable by auto in 30 minutes • Jobs reachable by transit in 45 minutes • Job accessibility index • Jobs within ¼-mile of transit stop • Homes within ¼-mile of transit stop
Freight and Economic Growth	Targets have not been established. Performance is being tracked as data becomes available.	

On the next page **Figure A8.2** is a table that shows the progress report for all RMAP performance targets. A status of "on pace" implies the region is progressing at a pace to meet the 2045 target; "behind pace" means progress is being made but not at a pace to meet the 2045 target; and "trending away" is an indication the performance condition is getting worse.

The remainder of this appendix section is a compilation of full-page progress reports, one for each performance measure that has a 2045 target. They are organized by performance goal category.

Figure A8.2 RMAP Performance Measure Progress Report

Performance Measure	Notes	2019	2020	2021	2022	2023	5yr Avg	Benchmark	2045 Target	Trend	2020 status
Goal Area: System Maintenance											
Federal-Aid Pavement in Poor Condition	A	24.6%	28.0%				29.8%	29.0%	19.9%	decrease	on pace
Public Bridges in Poor Condition	B	4.5%	3.8%	2.4%	2.3%	2.3%	3.1%	6.6%	8.0%	maintain	on pace
Average Age of Public Buses	C	7.4	7.7	7.0	6.7	7.1	7.2	7.3	7.0	maintain	behind pace
Goal Area: Transportation Safety											
Total Fatalities	D	116.4	130.6	140.8	152.4		129.2	97.0	71.9	decrease	trending away
Fatality Rate	E	1.5	1.6	1.7	1.8		1.6	1.2	0.7	decrease	trending away
Total Serious Injuries	D	458.2	446.0	420.2	421.4		445.4	469.5	436.1	decrease	on pace
Serious Injury Rate	E	5.8	5.5	5.2	5.0		5.5	5.3	5.3	decrease	behind pace
Total Pedestrian Serious Injuries	D	55.2	55.6	54.0	56.8		55.3	50.0	35.8	decrease	behind pace
Pedestrian Serious Injury Rate	F	55.0	69.7	68.1	70.9		64.0	45.6	15.6	decrease	behind pace
Total Pedestrian Fatalities	D	30.4	36.0	41.0	46.4		35.6	21.8	14.2	decrease	trending away
Pedestrian Fatality Rate	F	30.3	36.1	41.4	46.3		35.8	20.1	6.2	decrease	trending away
Total Bicycle Serious Injuries	D	28.4	26.2	22.4	22.8		25.8	26.9	20.8	decrease	on pace
Bicycle Serious Injury Rate	G	42.4	49.1	49.3	55.5		47.3	33.0	12.4	decrease	behind pace
Total Bicycle Fatalities	D	5.6	6.0	6.4	7.6		6.3	5.1	2.9	decrease	trending away
Bicycle Fatality Rate	G	8.4	9.0	11.3	14.8		10.3	6.4	1.8	decrease	trending away
Transit Crash Rate	H	1.9	1.6	0.6	0.6	0.5	1.0	0.4	1.5	decrease	on pace
Goal Area: Multimodal Choices											
Walk, Bike, or Transit to Work Rate	I	5.5%	n/a	3.7%	4.3%		4.8%	7.1%	10.0%	increase	trending away
Walk, Bike, and Transit Mode Share, All Trips	I	16.4%	18.3%	18.3%	18.0%	18.1%	17.8%	17.2%	20.0%	increase	behind pace
Total Transit Trips	J	15.7	13.5	11.6	14.7	16.8	14.5	21.3	34.4	increase	trending away
Average Transit Travel Time	K	55.1	54.7	54.7	54.3	54.7	54.7	53.9	50.0	decrease	trending away
Average Transit Speed	L	14.2	14.0	14.0	14.0	14.1	14.1	14.4	15.0	increase	on pace
Total Miles of Pedestrian Facilities	M	582	582	582	582	582	-	742	1200	increase	on pace
Total Miles of Bicycle Facilities	M	1111	1195	1195	1195	1340	-	1253	1720	increase	on pace
Goal Area: System Performance											
Daily Vehicle Hours Traveled per Capita	K	32.2	32.8	32.7	38.6	33.2	33.9	31.9	30.6	decrease	trending away
Daily Vehicle Miles Traveled (VMT) per Capita	M	20.8	21.1	21.1	21.3	21.3	21.1	20.3	18.5	decrease	behind pace
Travel Time Index, PM Peak		1.43	1.45	1.45	1.45	1.46	1.45	1.46	1.58	maintain	on pace
Percent of Peak-Hour VMT under Severe Congestion	N	0.041	n/a	0.047	n/a	0.054	0.047	0.04	0.018	maintain	on pace
Goal Area: Environmental Stewardship											
On-Road Greenhouse Gas Emissions per Capita	O	3.3	3.4	3.8	3.6	3.9	3.6	3.1	2.3	decrease	behind pace
Weekday Metric Tons of NOx Emissions		13.0	13.1	19.5	11.8	10.2	13.5	11.1	4.6	decrease	on pace
Weekday Metric Tons of VOC Emissions		14.0	12.6	11.2	9.4	11.0	11.7	11.8	4.6	decrease	on pace
Weekday Metric Tons of CO Emissions		123.6	146.5	116.5	113.1	115.6	123.1	106.4	49.2	decrease	on pace
Weekday Metric Tons of PM 2.5 Emissions		0.2	0.2	0.2	0.4	0.4	0.3	0.3	0.5	maintain	on pace
Weekday Metric Tons of PM 10 Emissions		0.9	0.9	1.3	1.2	1.2	1.1	1.0	1.3	maintain	on pace
Goal Area: Land Use and Transportation											
Regional Jobs Reachable by Auto in 30 min		228,558	211,145	210,938	208,756	234,584	218,796	256,195	348,320	increase	behind pace
Job Accessibility Index for All Modes		52.4	47.8	47.7	46.7	47.4	48.4	55.5	65.7	increase	behind pace
Regional Jobs Reachable by Transit in 45 min		25,157	24,163	24,139	23,908	27,529	24,979	28,466	39,498	increase	behind pace
Jobs within Quarter Mile of Transit Stop	P	57.7%	58.4%	58.4%	57.8%	58.5%	58.2%	58.2%	60.0%	increase	behind pace

A - % of centerline miles	E - per 100 million VMT	I - % of population	M - miles
B - % of all bridges, deck area	F - per 10,000 walk commutes	J - millions per year	N - level of service E or F
C - years in service	G - per 10,000 bike commutes	K - minutes	O - metric tons per year
D - 5-year averages	H - per 100,000 service miles	L - miles per hour	P - % of all jobs

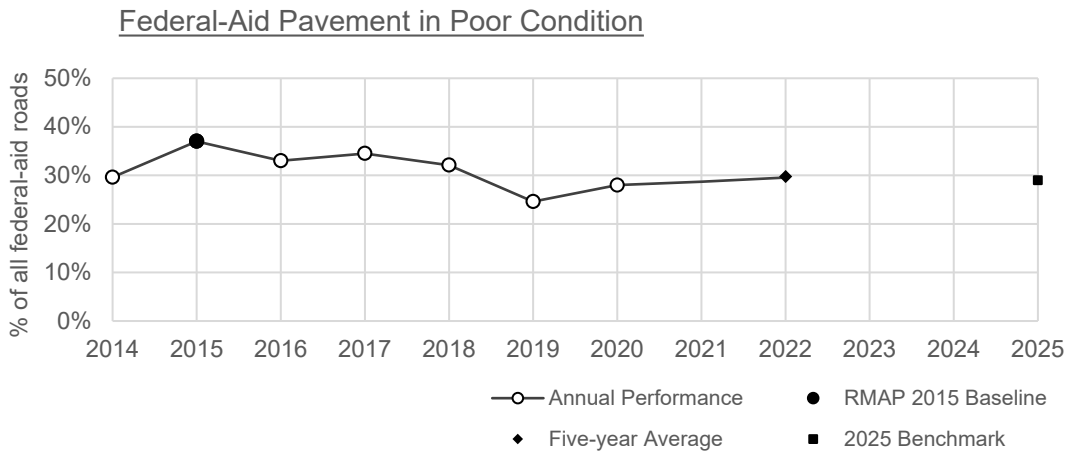
Performance Measure: **Federal-aid pavement rated in poor condition**
RMAP Goal Category: System Maintenance
Desired Trend: Decrease
2024 Status: PM is on pace to reach 2045 target as of 2020. The current five-year average is also better than the target pace. Data is unavailable for 2021 due to COVID-19.

Performance Data *(percent of federal aid roads)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
29.6%	37.0%	33.0%	34.5%	32.1%	24.6%	28.0%	n/a	29.6%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
30.4%	29.0%	<20%	decrease	on pace



Data Source and Calculations:
The value of this measure represents a percentage of total centerline miles. This PM is evaluated based on the International Roughness Index (IRI) data obtained from table HM73 from the FHWA Highway Statistics website: www.fhwa.dot.gov/policyinformation/statistics.cfm

Pavement condition totals and FAST Act performance measures:

Year	Miles Good IRI<95	Miles Fair 95<IRI<170	Miles Poor IRI>170	Total Miles	Fed Aid Good%	Fed Aid Fair%	Fed Aid Poor%	Interstate Good%	Interstate Fair%	Interstate Poor%	NHS non-Interstate Good%	NHS non-interstate Fair%	NHS non-Interstate Poor%
2014	176	211	163	550	32.00%	38.36%	29.64%	87.5%	12.5%	0.0%	32.4%	41.8%	25.8%
2015	116	198	234	548	21.17%	36.13%	42.70%	83.3%	16.7%	0.0%	22.7%	43.0%	33.7%
2016	131	234	180	545	24.04%	42.94%	33.03%	83.3%	16.7%	0.0%	26.6%	48.0%	24.9%
2017	108	182	142	432	25.00%	42.13%	32.87%	80.5%	19.5%	0.0%	25.6%	55.8%	18.6%
2018	136	184	111	431	31.58%	42.66%	25.77%	77.5%	21.6%	0.9%	27.2%	57.3%	15.5%
2019	134	172	100	406	33.10%	42.27%	24.63%	75.9%	23.7%	0.5%	28.3%	52.4%	19.3%
2020	125	175	117	417	29.98%	42.07%	27.95%	74.1%	25.8%	0.1%	27.2%	49.6%	23.2%
2021	no data (COVID)												
2022	126	170	124	420	30.02%	40.43%	29.55%	68.8%	30.0%	1.2%	30.1%	47.2%	22.8%

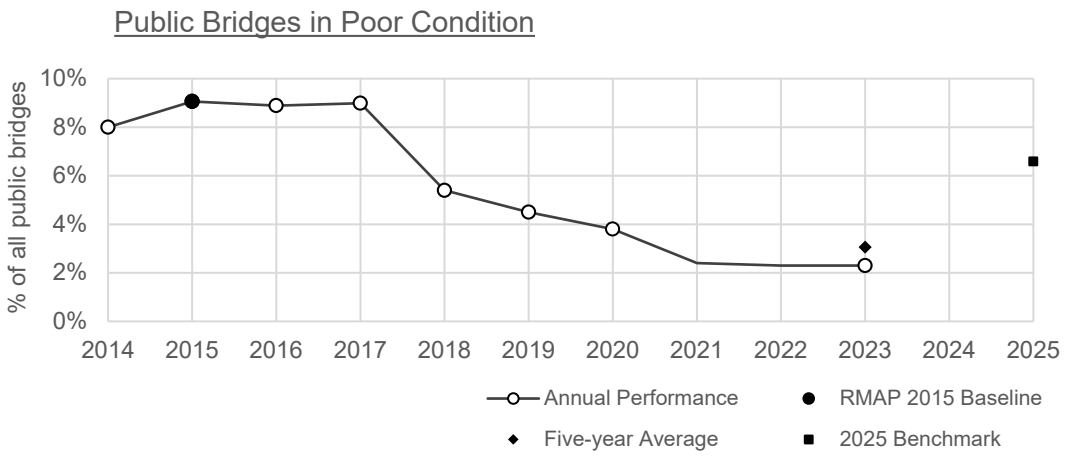
Performance Measure: **Bridges rated in poor condition**
RMAP Goal Category: System Maintenance
Desired Trend: Maintain
2024 Status: PM is on pace to reach 2045 target as of 2020. The current five-year average is also better than the target pace.

Performance Data *(percent of all bridges)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
8.0%	9.1%	8.9%	9.0%	5.4%	4.5%	3.8%	2.4%	2.3%	2.3%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
3.1%	6.6%	<8.0%	maintain	on pace



Data Source and Calculations:
Table download from FHWA National Bridge Inventory website: www.fhwa.dot.gov/bridge/nbi/ascii.cfm

Bridge condition totals and FAST Act performance measures:

	combined deck area (sq ft)	% of total deck area	No. of bridges	% of all bridges	% of NHS deck area	No. of NHS bridges
Good	199,258	39.6%	147	39.9%	42.4%	81
Fair	292,686	58.1%	213	57.9%	57.6%	110
Poor	11,613	2.3%	8	2.2%	0%	0

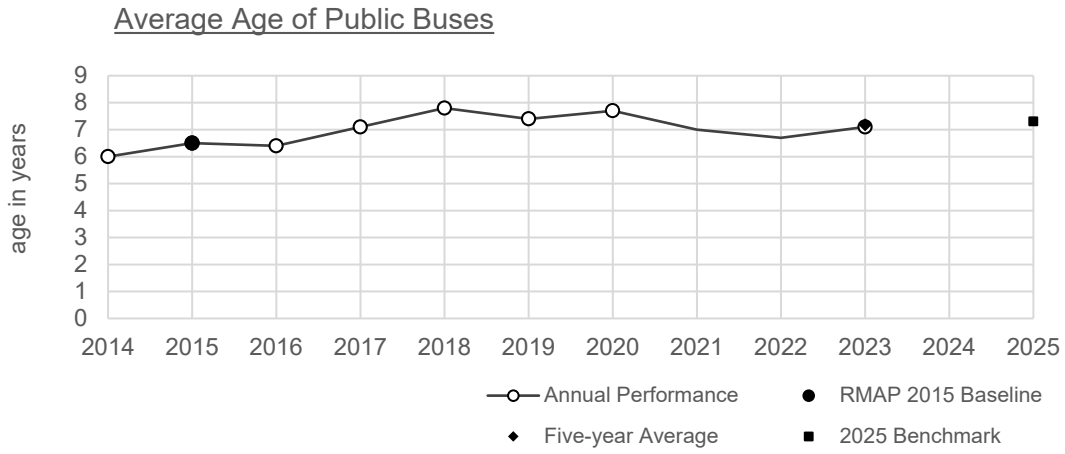
Performance Measure: **Average age of public buses**
RMAP Goal Category: System Maintenance
Desired Trend: Maintain
2024 Status: PM is slightly behind pace to reach the 2045 target. Recent fleet acquisitions have helped to improve this measure.

Performance Data (years):

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
6.0	6.5	6.4	7.1	7.8	7.4	7.7	7.0	6.7	7.1

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
7.2	7.3	7.0	maintain	on pace



Data Source and Calculations:
Fleet report provided by Sun Tran www.suntran.com/contact-us/contact-directory-office-information/

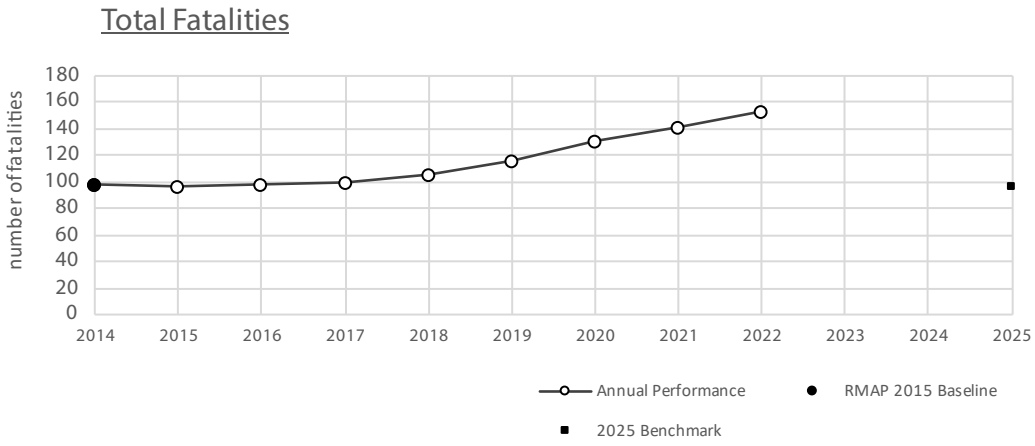
Performance Measure: **Total fatalities**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from the 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
98.6	95.8	98.4	100.0	105.8	116.4	130.6	140.8	152.4

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
129.2	97.0	71.9	decrease	trending away



Data Source and Calculations:

This performance measure tracks total fatalities of all motorized and non-motorized users. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce fatalities by 25%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.

azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

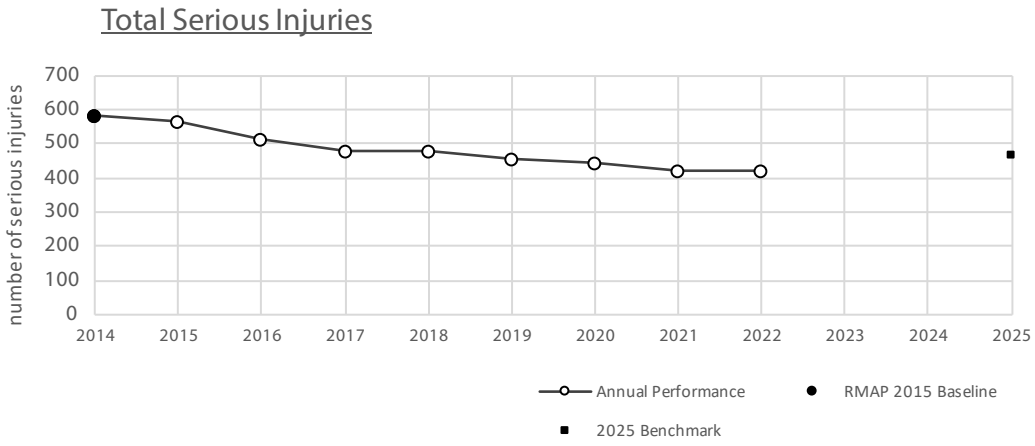
Performance Measure: **Total serious injuries**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is on pace to reach 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
581.4	562.8	515.2	481.2	481.2	458.2	446.0	420.2	421.4

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
445.4	469.5	436.1	decrease	on pace



Data Source and Calculations:
This performance measure tracks total serious injuries of all motorized and non-motorized users. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce serious injuries by 25%."
Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

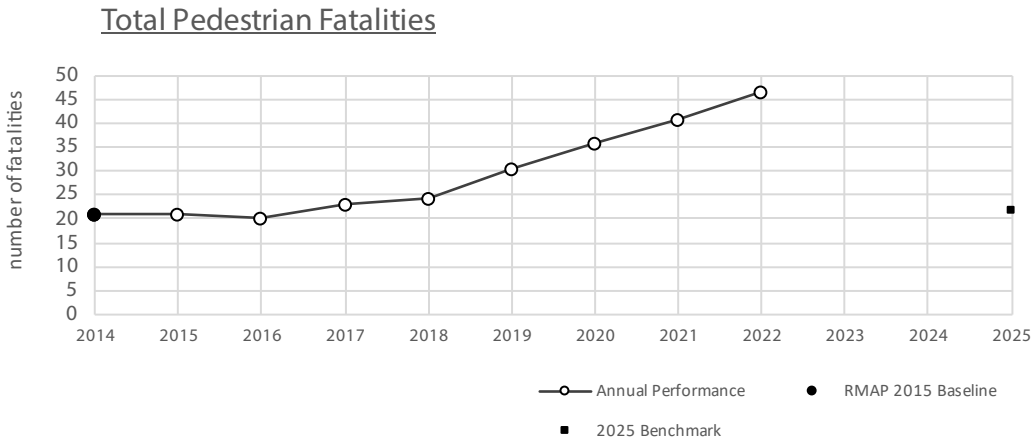
Performance Measure: **Total pedestrian fatalities**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
21.2	21.2	20.0	23.2	24.4	30.4	36.0	41.0	46.4

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
35.6	21.8	14.2	decrease	trending away



Data Source and Calculations:
The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce pedestrian fatalities by 33%."
Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

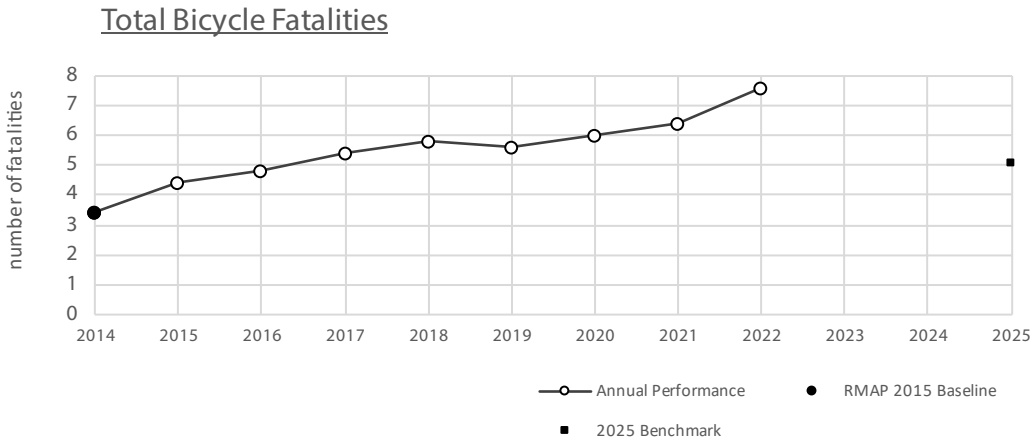
Performance Measure: **Total bicycle fatalities**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
3.4	4.4	4.8	5.4	5.8	5.6	6.0	6.4	7.6

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
6.3	5.1	2.9	decrease	trending away



Data Source and Calculations:
The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce bicycle fatalities by 33%."
Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

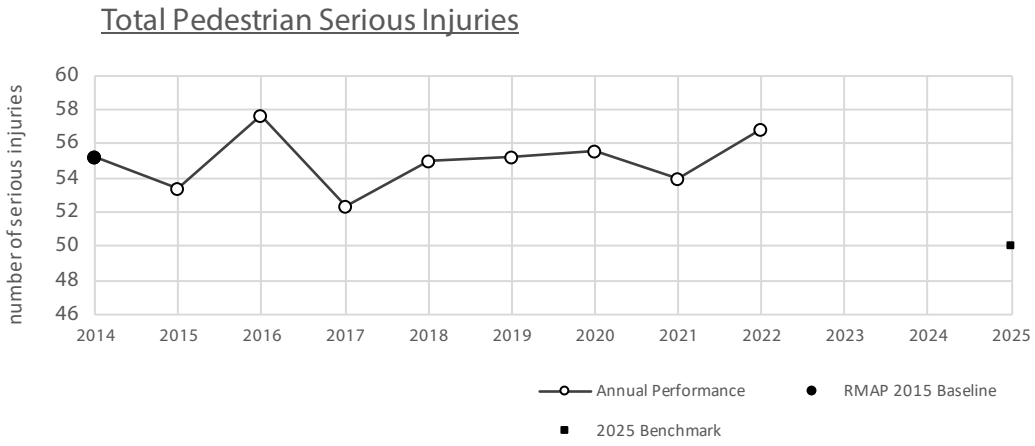
Performance Measure: **Total pedestrian serious injuries**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is behind pace to reach 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
55.2	53.4	57.6	52.4	55.0	55.2	55.6	54.0	56.8

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
55.3	50.0	35.8	decrease	behind pace



Data Source and Calculations:
The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce pedestrian serious injuries by 33%."
Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

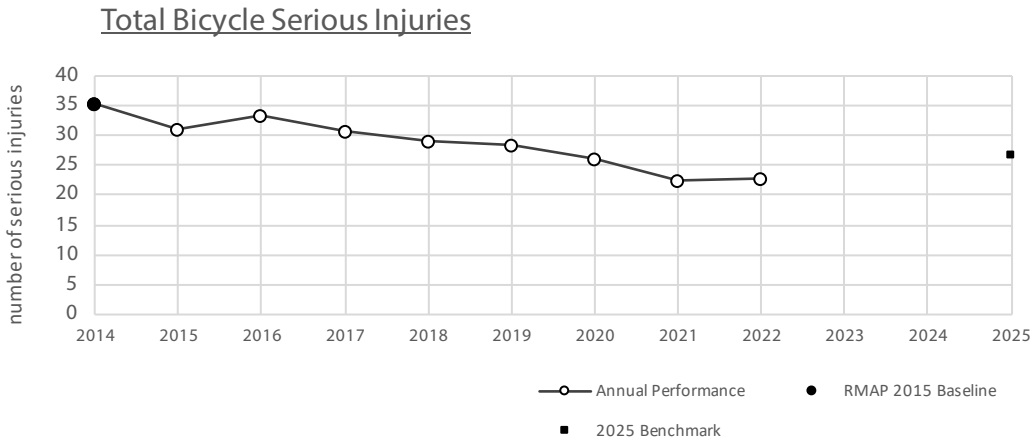
Performance Measure: **Total bicycle serious injuries**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is on pace to reach 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
35.4	31.0	33.2	30.6	29.0	28.4	26.2	22.4	22.8

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
25.8	26.9	20.8	decrease	on pace



Data Source and Calculations:
The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce bicycle serious injuries by 33%."
Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

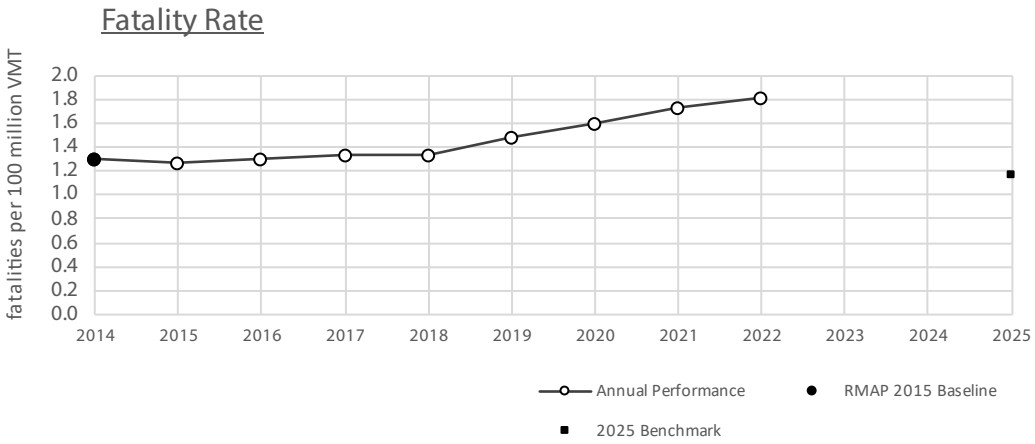
Performance Measure: **Fatality rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM had been on pace to reach 2045 target as of 2020, but is now trending rapidly in the wrong direction.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
1.3	1.3	1.3	1.3	1.3	1.5	1.6	1.7	1.8

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
1.6	1.2	0.7	decrease	trending away



Data Source and Calculations:
This performance measure tracks the fatality rate of all motorized and non-motorized users. The rate is determined by total fatalities per one hundred million vehicle miles traveled (VMT). The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce fatality rate by 45%." Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

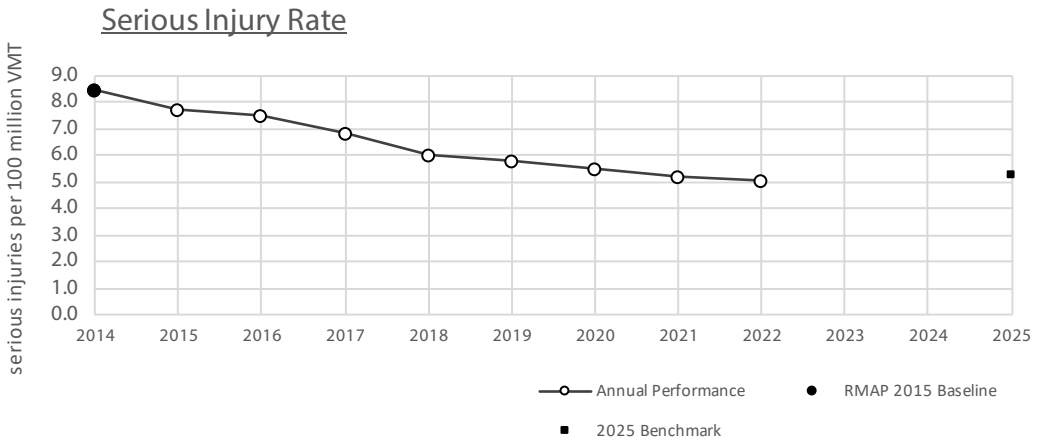
Performance Measure: **Serious injury rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is slightly behind pace to reach 2045 target as of 2020, but the measure is trending in the right direction.

Performance Data *(five-year average)***:**

2014	2015	2016	2017	2018	2019	2020	2021	2022
8.4	7.7	7.5	6.9	6.0	5.8	5.5	5.2	5.0

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
5.5	5.3	5.3	decrease	behind pace



Data Source and Calculations:

This performance measure tracks total fatalities of all motorized and non-motorized users. The rate is determined by total serious injuries per one hundred million vehicle miles traveled (VMT). The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce serious injury rate by 45%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.

azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

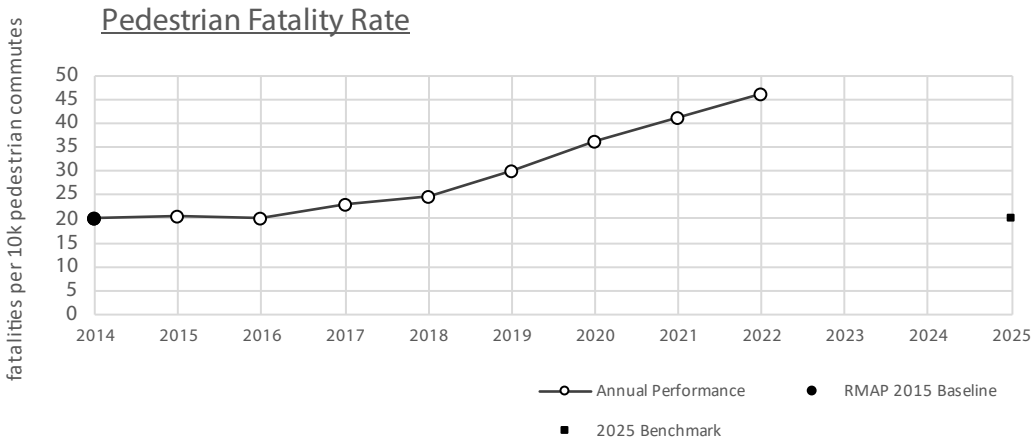
Performance Measure: **Pedestrian fatality rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
20.3	20.6	20.1	23.3	24.9	30.3	36.1	41.4	46.3

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
35.8	20.1	6.2	decrease	trending away



Data Source and Calculations:

The rate is determined by total pedestrian fatalities per ten thousand work commutes. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce pedestrian fatality rate by 70%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.

azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

Commute to work statistics are obtained from the American Community Survey

data.census.gov/table/ACSDT1Y2022.B08301

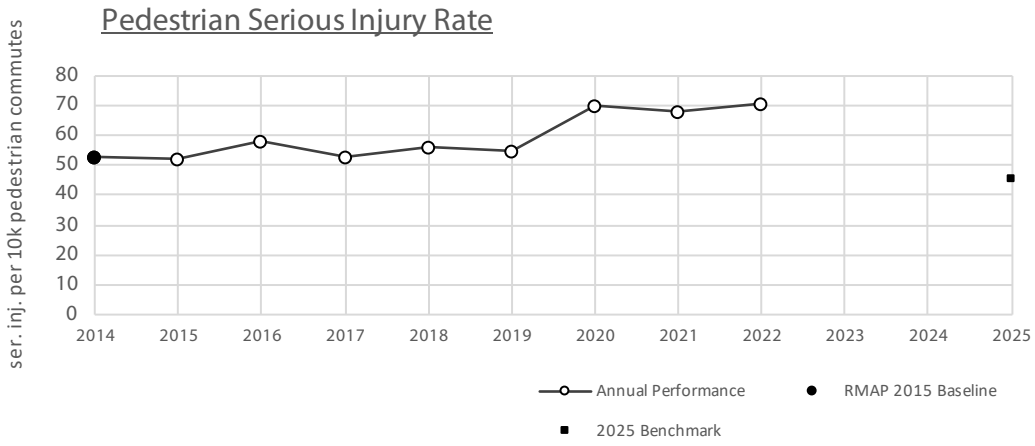
Performance Measure: **Pedestrian serious injury rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
52.8	52.0	58.0	52.6	56.2	55.0	69.7	68.1	70.9

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
64.0	45.6	15.6	decrease	behind pace



Data Source and Calculations:

The rate is determined by pedestrian serious injury rate per 10 thousand work commutes. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce pedestrian serious injury rate by 70%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

Commute to work statistics are obtained from the American Community Survey
data.census.gov/table/ACSDT1Y2022.B08301

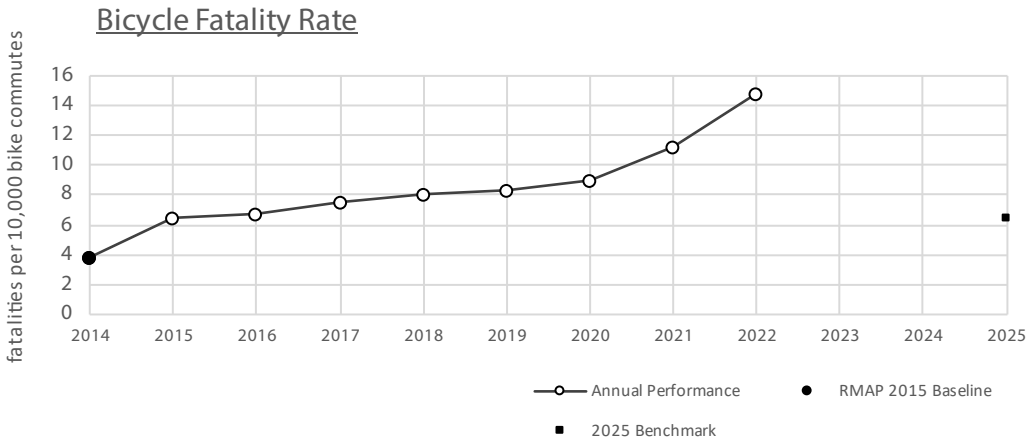
Performance Measure: **Bicycle fatality rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
3.9	6.5	6.7	7.5	8.0	8.4	9.0	11.3	14.8

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
10.3	6.4	1.8	decrease	trending away



Data Source and Calculations:

The rate is determined by total bicycle fatalities per ten thousand work commutes. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to "reduce bicycle fatality rate by 70%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.

azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

Commute to work statistics are obtained from the American Community Survey

data.census.gov/table/ACSDT1Y2022.B08301

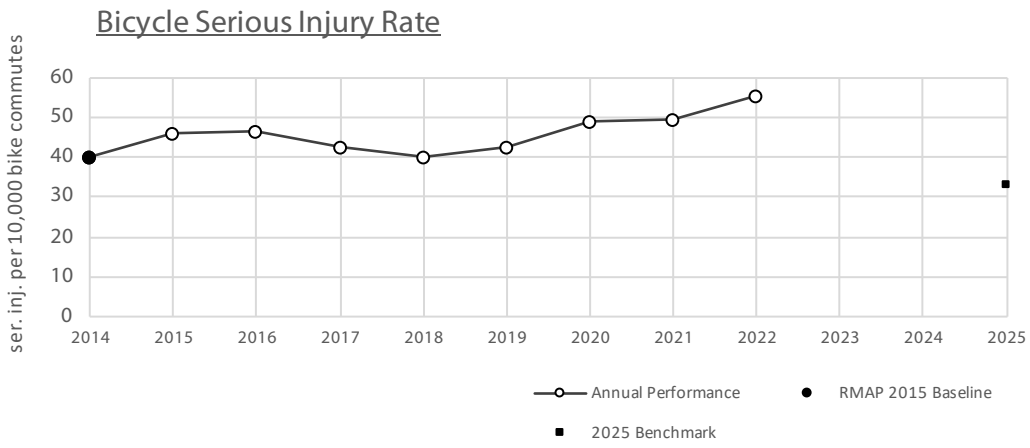
Performance Measure: **Bicycle serious injury rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is trending away from 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
40.2	45.9	46.7	42.4	40.2	42.4	49.1	49.3	55.5

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
47.3	33.0	12.4	decrease	behind pace



Data Source and Calculations:

The rate is determined by bicycle serious injuries per ten thousand work commutes. The 2045 target value is a calculation, applying the desired trend to the baseline value. The target as stated in the RMAP is to reduce bicycle serious injury rate by 70%."

Crash data is obtained from ADOT through the Arizona Crash Information System (ACIS). Access is limited and information is available online.
azdot.gov/business/transportation-systems-management-and-operations/operational-traffic-safety

Commute to work statistics are obtained from the American Community Survey
data.census.gov/table/ACSDT1Y2022.B08301

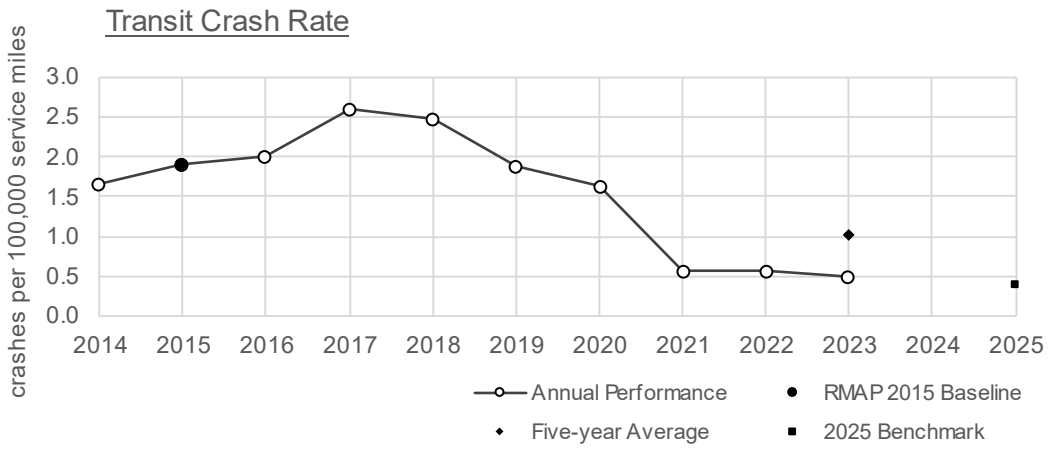
Performance Measure: **Transit Crash Rate**
RMAP Goal Category: Safety
Desired Trend: Decrease
2024 Status: PM is on pace to reach 2045 target.

Performance Data *(five-year average)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1.7	1.9	2.0	2.6	2.5	1.9	1.6	0.6	0.6	0.5

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
47.3	33.0	12.4	decrease	behind pace



Data Source and Calculations:
Transit data provided by Sun Tran Monthly Operational Reports www.suntran.com/contact-us/contact-directory-office-information/

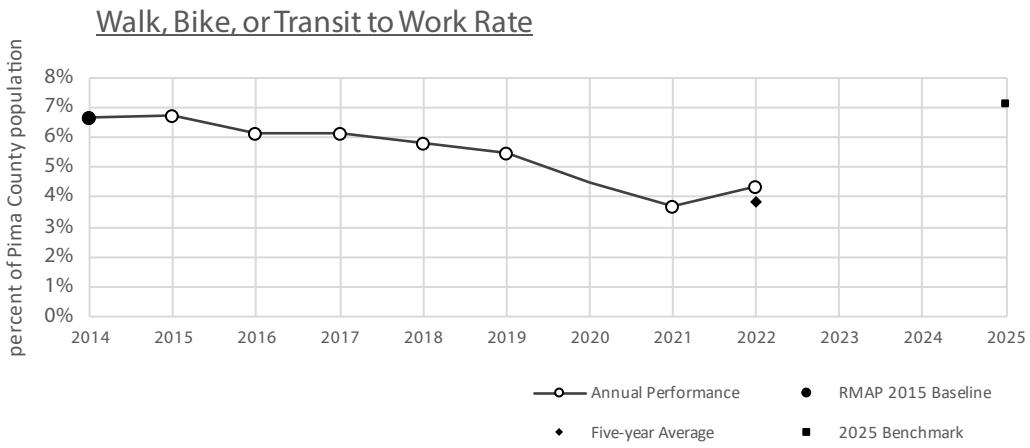
Performance Measure: **Walk, bike or transit to work rate**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM is trending away from 2045 target.

Performance Data *(percent of population)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022
6.7%	6.7%	6.1%	6.1%	5.8%	5.5%	n/a	3.7%	4.3%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
4.8%	7.1%	10.0%	increase	trending away



Data Source and Calculations:
Data was not collected during 2020 due to COVID-19. Commute to work statistics are obtained from the American Community Survey data.census.gov/table/ACSDT1Y2022.B08301

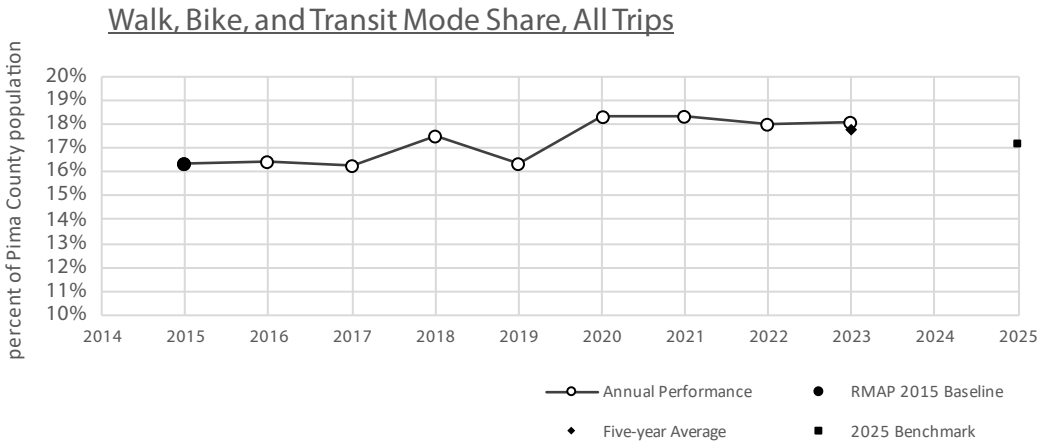
Performance Measure: **Walk, bike and transit mode share, all trips**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM had been slightly behind pace as of 2020, but performance appears to be trending to be on pace to meet the 2045 target.

Performance Data *(percent of population)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
16.3%	16.4%	16.3%	17.5%	16.4%	18.3%	18.3%	18.0%	18.1%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
17.8%	17.2%	20.0%	increase	behind pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

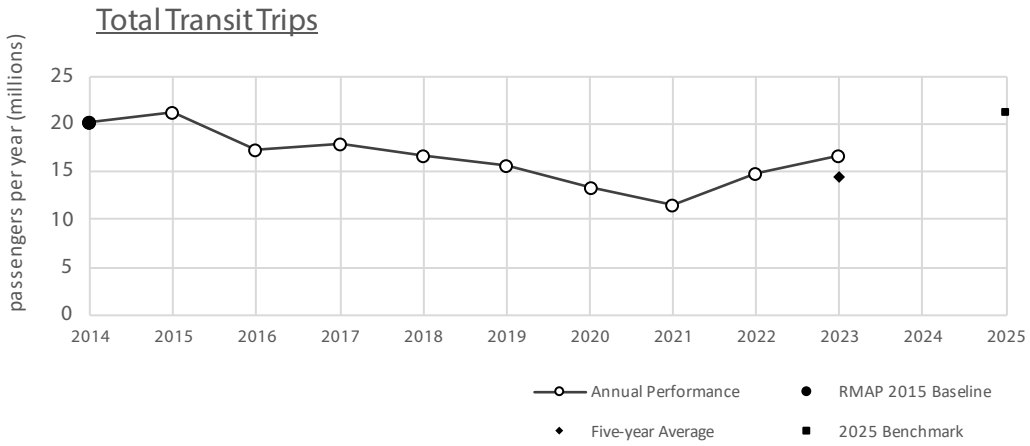
Performance Measure: **Total transit trips**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM had been trending away as of 2020, but the desired trend has been observed the last 2 years.

Performance Data *(millions)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
20.3	21.3	17.3	17.9	16.7	15.7	13.5	11.6	14.7	16.8

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
14.5	21.3	34.4	increase	trending away



Data Source and Calculations:
Transit data provided by Sun Tran Monthly Operational Reports www.suntran.com/contact-us/contact-directory-office-information/

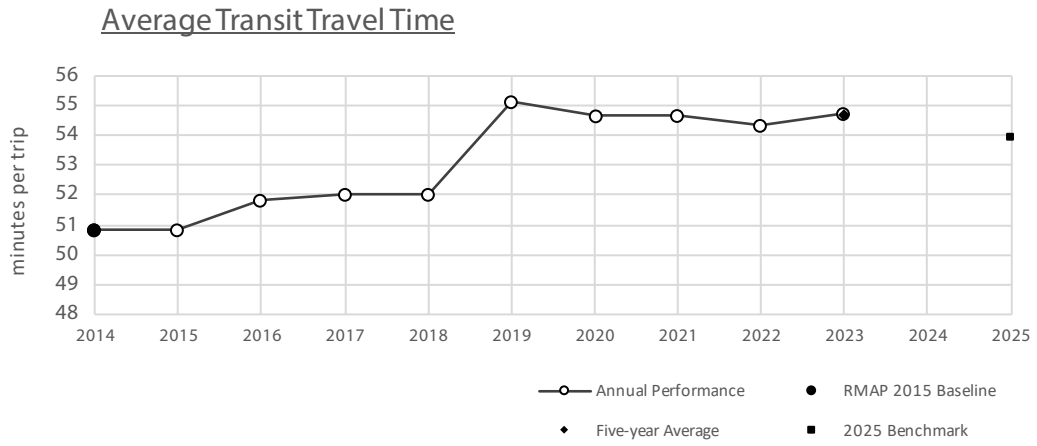
Performance Measure: **Average transit time**
RMAP Goal Category: Multimodal Choices
Desired Trend: Decrease
2024 Status: PM had been trending away but has leveled off since 2020.

Performance Data*(minutes)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
50.8	50.8	51.9	52.0	52.0	55.1	54.7	54.7	54.3	54.7

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
54.7	53.9	50.0	decrease	trending away



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

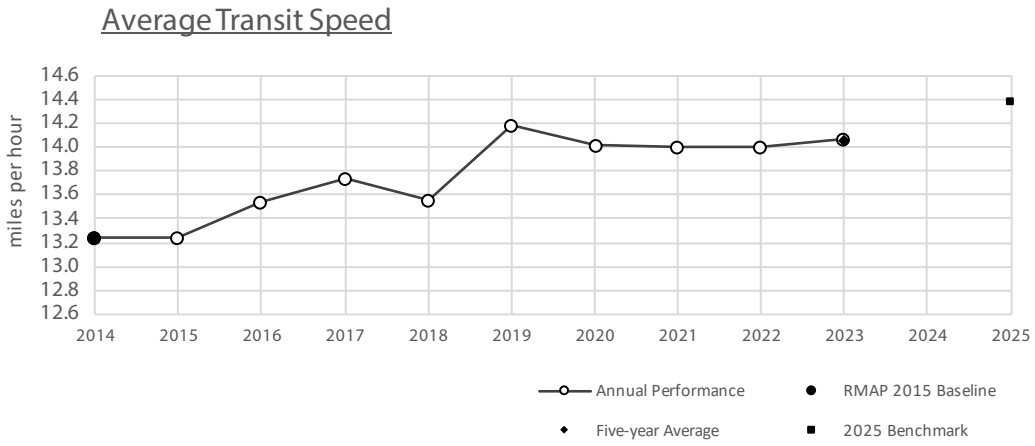
Performance Measure: **Average transit speed**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM is on pace to reach the 2045 target.

Performance Data *(miles per hour)*:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
13.3	13.3	13.5	13.7	13.6	14.2	14.0	14.0	14.0	14.1

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
14.1	14.4	15.0	increase	on pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

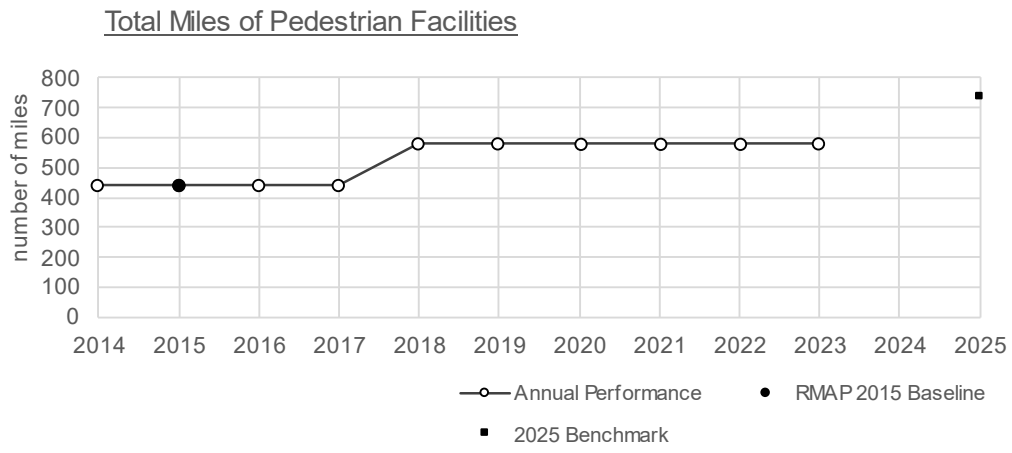
Performance Measure: **Total miles of pedestrian facilities**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM is likely on pace to reach the 2045 target.

Performance Data:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
442	442	442	442	582	582	582	582	582	582

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
-	742	1200	increase	on pace



Data Source and Calculations:
PAG is currently working to obtain accurate sidewalk data. It is believed there is a considerable number not included in the data that is currently available.

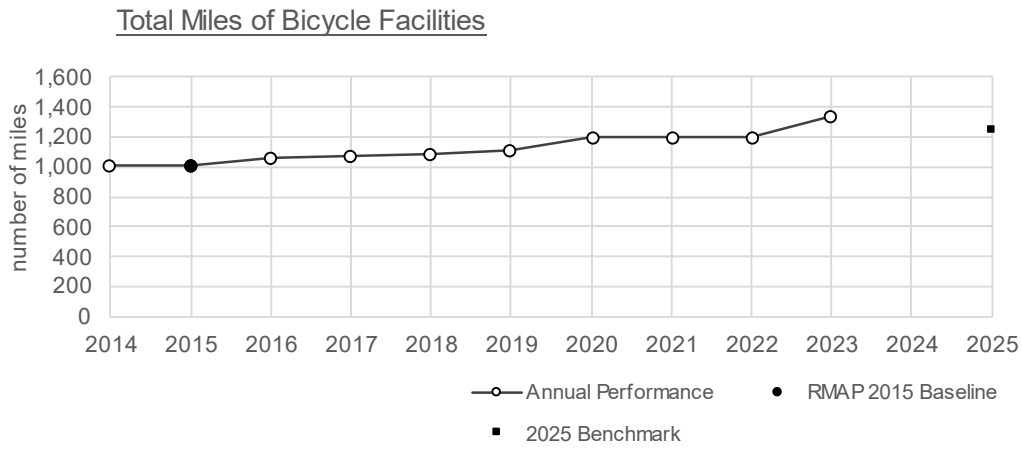
Performance Measure: **Total miles of bicycle facilities**
RMAP Goal Category: Multimodal Choices
Desired Trend: Increase
2024 Status: PM is on pace to reach the 2045 target.

Performance Data:

2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
1010	1010	1059	1068	1089	1111	1195	1195	1195	1340

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
-	1253	1720	increase	on pace



Data Source and Calculations:
Bicycle facilities data is obtained from annual updates to PAG's Tucson Metro Bike Map
maps.pagregion.com/PAGBikePed/BikewaysMap.aspx

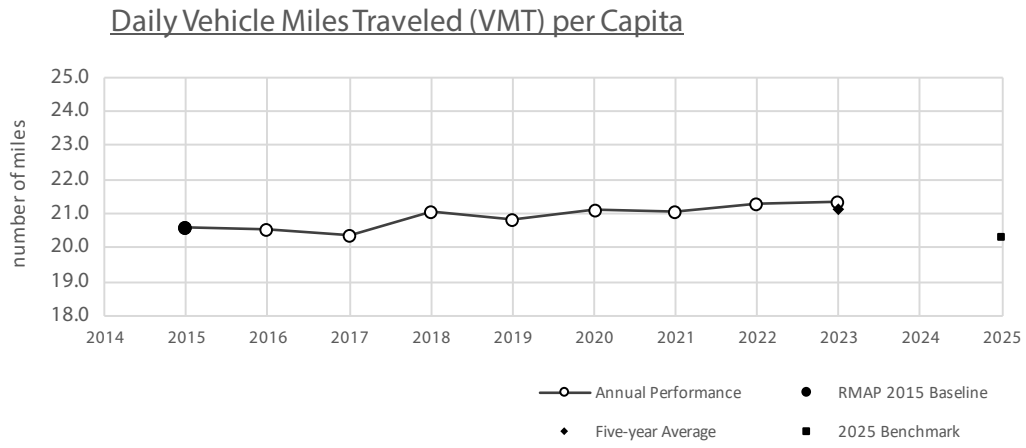
Performance Measure: **Daily vehicle miles traveled (VMT) per capita**
RMAP Goal Category: System Performance
Desired Trend: Decrease
2024 Status: PM is trending away from the 2045 target.

Performance Data:

2015	2016	2017	2018	2019	2020	2021	2022	2023
20.6	20.5	20.4	21.0	20.8	21.1	21.1	21.3	21.3

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
21.1	20.3	18.5	decrease	behind pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

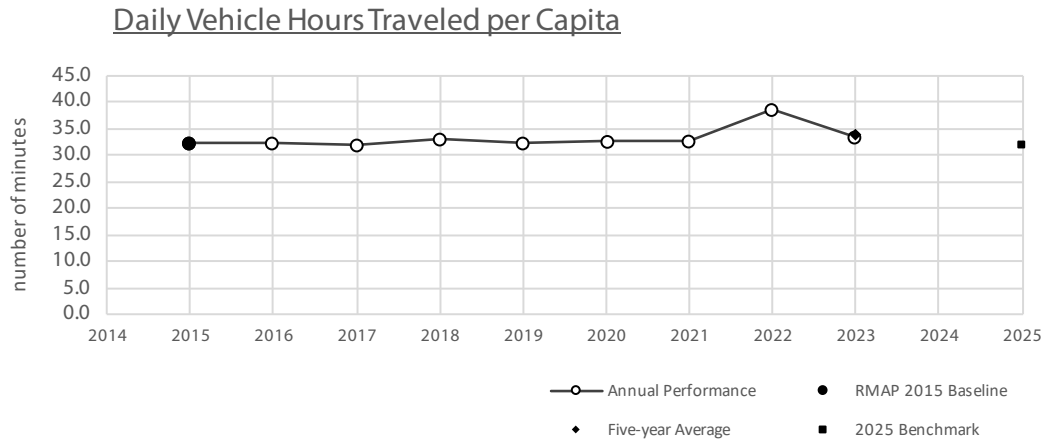
Performance Measure: **Daily vehicle hours traveled per capita**
RMAP Goal Category: System Performance
Desired Trend: Decrease
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data (minutes per year):

2015	2016	2017	2018	2019	2020	2021	2022	2023
32.3	32.3	32.0	33.0	32.2	32.8	32.7	38.6	33.2

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
33.9	31.9	30.6	decrease	trending away



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

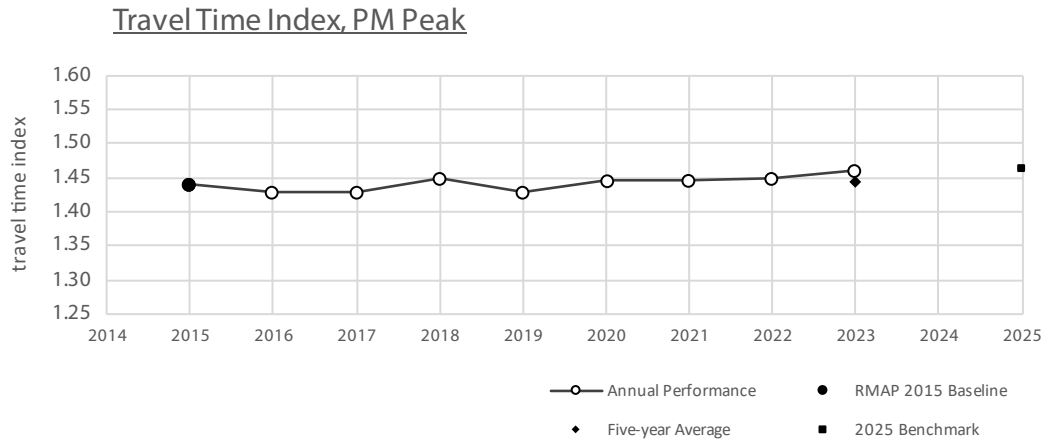
Performance Measure: **Travel time index**
RMAP Goal Category: System Performance
Desired Trend: Maintain
2024 Status: PM is on pace to reach the 2045 target.

Performance Data:

2015	2016	2017	2018	2019	2020	2021	2022	2023
1.44	1.43	1.43	1.45	1.43	1.45	1.45	1.45	1.46

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
1.45	1.46	1.58	maintain	on pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

FAST Act performance measures:

	2017	2018	2019	2020	2021	2022
Travel time reliability on the interstate	98%	97.2%	97.3%	100%	96.5%	99.5%
Travel time reliability on the non-interstate NHS*	91%	90.1%	91.2%	94.4%	96.2%	97.9%
Freight travel time reliability index on the interstate	1.18	1.24	1.29	1.2	1.25	1.24

*National Highway System
Travell time reliability is a measure of the percent of all trips that have expected travel times during any time period. For the index, a value of 1 indicates a higher rate of reliable travel times.

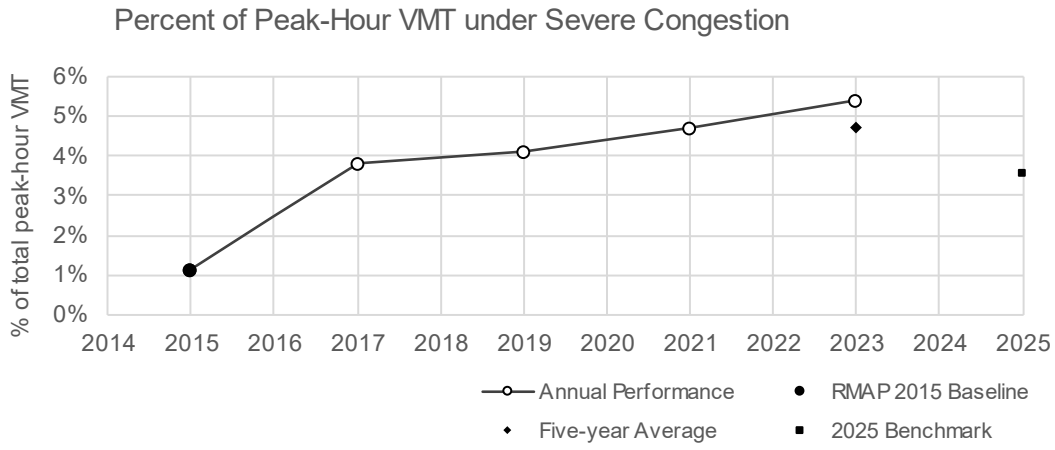
Performance Measure: **Percent of peak hour VMT under severe congestion**
RMAP Goal Category: System Performance
Desired Trend: Decrease
2024 Status: PM was on pace to reach the 2045 target but appears to be trending in the wrong direction.

Performance Data *(percent of peak hour miles)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
1.2%		3.8%		4.1%		4.7%		5.4%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
4.7%	4%	1.8%	maintain	on pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model. Data is calculated every 2 years.

FAST Act performance measures:

		2021	2022
Peak hour excessive delay (PHED)	Hours per capita per year	2.18	1.59
Non-single occupancy vehicles (non-SOV)	Percent of all vehicles	25.3%	27.1%

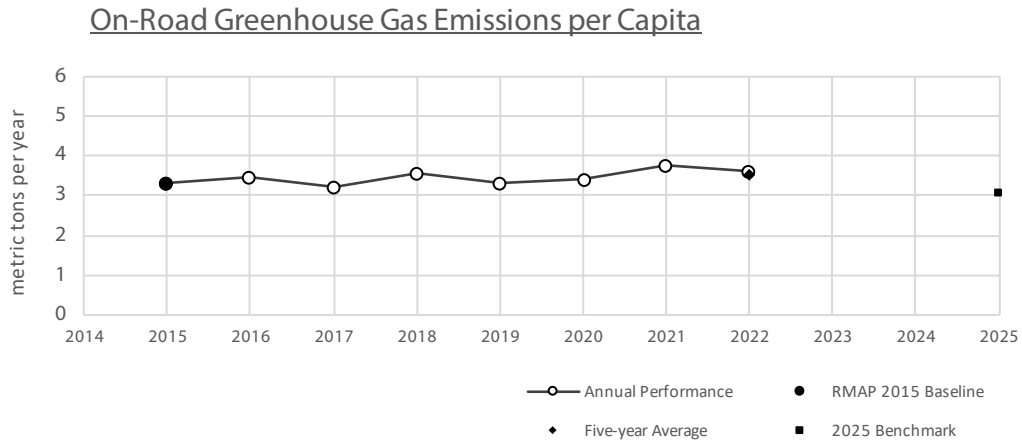
Performance Measure: **On-road greenhouse gas emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Maintain
2024 Status: PM is on pace to reach the 2045 target.

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
3.3	3.5	3.2	3.6	3.3	3.4	3.8	3.6	3.6

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
3.5	3.1	2.3	maintain	behind pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

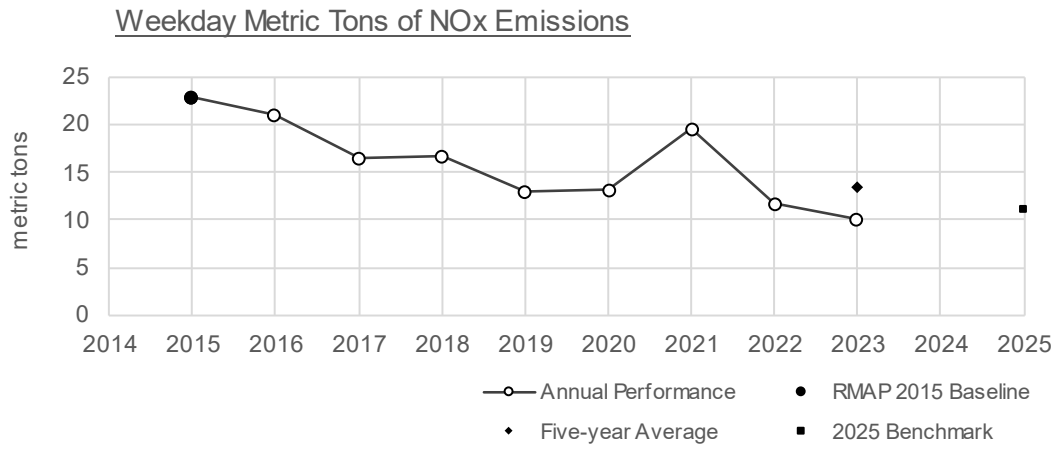
Performance Measure: **Weekday nitrogen oxide (NOx) emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Decrease
2024 Status: PM is on pace to reach the 2045 target.

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
22.8	21.1	16.5	16.7	13.0	13.1	19.5	11.8	10.2

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
14.8	11.1	4.6	decrease	on pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

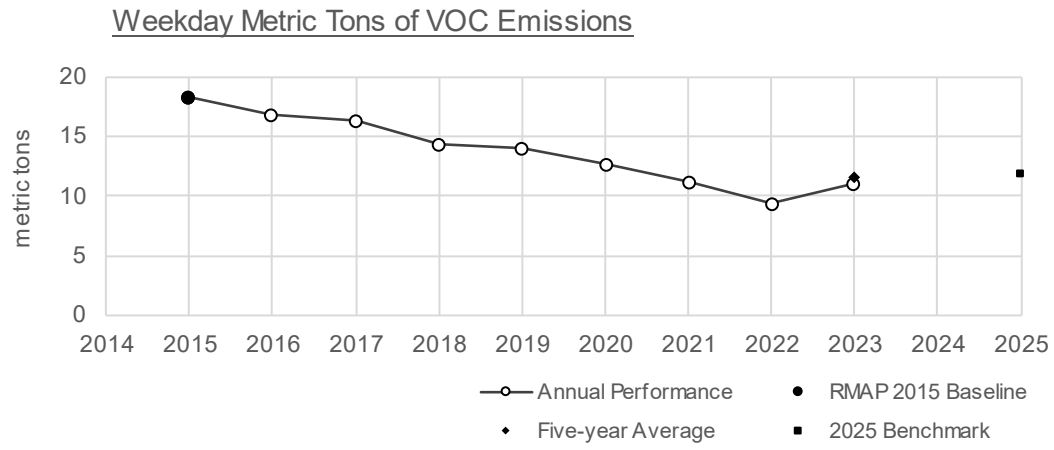
Performance Measure: **Weekday volatile organic compound (VOC) emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Decrease
2024 Status: PM is on pace to reach the 2045 target.

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
18.3	16.8	16.3	14.4	14.0	12.6	11.2	9.4	11.0

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
12.3	11.8	4.6	decrease	on pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

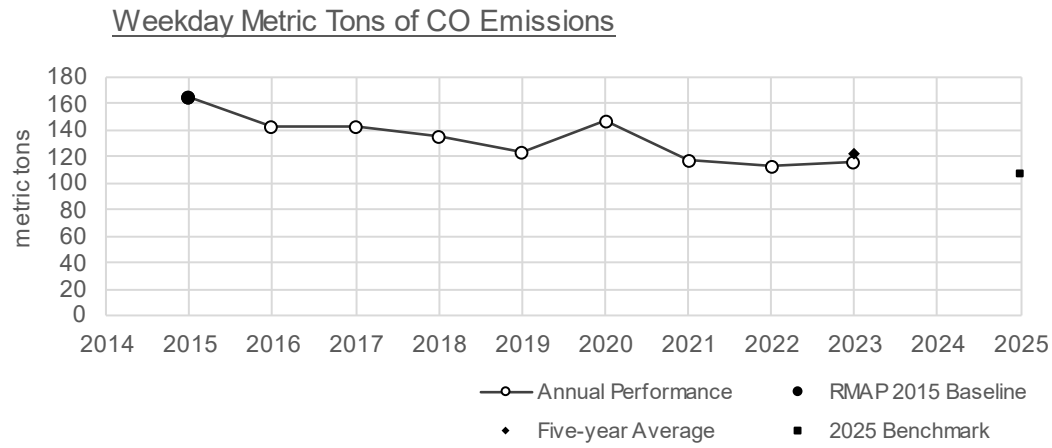
Performance Measure: **Weekday carbon monoxide (CO) emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Decrease
2024 Status: PM is on pace to reach the 2045 target.

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
164.0	142.2	141.9	134.5	123.6	146.5	116.5	113.1	115.6

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
126.8	106.4	49.2	decrease	on pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

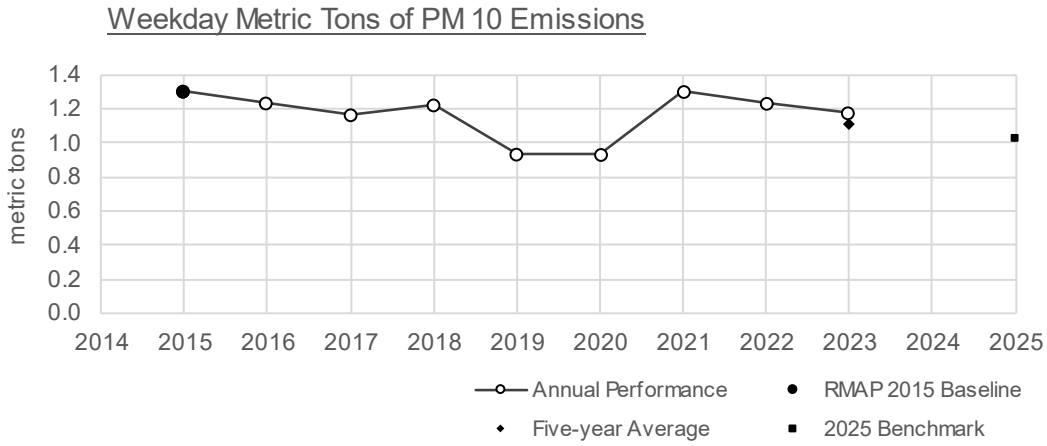
Performance Measure: **Weekday PM10* emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Maintain
2024 Status: PM is on pace to reach the 2045 target.
*PM10 is particulate matter with a diameter of less than 10 microns

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
1.3	1.2	1.2	1.2	0.9	0.9	1.3	1.2	1.2

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
1.1	1.0	1.3	maintain	on pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

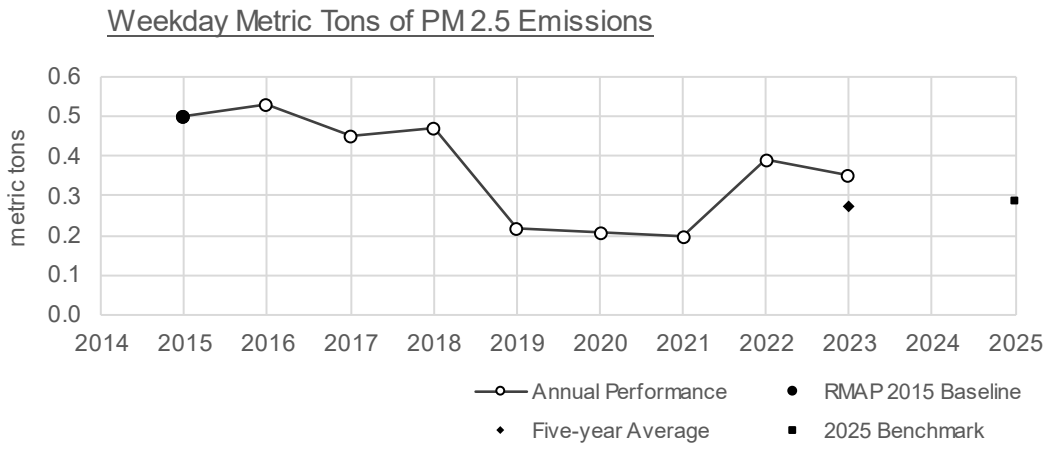
Performance Measure: **Weekday PM2.5* emissions**
RMAP Goal Category: Environmental Stewardship
Desired Trend: Maintain
2024 Status: PM is on pace to reach the 2045 target.
*PM2.5 is particulate matter with a diameter of less than 2.5 microns

Performance Data *(metric tons per year)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
0.50	0.53	0.45	0.47	0.22	0.21	0.20	0.39	0.35

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
0.2742	0.28	0.50	maintain	on pace



Data Source and Calculations:
The values of this performance include VMT estimates produced by PAG's travel demand model and vehicle registration data provided by ADOT Motor Vehicle Division. Air quality estimates are produced using the Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES). https://www.epa.gov/moves

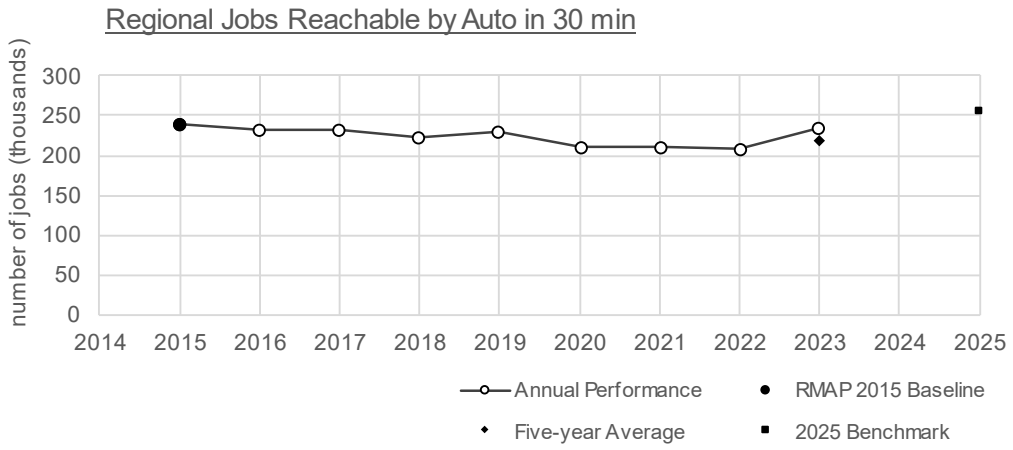
Performance Measure: **Regional jobs reachable by auto in 30 minutes**
RMAP Goal Category: Land Use and Transportation
Desired Trend: Increase
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data *(jobs)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
240,242	232,289	231,637	223,349	228,558	211,145	210,938	208,756	234,584

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
218,796	256,195	348,320	increase	behind pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

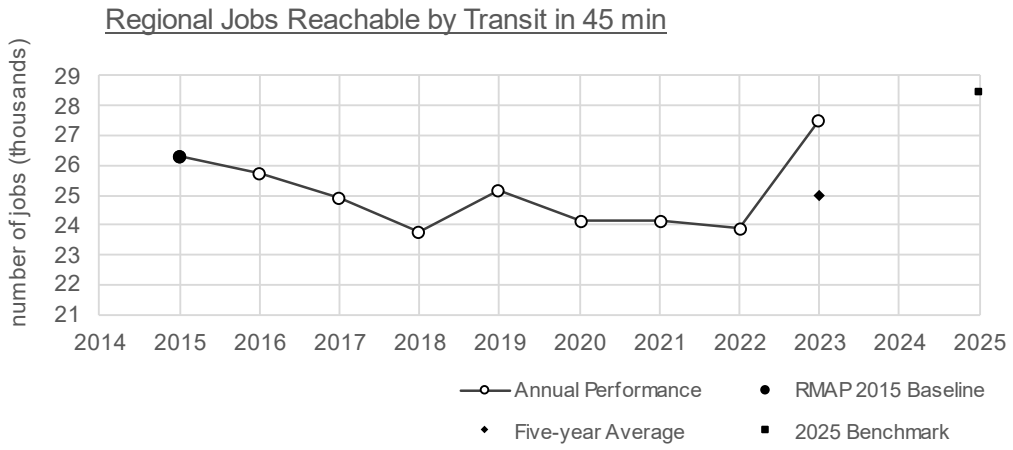
Performance Measure: **Regional jobs reachable by transit in 45 minutes**
RMAP Goal Category: Land Use and Transportation
Desired Trend: Increase
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data *(jobs)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
26,332	25,716	24,920	23,765	25,157	24,163	24,139	23,908	27,529

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
24,979	28,466	39,498	increase	behind pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

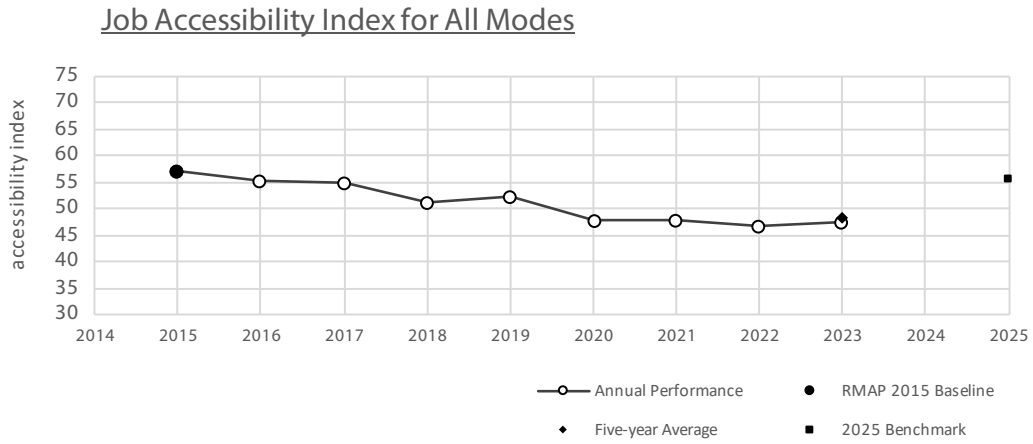
Performance Measure: **Job accessibility index for all modes**
RMAP Goal Category: Land Use and Transportation
Desired Trend: Increase
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data:

2015	2016	2017	2018	2019	2020	2021	2022	2023
52.4	47.8	47.7	46.7	47.4	52.4	47.8	47.7	46.7

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
48.4	55.5	65.7	increase	behind pace



Data Source and Calculations:
Higher index values indicate more accessibility to jobs for all modes of transportation. The values of this performance measure are estimates produced by PAG's travel demand model.

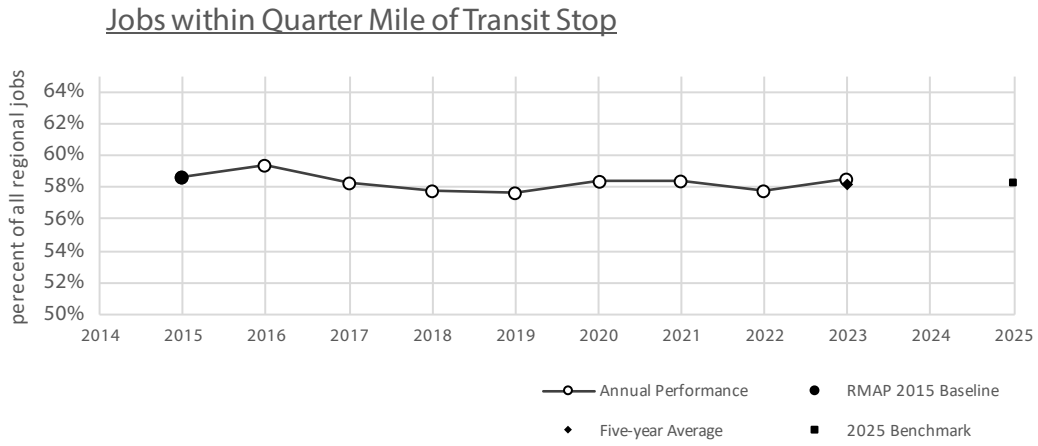
Performance Measure: **Jobs within quarter mile of transit stop**
RMAP Goal Category: Land Use and Transportation
Desired Trend: Increase
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data *(jobs)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
58.6%	59.4%	58.3%	57.8%	57.7%	58.4%	58.4%	57.8%	58.5%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
58.2%	58.2%	60.0%	increase	behind pace



Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

Performance Measure: **Population within quarter mile of transit stop**
RMAP Goal Category: Land Use and Transportation
Desired Trend: Increase
2024 Status: PM is behind pace to reach the 2045 target.

Performance Data *(percent of population)*:

2015	2016	2017	2018	2019	2020	2021	2022	2023
42.5%	42.7%	41.9%	40.6%	40.6%	40.8%	40.8%	40.1%	41.2%

Tracking to Target:

5yr Avg	2025 Benchmark	2045 Target	Desired Trend	2020 status
40.7%	41.6%	45.0%	increase	behind pace

Data Source and Calculations:
The values of this performance measure are estimates produced by PAG's travel demand model.

APPENDIX 9

CONFORMITY ANALYSIS DATA

Paved Road Re-entrained PM10 Emissions in Rillito PM10 nonattainment area

EPA Compilation of Air Pollutant Emission Factors, AP-42, emission factors were used to calculate PM_{10} emissions from re-entrained dust produced by vehicles traveling on paved roads in the Rillito PM_{10} nonattainment area for analysis years 1990, 2029, 2035 and 2045. Equation 2 from section 13.2.1.3 was used to account for annual precipitation. The 1990 baseline input values were derived from ADEQ's 1994 Rillito SIP submittal. The "Action" scenario input values and 1990 silt loading values were derived from ADEQ's 2004 Rillito Nonattainment Area Emissions Inventory used in the Rillito Moderate PM10 Limited Maintenance Plan and Request for Redesignation to Attainment Request. ADEQ is in the process of completing an updated emissions inventory as part of the SIP development process, which will provide for updated inputs once they become available. VMT were derived from the 1994 SIP and latest TDM.

$$E_{ext} = [k(sL)^{0.91} \text{ x } (W)^{1.02}] \ (1 - P/4N)$$

where:
E_{ext} = annual average particulate emission factor in the same units as k
k = particle size multiplier for particle size range and units of interest (1.00 g/mi)
sL = road surface silt loading (0.020 g/m^2 for freeways, 0.085 g/m^2 for arterial, collector & local)
W = average weight of the vehicles traveling the road (derived from 1994 SIP and latest TDM)
P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and
N = number of days in the averaging period

Paved Road Re-entrained PM_{10} Emission Factors

		k (g/mi)	sL (g/m^2)	W (tons)	P (wet days)	N (days/yr)	E_{ext} (g/mi)
1990 Baseline	Freeway	1.00	0.020	3.18	30	365	0.0907
	Art, Col & Loc	1.00	0.085	3.18	30	365	0.3382
2029 Action	Freeway	1.00	0.020	3.137	35	365	0.0891
	Art, Col & Loc	1.00	0.085	2.346	35	365	0.247
2035 Action	Freeway	1.00	0.020	3.137	35	365	0.886
	Art, Col & Loc	1.00	0.085	2.346	35	365	0.248
2045 Action	Freeway	1.00	0.020	3.137	35	365	0.0881
	Art, Col & Loc	1.00	0.085	2.346	35	365	0.249

Annual VMT on Paved Roads in Rillito PM_{10} nonattainment area

	1990 Baseline	2029 Action	2035 Action	2045 Action
Freeway	182,109,815	527,414,492	573,131,330	655,563,460
Arterial & Collector	51,707,725	364,733,634	382,269,344	425,772,395
Local Residential	9,903,545	32,276,898	32,129,904	33,803,462
Total	243,721,085	924,425,025	987,530,577	1,115,139,317

Uncontrolled Paved Road PM_{10} Emissions in Rillito PM_{10} nonattainment area (U.S. tons/year)

	1990 Baseline	2029 Action	2035 Action	2045 Action
Freeway	18.20	51.80	55.96	63.69
Arterial & Collector	19.28	99.37	104.69	116.80
Local residential	3.69	8.79	8.80	9.27
Total	41.17	159.96	169.45	189.77

Control Measure Reductions (U.S. tons/year)

	2029	2035	2045
PAG Travel Reduction Program	1.2	1.2	1.4
PDEQ Voluntary No-Drive Day/Clean Air Program	0.3	0.3	0.3
Total	1.4	1.5	1.7

Unpaved Road Re-entrained PM_{10} Emissions in Rillito PM_{10} nonattainment area

EPA Compilation of Air Pollutant Emission Factors, AP-42, emission factors were used to calculate PM_{10} emissions from re-entrained dust produced by vehicles traveling on unpaved roads in the Rillito PM_{10} nonattainment area for analysis years 2029, 2035 and 2045. Equation 1b from section 13.2.2 was used and modified to account for annual precipitation. The 1990 baseline emission values were derived from ADEQ's 1994 Rillito SIP submittal. The "Action" scenario input values were derived from ADEQ's 2004 Rillito Nonattainment Area Emissions Inventory used in the Rillito Moderate PM10 Limited Maintenance Plan and Request for Redesignation to Attainment Request. ADEQ is in the process of completing an emissions inventory as part of the SIP development process, which will provide for updated inputs once they become available. VMT were derived from TDM.

$$E = \left[\frac{k(s/12)^1(S/30)^{0.5}}{(M/0.5)^{0.2}} - C\right](1 - P/N)$$

where:
E = annual average particulate emission factor in the same units as k
k = particle size multiplier for particle size range and units of interest (1.8 lb/mi)
s = surface material silt content (3.51%)
S = mean vehicle speed mph (15 mph for local residential, 25 mph for collectors)
M = surface material moisture content (0.64%)
C = emission factor for 1980's vehicle fleet exhaust, brake wear and tire wear (0.00047 lb/mi)
P = number of "wet" days with at least 0.254 mm (0.01 in) of precipitation during the averaging period, and
N = number of days in the averaging period

Unpaved Road Re-entrained PM_{10} Emission Factors

		k (g/mi)	s (%)	S (mph)	M (%)	C (lb/mi)	P (wet days)	N (days/yr)	E (g/mi)
2029	Collector	1.8	3.51	25	0.64	0.00047	35	365	0.41
	Local residential	1.8	3.51	15	0.64	0.00047	35	365	0.32
2035	Collector	1.8	3.51	25	0.64	0.00047	35	365	0.41
	Local residential	1.8	3.51	15	0.64	0.00047	35	365	0.32
2045	Collector	1.8	3.51	25	0.64	0.00047	35	365	0.41
	Local residential	1.8	3.51	15	0.64	0.00047	35	365	0.32

Annual VMT on Unpaved Roads in Rillito PM_{10} nonattainment area

	2029 Action	2035 Action	2045 Action
Collector	311,748	312,188	357,754
Local residential	2,157,301	2,536,756	3,095,970
Total	2,469,049	2,848,944	3,453,724

Uncontrolled Unpaved Road PM_{10} Emissions in Rillito PM_{10} nonattainment area (U.S. tons/year)

	1990 Baseline	2029 Action	2035 Action	2045 Action
Collector	4.58	0.14	0.14	0.16
Local residential	803.12	0.76	0.89	1.09
Total	807.70	0.90	1.04	1.25

Control Measure Reductions (U.S. tons/year)

	2029	2035	2045
PAG Travel Reduction Program	0.007	0.007	0.009
PDEQ Voluntary No-Drive Day/Clean Air Program	0.001	0.002	0.002
Total	0.008	0.009	0.011

APPENDIX 10

FEDERAL CERTIFICATIONS

METROPOLITAN TRANSPORTATION PLANNING PROCESS
SELF-CERTIFICATION

The Arizona Department of Transportation and Pima Association of Governments, the metropolitan planning organization for the Tucson urbanized area(s) hereby certify that the transportation planning process is addressing the major issues in the metropolitan planning area and is being conducted in accordance with all applicable requirements of:

I. 23 U.S.C. 134, 49 U.S.C. 5303, and this subpart;
II. In nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;
III. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d–1) and 49 CFR part 21;
IV. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
V. Section 1101(b) of the IIJA (Pub. L. 117-58) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in DOT-funded projects;
VI. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on federal and federal-aid highway construction contracts;
VII. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 *et seq.*) and 49 CFR parts 27, 37, and 38;
VIII. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving federal financial assistance;
IX. Section 324 of title 23 U.S.C. regarding the prohibition of discrimination based on gender;
X. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.

Pima Association of Governments

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Farhad Moghimi Date
Executive Director

Arizona Department of Transportation
Multimodal Planning Division

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Audra Merrick Date
Division Director, Multimodal Planning