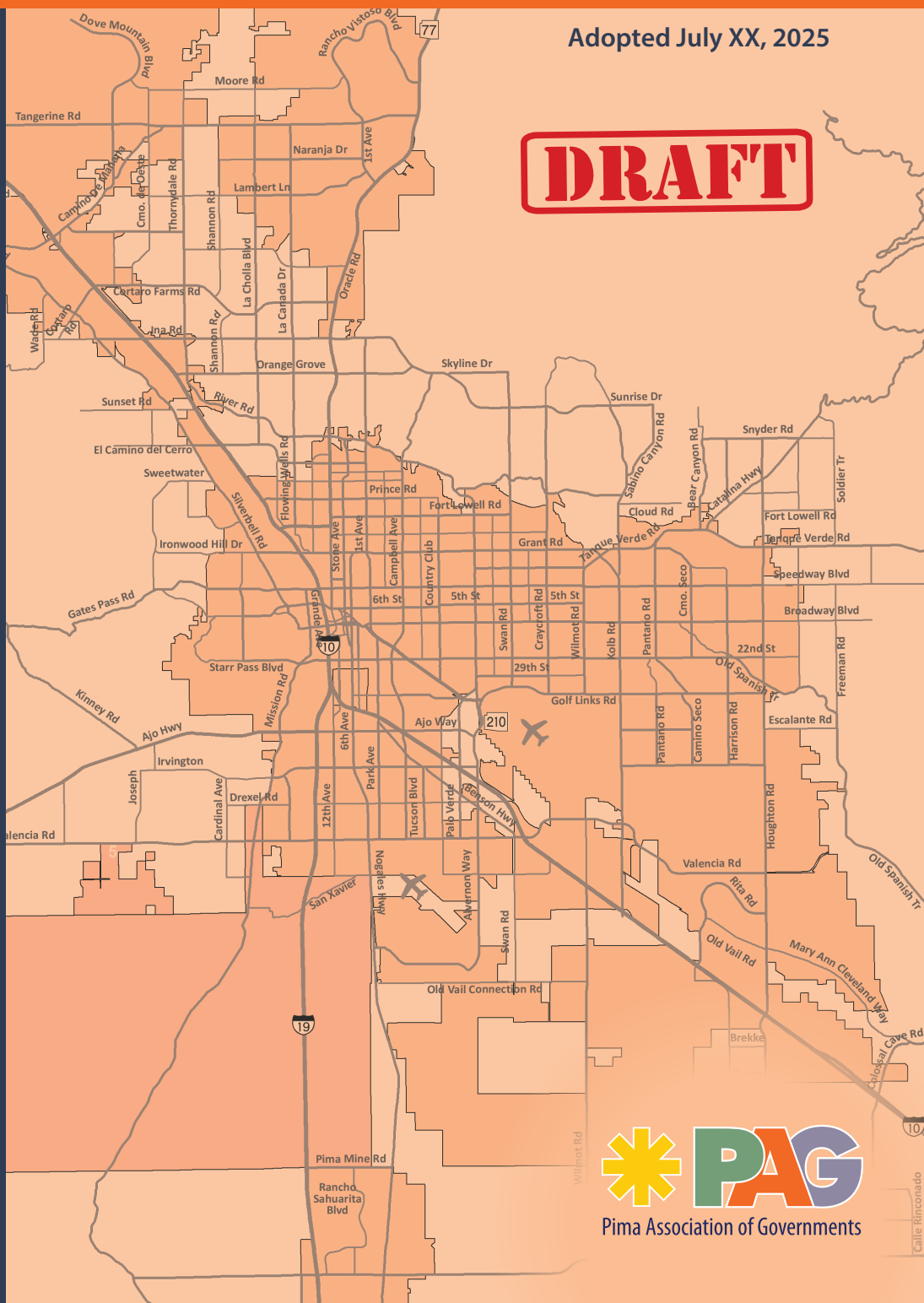
2055

REGIONAL MOBILITY AND ACCESSIBILITY PLAN



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REGIONAL MOBILITY AND ACCESSIBILITY PLAN

The Pima Association of Governments' Regional Council adopted the 2055 Regional Mobility and Accessibility Plan on July 31, 2025.

The PAG Regional Council is represented by the chief elected officials of the Cities of South Tucson and Tucson, the Towns of Marana, Oro Valley and Sahuarita, Pima County, the Pascua Yaqui Tribe, the Tohono O'odham Nation and the governor-appointed Pima County representative of the Arizona State Transportation Board.

PAG also manages the Regional Transportation Authority (RTA) and its 20-year, $2.1 billion RTA plan, which was approved by voters on May 16, 2006, along with a half-cent regional excise (sales) tax to fund the projects. The RTA plan expires in 2026, and a new plan and a half-cent sales tax are anticipated to be considered by Pima County voters in spring 2026. Current RTA plan and proposed RTA Next plan projects must be listed in the 2055 Regional Mobility and Accessibility Plan.

2025 PIMA ASSOCIATION OF GOVERNMENTS REGIONAL COUNCIL

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Executive Director

CHAPTER 1: INTRODUCTION

OVERVIEW OF THE 2055 RMAP

The 2055 Regional Mobility and Accessibility Plan (RMAP) is the performance-based federally required long-range multimodal transportation plan for the greater Tucson region. Long-range transportation plans are required for urbanized areas with populations over 50,000. The 2055 RMAP provides a framework for how anticipated federal, state and local funding will be invested in transportation over the next 30 years based on regional needs and goals. Investments include roadway expansion and safety enhancements, public transportation, pedestrian and bicycle facilities, system maintenance and operations, freight improvements, aviation projects, and additional transportation-related programs. The 2055 RMAP was developed under the regulatory framework of the 2015 Fixing America's Surface Transportation (FAST) Act.

Figure 1.1 PAG Regional Planning Area

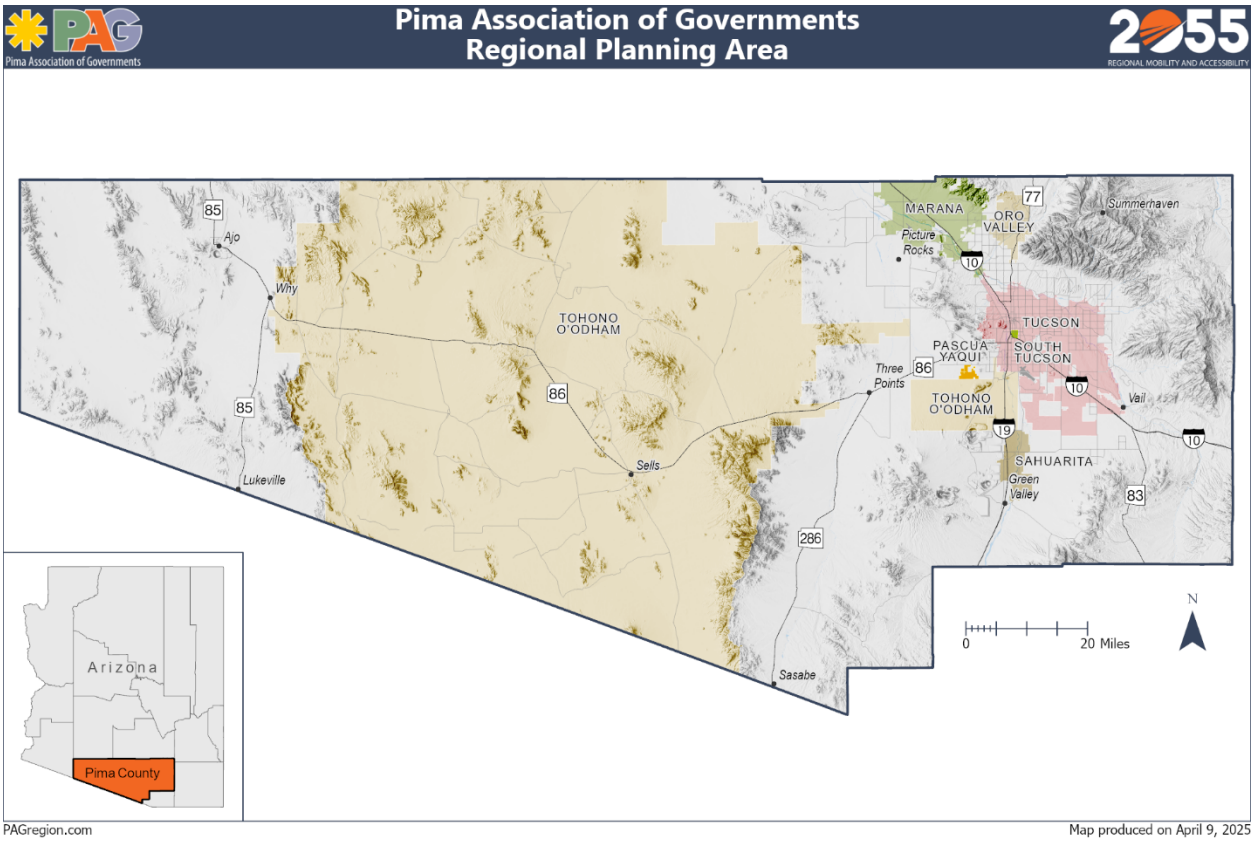
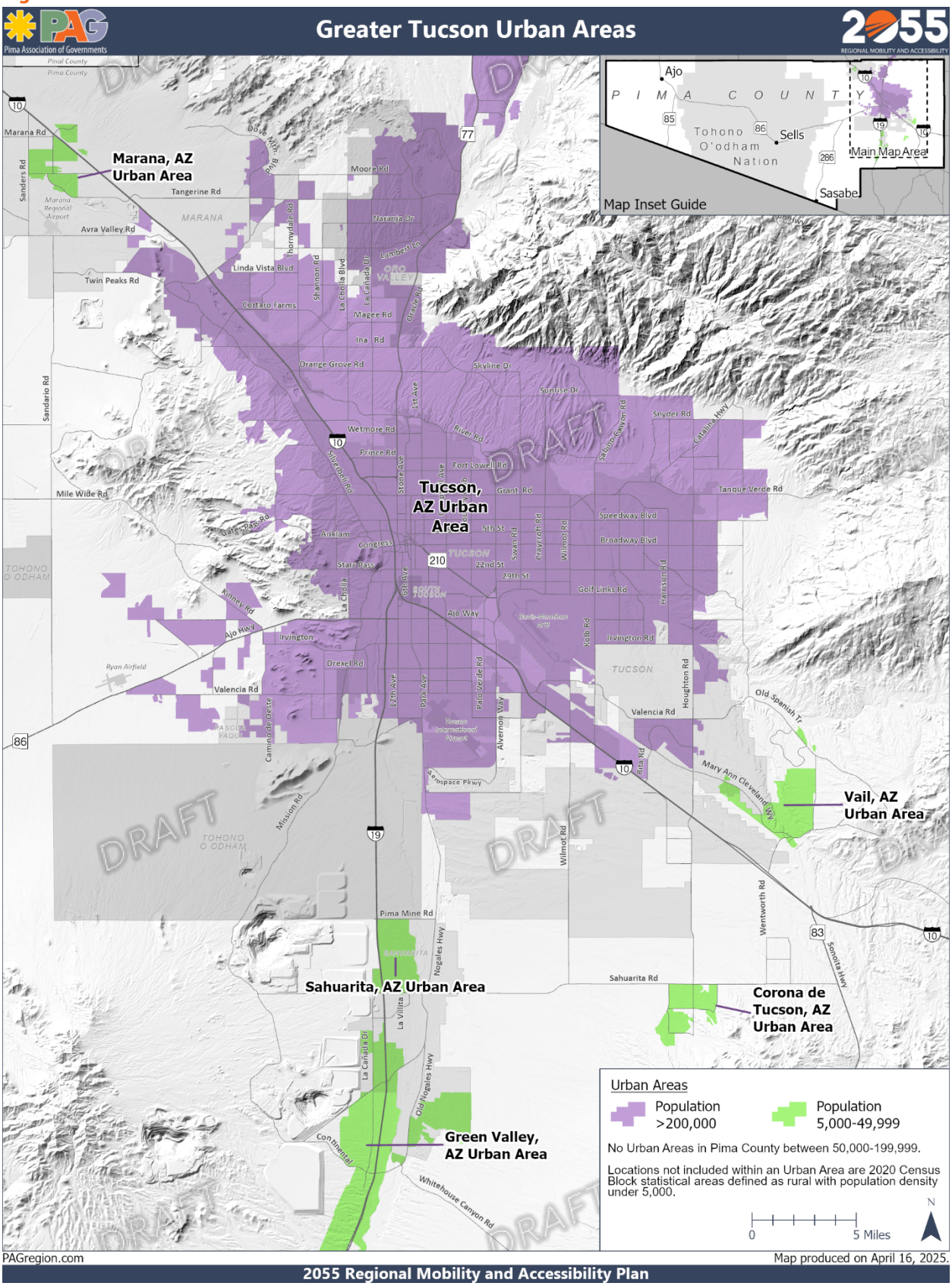


Figure 1.2 Greater Tucson Urban Areas



The RMAP planning process is conducted every four years by Pima Association of Governments (PAG) as the region's designated metropolitan planning organization (MPO) in accordance with federal regulations. Refer to **Chapter 2** for additional information on state and federal planning requirements. Updating the plan is essential to account for growth patterns, changes in funding sources, the availability of new data and analytical methods, and determining changing needs and priorities of the community. The 2055 RMAP has a 30-year planning horizon and builds upon the 2045 RMAP, adopted in 2016, and the 2045 RMAP Update, adopted in 2020, by incorporating the latest relevant data related to population growth, land use, travel patterns, state and federal requirements, and environmental and Title VI considerations.

Figure 1.3 The PAG Planning Area Today

The greater Tucson region includes representation from diverse communities throughout Pima County which covers an area approximately the size of New Hampshire.

The 2055 RMAP includes an updated in-plan project list (**Appendix 1**) of priority transportation investments the region expects to implement during the life of the plan based on our long-range transportation needs, reasonably expected revenues available, and the estimated costs to complete these projects. During the plan development process, member agencies reviewed projects from the previous plan, added new projects as needed, updated cost estimates, identified projects with committed funding, and confirmed the priority levels and time frames for the desired investments. Once completed, these projects and programs are intended to minimize congestion, support the regional economy, expand multimodal transportation options, improve safety, and improve air quality.

Figure 1.4 PAG Planning Area by the Numbers (2024)

Figure 1.5 PAG Planning Area by the Numbers (2055)

Over the next 30 years, the greater Tucson region is expected to grow significantly in terms of population, employment, and the number of vehicle miles traveled annually by residents and visitors. It is crucial to plan for this changing environment by making informed transportation investment choices during current planning processes.

2055 RMAP VISION AND GOALS

Extensive public outreach was conducted during the 2045 RMAP adopted in 2016. This helped establish the vision, goals, performance measures and strategies that were adopted by the PAG Regional Council. These were carried forward during the 2045 RMAP Update and are incorporated into the 2055 RMAP. Outreach efforts and results for the 2055 RMAP are discussed in detail in **Chapter 3** and **Appendix 7**. The list of strategies can be found in **Appendix 5.**

2055 RMAP VISION AND GOALS

The 2055 RMAP envisions a state-of-the-art, reliable, multimodal and environmentally responsible regional transportation network, which is continuously maintained, interconnected and integrated with sustainable land use patterns to support a high quality of life through a healthy, safe and economically vibrant region.

SAFE INFRASTRUCTURE

- **Safety and security** for all transportation users across the region.

RELIABLE NETWORK

- **Maintenance:** Roadways, bike and pedestrian infrastructure, and transit systems are rehabilitated, completed and maintained in a state of good repair.
- **Advanced Technologies:** State-of-the-art, cost-effective delivery of transportation services and facilities.
- **Performance:** Improved regional mobility, congestion management and travel time reliability through reducing travel demand, enhancing operations and adding system capacity for all modes where necessary.

VIBRANT ECONOMY

- **Land Use and Transportation:** Land use decisions and transportation investments are complementary and result in improved access to important destinations, and vibrant and healthy communities.
- **Freight and Economic Growth**: Regional freight transportation infrastructure supports global competitiveness, economic activity and job growth by providing for the efficient movement of goods within our region, giving access to national and international markets, and improving intermodal connections.

SUSTAINABLE ENVIRONMENT

- **Environmental Stewardship:** Environmental stewardship, natural resource protection and energy efficiency in transportation planning, design, construction and management.

MENU OF TRAVEL OPTIONS

- **Multimodal Choices:** A variety of integrated, high-quality, accessible and interconnected transportation choices to meet all mobility needs and changing travel preference.

COMMITMENT TO PROCESS

- **Public Involvement:** Continued outreach and involvement of all users in transportation decision-making.
- **Funding and Implementation:** Revenue sources and strategies ensure ample funding and timely project development.
- **Accaccountability:** Continued transparency, responsiveness and coordination to meet transportation needs throughout the region.

RTA NEXT

An important component of the 2055 RMAP is anticipated funding for a second Regional Transportation Authority 20-year plan, which is currently funded by a voter-approved half-cent excise (sales) tax from the RTA's state-established taxing district within Pima County. Funding for the RTA Next plan would be from a new half-cent sales tax that would fund regional transportation improvements. Approved by Pima County voters in 2006, the original RTA plan and tax expire in June 2026. A new 20-year sales tax for RTA Next, if both the new plan and tax are approved by voters, would provide approximately $2.46 billion in anticipated RTA revenues until 2046. All projects included in the proposed RTA Next plan are included in the 2055 RMAP. The RTA Next plan will be considered by voters in spring 2026.

REFERENCE PLANS

Other regional plans from jurisdictional members are influential in informing the 2055 RMAP for future land use, planned growth, transportation trends, and community goals and needs. A list of relevant plans is below:

- Pima County
  - *Pima Prospers*
  - *2025 Pima Prospers (anticipated adoption in summer 2025)*
- City of Tucson
  - *Plan Tucson*
  - *Plan Tucson 2025 (anticipated for adoption in fall 2025)*
  - *Move Tucson*
- Town of Marana
  - *Make Marana 2040* General Plan
  - *2024 Transportation Master Plan*
- Town of Oro Valley
  - *Your Voice, Our Future General Plan*
  - *2026 OV Path Forward General Plan (anticipated adoption in 2026)*
- Town of Sahuarita
  - *Aspire 2035 General Plan (update anticipated adoption in 2026)*
- ADOT
  - *2050 Long Range Transportation Plan*
  - *Arizona State Rail Plan Update*
  - *Strategic Highway Safety Plan (SHSP)*
  - *Active Transportation Safety Action Plan (ATSAP)*
  - *Arizona State Freight Plan*
  - *Building a Quality Arizona (BqAZ)*
  - *2018 Arizona State Airport System Plan (SASP) Update*

CHAPTER 2: STATE AND FEDERAL REQUIREMENTS

OVERVIEW

Metropolitan planning organizations are required by federal law to develop a performance-based, long-range transportation plan with a minimum 20-year planning horizon. Long-range plans must be updated every four to five years depending on air quality conditions. The 2055 RMAP is the federally required long-range transportation plan for the PAG planning area and was developed under the regulatory framework of the 2015 Fixing America's Service Transportation (FAST) Act and the 2021 Bipartisan Infrastructure Law (BIL), as enacted in the Infrastructure Investment and Jobs Act (IIJA). The IIJA authorized approximately $550 billion over fiscal years 2022-2026 for infrastructure investments including roads, bridges and alternative transportation.

An MPO is a regional policy making organization consisting of representatives of local governments and governmental transportation agencies. The purpose of an MPO is to ensure regional cooperation in transportation planning. The functions of an MPO include:

- *Coordinating federal funding for transportation.*
- *Conducting transportation planning in cooperation with federal agencies, state agencies and the operators of publicly owned transit services.*
- *Ensuring that transportation expenditures are based on a continuing, cooperative and comprehensive (3-C) planning process.*
- *Providing reasonable opportunity for input from the public and interested parties.*

As required by federal law, "the metropolitan transportation planning process shall be continuous, cooperative, and comprehensive" (23 CFR § 450.306), which supports identifying investments and strategies, stakeholder participation, and monitoring and evaluation. This chapter details federal and state requirements for the 2055 RMAP.

PLANNING FACTORS AND REGIONAL PRIORITIES

In developing the 2055 RMAP, PAG is required to comply with, include or otherwise address 10 regional factors in the planning process in accordance with the FAST Act. These planning factors are also regional priorities, and PAG will comply with all applicable federal requirements.

PERFORMANCE-BASED PLANNING APPROACH

Under the FAST Act and its predecessor, the Moving Ahead for Progress in the 21st Century Act (Map-21), the metropolitan transportation planning process for both states and MPOs must “provide for the

establishment and use of a performance-based approach to transportation decision making" (23 CFR 450.306(d)). Performance-based planning and programming informs decision making and investment choices by tracking progress toward regional goals and increases transparency and accountability.

Federal rules require MPOs to link investment priorities to the achievement of national performance targets in key goal areas such as safety, pavement condition and air quality. PAG worked with the Arizona Department of Transportation (ADOT), its member agencies, Sun Tran, and the public to establish targets based on regionally selected performance measures for the greater Tucson region. PAG can set regional targets or adopt statewide targets for Highway Safety, Bridge & Pavement Condition, and System Performance measures. PAG has set targets unique from the state but supports ADOT's performance target requirements of the FAST Act by tracking the federally required and regionally recommended measures for the greater Tucson region.

Performance measures and associated targets were first established in the 2045 RMAP, adopted in 2016. The 2045 RMAP Update, adopted in 2020, reported on the progress toward reaching these targets and was the first plan to include the required performance assessment. For the 2055 RMAP, the performance measures and targets were largely carried over and extended from the previous plan and were approved by the Transportation Planning Committee during the planning process. PAG continually tracks progress toward reaching these targets and reports on them every two years in the Transportation Improvement Program (TIP) in addition to reporting on them in the RMAP development cycle. Refer to **Appendix 4** for the additional details and the full performance report.

TITLE VI CONSIDERATIONS

PAG has conducted a thorough analysis to ensure compliance with federal regulations regarding protected populations and disadvantaged communities. Refer to **Appendix 6** for additional information regarding impacts of transportation investments to these groups in the Title VI analysis.

As discussed above, the RMAP is a performance-based plan. As such, the plan is designed to track impacts and outcomes of regional transportation investments, including impacts to underserved and disadvantaged communities. New tools have been developed and deployed regionwide to track progress including:

- Accessibility to basic services such as hospitals, schools and retail locations by mode for vulnerable populations
- Accessibility to jobs by mode for vulnerable populations
- Average commute time by mode for vulnerable populations
- Average travel time by mode for vulnerable populations
- Average travel distance by mode for vulnerable populations
- Average commute time/distance by income quartile

These new performance measures specific to protected populations and disadvantaged communities have been used to establish baseline conditions. Targets may be established and approved over the

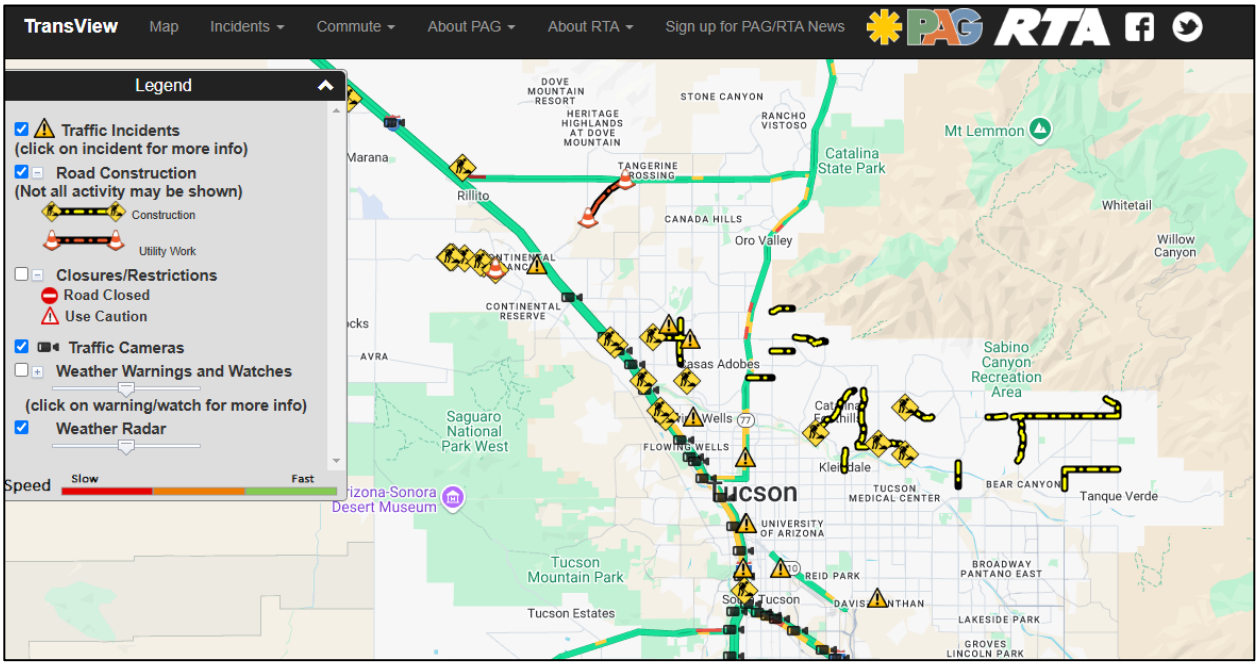
next RMAP development cycle, and PAG will continually collect applicable data related to measure the outcomes in these areas. Refer to **Appendix 4** for baseline data information.

CONGESTION MANAGEMENT PROCESS (CMP)

Congestion affects all users of the regional transportation system and impacts how long and efficiently it takes to reach our destinations. Understanding congestion trends and causes, and identifying strategies to address congestion, can help the transportation network to function more smoothly. The federally mandated congestion management process (CMP) is required in urbanized areas designated as Transportation Management Areas (TMAs) and is an effective tool to track and address traffic congestion throughout the region. The tool enables PAG and its partners to identify and measure congestion and develop and select appropriate strategies to reduce it.

PAG maintains a regional traveler information service called TransView, a public web-based platform at TransView.org that broadcasts 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 traffic volume 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.

In addition, recent advances in technology have improved driver responses to congestion. Vehicles have onboard GPS and routing capabilities which automatically reroute drivers to avoid congested areas. Smart phones can route travelers around construction zones and accidents and put them on the fastest route with real-time notifications delivered to smartphones, smartwatches or directly to the Bluetooth in their vehicle's audio system.



The TransView website provides real-time traffic information to the public and supports congestion modeling.

The CMP is closely linked to both the 2055 RMAP and TIP. The CMP furthers the goals and objectives of the 2055 RMAP through performance monitoring and tracking the progress toward adopted targets. Likewise, the CMP informs the TIP process of system performance and appropriate congestion management strategies. As long-range projects move into the short-range TIP, PAG uses the congestion management tool to help its members adopt appropriate congestion management strategies when planning and designing projects based on projected system performance. Projects are required to provide detailed CMP-related information in the TIP as part of the programming process.

Congestion management strategies include:

- Develop regional goals to reduce vehicle miles traveled during peak commuting hours and improve transportation connections between areas with high job concentration and areas with high concentrations of low-income households.
- Identify existing public transportation services, employer-based commuter programs, and other existing transportation services that support access to jobs in the region.
- Identify proposed projects and programs to reduce congestion and increase job access opportunities.
- Consult with employers, private and nonprofit providers of public transportation, transportation management organizations, and organizations that provide job access reverse commute projects or job-related services to low-income individuals.

In recent years, member jurisdictions within the greater Tucson region have completed several projects aimed to help reduce traffic congestion through increased capacity and enhanced operations.

Specific projects include:

- Broadway Boulevard, Euclid to Country Club
- Houghton Road, Mary Ann Cleveland Way to Valencia
- Improvements at the Wilmot Road and Sahuarita Road intersection
- Deployment of advanced signal technology on critical regional corridors
- Interchange improvements at key locations on I-19 and I-10 including Ruthrauff grade separation with railroad tracks and interchange reconstruction and reconfiguration at Houghton Road and Ajo Way.

In the 2055 RMAP, projects are included that aim to reduce vehicle congestion and improve travel time. These include:

- The I-10 and Cortaro Road traffic interchange
- Improvements to State Route 210 including the Golf Links interchange
- I-10 widening and traffic interchanges at Country Club Road and Kino Parkway
- Expand Grant Road at the Union Pacific railroad underpass for improved multimodal connections

ADDITIONAL REQUIREMENTS

Additional considerations and requirements of the long-range transportation plan are briefly summarized below and covered in more detail in other areas of this document.

- **Fiscal Constraint –** The RMAP must be fiscally constrained, meaning that the cost of in-plan projects may not exceed reasonably anticipated revenues over the next 30 years. Additional detail and compliance information are provided in **Chapter 5**.

- **Environmental Mitigation and Air Quality Conformity –** Environmental considerations and potential impacts are essential to the RMAP, and the plan must include a "discussion of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan" (23 CFR 450.216(k) and 23 CFR 450.324(f)(10)). Moreover, the RMAP must demonstrate conformity with air quality standards in areas containing nonattainment and maintenance areas (compliance with 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). Refer to **Chapter 8** for additional details and compliance discussion.

- **Public engagement –** Consultation with jurisdictional partners, stakeholders and interested members of the public is critical when developing the long-range transportation plan to identify regional priorities and plan for future investments that best meet the needs of the community. The Code of Federal Regulations states that "the MPO shall develop and use a

documented participation plan that defines a process for providing citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process" (23 C.F.R. § 450.316 (a)). Refer to **Chapter 3** for additional details regarding the public involvement process.

CHAPTER 3: PUBLIC AND STAKEHOLDER ENGAGEMENT

PUBLIC ENGAGEMENT

Public and stakeholder involvement is a critical component of the RMAP and was actively sought throughout the plan development process. Input is critical to ensure that the 2055 RMAP reflects the transportation needs of the community to effectively plan for adequate infrastructure.

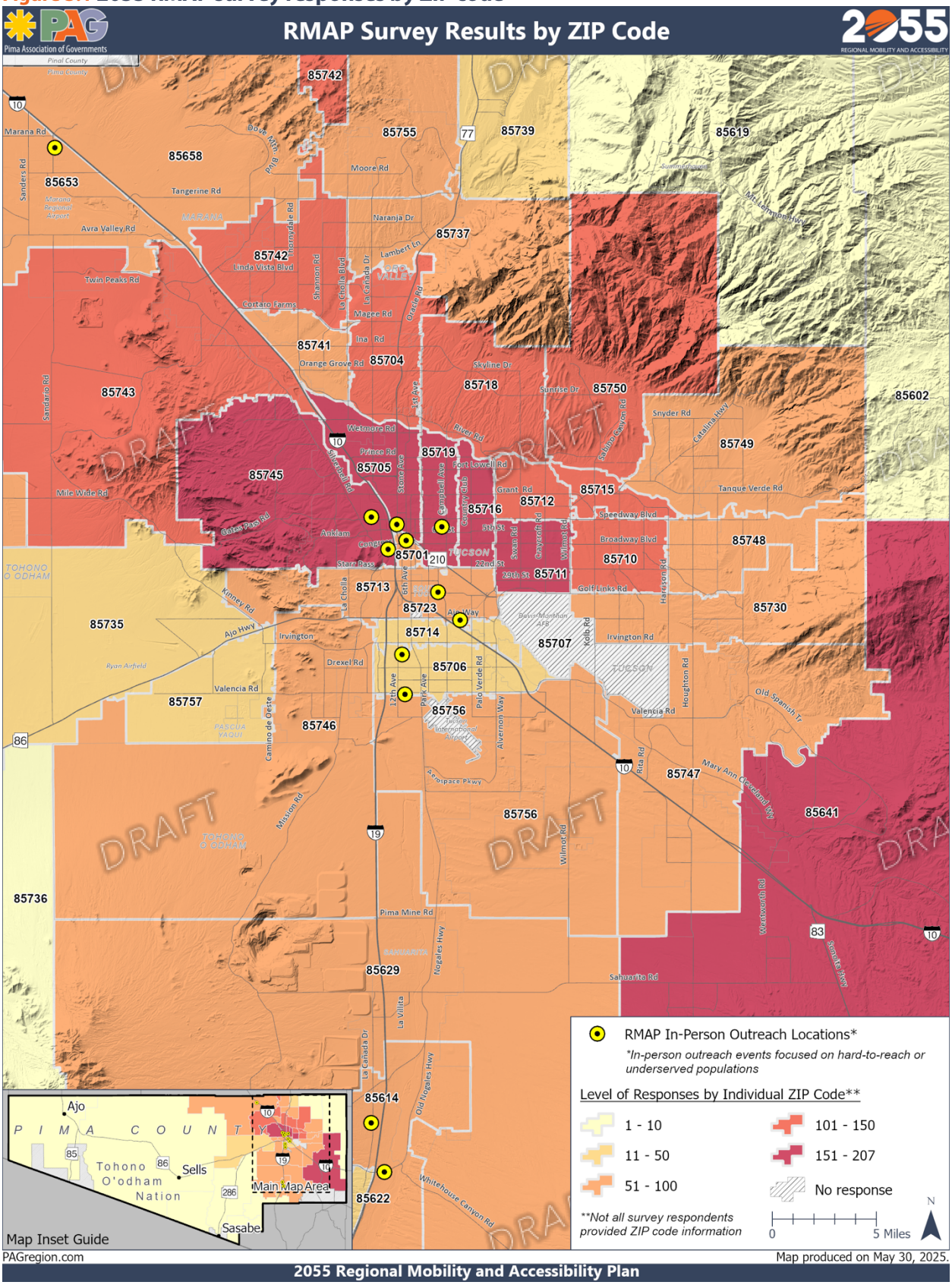
Public outreach at the El Rio Neighborhood Center in Tucson.

A multi-phased engagement approach was used to seek feedback on regional transportation priorities and the draft 2055 RMAP. The initial phase of outreach included a public engagement survey in summer 2024 which launched June 6, 2024, and was promoted through a multi-media advertising and outreach campaign for six weeks in English and Spanish. Nearly 4,500 survey responses were received from participants across the greater Tucson region. Concurrent with the "Shape our Transportation Future" survey period, PAG staff attended ten drop-in events targeting seniors, people with disabilities, low-income and minority residents, and those with limited English proficiency in an effort to engage all members of the community, including those who may typically be left out of the planning process.

Subsequent outreach, starting in October 2024, focused on continuing to fill gaps identified in the survey responses. Efforts included in-person events, pop-up activities and transit intercept surveys to seek feedback from hard-to-reach populations including those in disadvantaged areas, elderly community members, and the younger student population at the University of Arizona.

Figure 3.1 shows survey responses by ZIP code and in-person outreach locations. It is worth noting that not all survey respondants provided ZIP code information.

Figure 3.1 2055 RMAP survey responses by ZIP code



Public participation in the RMAP outreach process was entirely voluntary, and the survey was one component of broader public participation efforts. The purpose of the survey was to increase engagement across the region and to collect objective data to help inform development of the RMAP.

The survey results are summarized in the charts below with the top priority being 1) to improve roadway conditions followed by 2) improving road and intersection safety, 3) reduce traffic congestion and 4) reduce cross-town travel time (**Figure 3.2**). When participants were asked to set the regional budget, the most hypothetical funding recommendations similarly went to improving road conditions, safety enhancements, and reducing congestion followed by transit enhancements and bicycle and pedestrian enhancements (**Figure 3.3**).

Regarding travel patterns, an overwhelming majority of participants (nearly 75%) indicated they use an automobile as their most frequent mode of transportation, followed by bicycle and then transit as the third most frequent mode (**Figure 3.4**). Approximately 54% of survey participants indicated they rarely or never use transit and 7% indicated they use transit daily. A subsequent question asked survey participants what would motivate them to try transit. The most common response was "more transit near my home/destination."

PAG's outreach efforts ensure that traditionally hard-to-reach populations have an opportunity to participate, without any undue influence, pressure, or advocacy. At no point is any participant encouraged or directed to adopt a particular stance or position. PAG upholds strict objectivity in the collection and reporting of all data. Any attempts to manipulate, skew, or influence feedback results are strictly prohibited and will not be tolerated since they compromise the integrity of the regional outreach process. In compliance with our adopted Title VI plan, PAG adheres to a non-discriminatory approach in valuing and respecting all participants, regardless of race, age, or any other protected characteristics. PAG as an organization will remain neutral throughout the process and will report all results "as it" without judgment, interpretation or bias.

Regarding civic engagement from minorities and youth populations, many research articles conclude that political and civic participation among minorities, youth and even women are declining with minority groups and youth being less likely to engage in civic activities due to a variety of factors including social, economic, and health factors (Zani & Barrett, 2012)[1]. Low participation from these groups is also attributed to lack of trust in government, specifically youth and minorities not viewing themselves as part of their community. This disassociated opinion and lack of social trust is cited as one reason that youth and minorities do not actively participate in community service, voting, and volunteerism (Kelly, 2009)[2]. Some researchers are labeling the trend "civic disconnection" especially with youth populations and their apparent lack of interest and involvement in politics and civil society (Banaji & Buckingham, 2010)[3]. This research as well as our own experience from the RMAP engagement and survey raised awareness with PAG staff to continue to focus on minority, youth and other hard-to-reach populations with future engagement efforts to ensure all voices are heard in the public engagement process.

[1] Banaji, Shakuntala and Buckingham, David (2010) *Young people, the Internet, and civic participation: an overview of key findings from the CivicWeb Project.* International Journal of Learning and Media, 2 (1). pp. 15-24. ISSN 1943-6068

[2] Kelly, D. C. (2009). In Preparation for Adulthood: Exploring Civic Participation and Social Trust Among Young Minorities. Youth & Society, 40(4), 526-540. https://doi.org/10.1177/0044118X08327584

[3] Zani, Bruna and Barrett, Martyn. "Engaged citizens? Political participation and social engagement among youth, women, minorities, and migrants" *Human Affairs*, vol. 22, no. 3, 2012, pp. 273-282. https://doi.org/10.2478/s13374-012-0023-2

Figure 3.2 Survey Responses Ranking Transportation Priorities

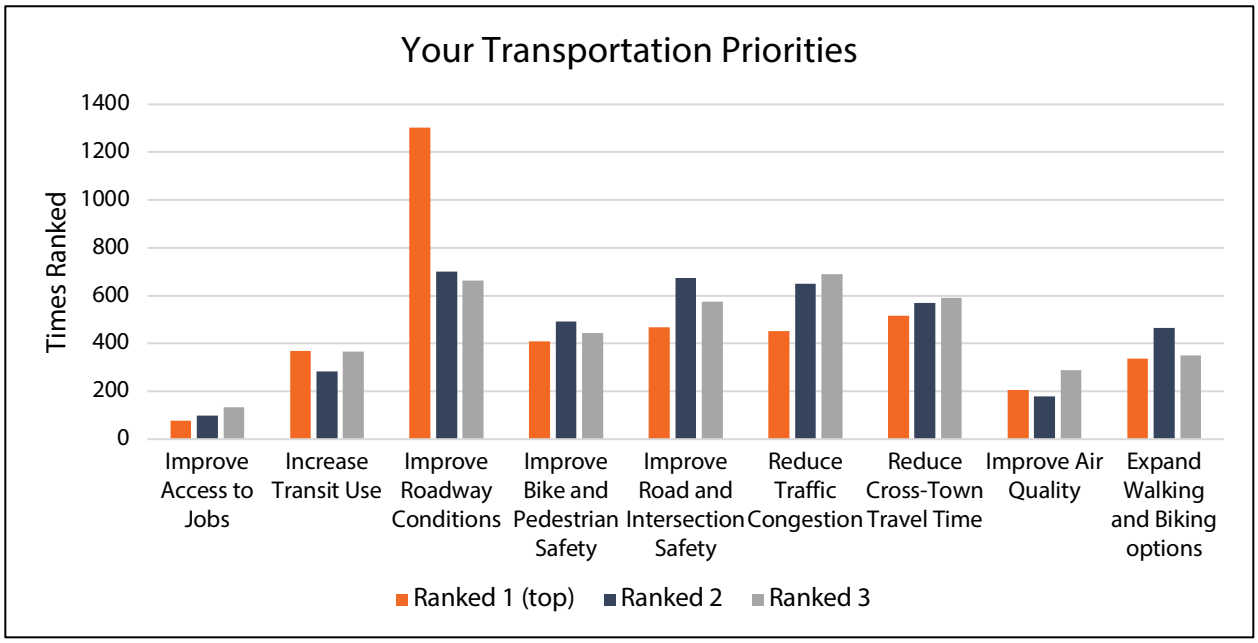


Figure 3.3 Survey Responses to Set the Regional Budget

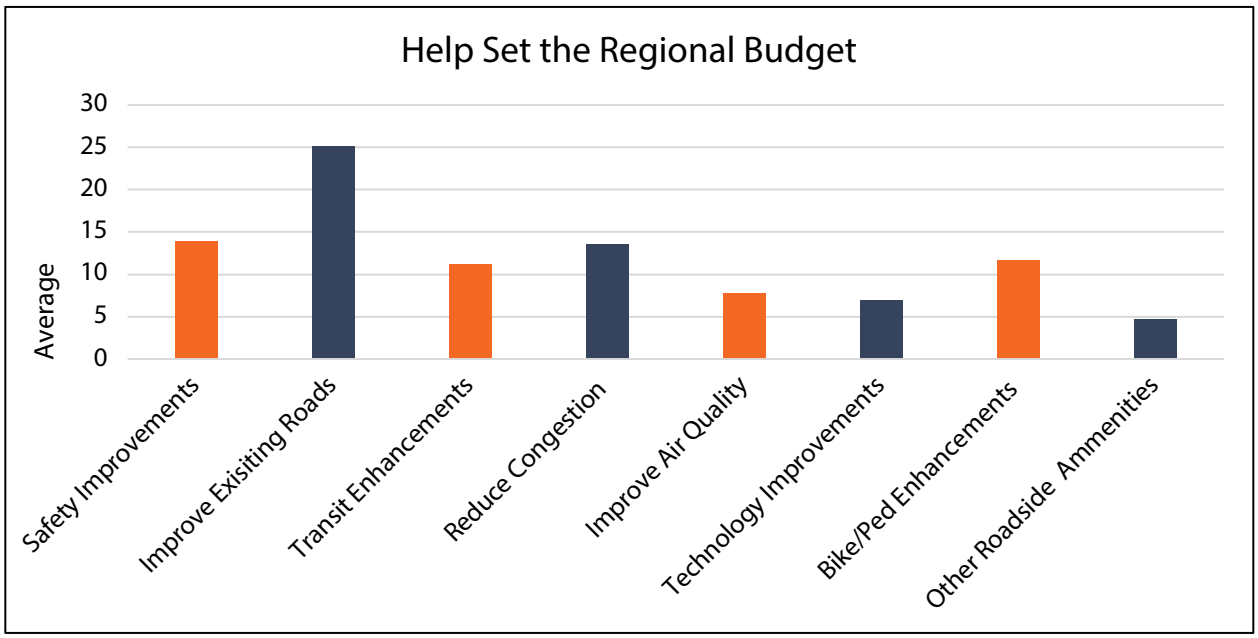
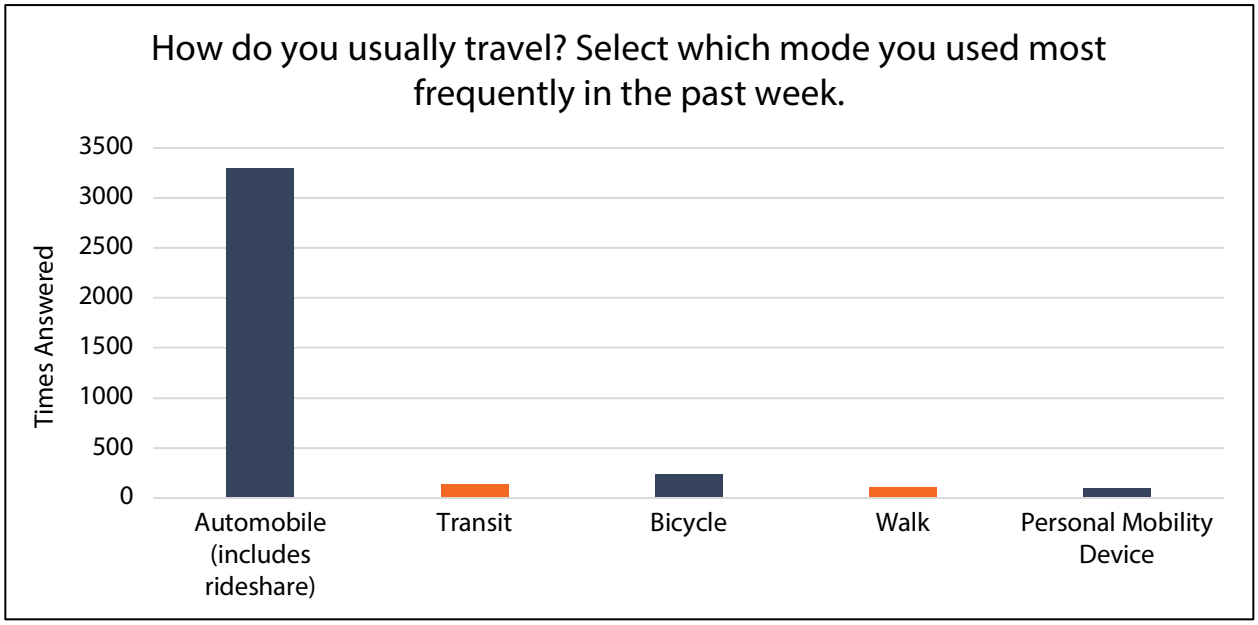


Figure 3.4 Survey Responses for Travel Mode Used Most Frequently



The results from the public engagement survey and other outreach efforts aided PAG staff and committees in discussions and planning for categorial spending and a review of whether funding allocations aligned with regional transportation priorities. In some cases, PAG staff and committee members made recommendations on where additional funding should be allocated to meet the public's needs. Specifically, increasing funding for pavement repair and roadway rehabilitation and multimodal safety improvements are two examples of adjustments made in direct response to feedback from the public.

Jurisdictional Stakeholder Involvement

Since the 2055 RMAP is a regional plan, member jurisdictions were actively involved in its development, particularly in developing the initial project list. In August 2023, jurisdictional members had the opportunity to update, remove and add new projects for consideration using an online portal. PAG staff worked individually with jurisdictional representatives to ensure the accuracy of cost estimates and project scopes.

To further develop and refine the in-plan project list (**Appendix 1**) within the parameters of the fiscal constraint, a 2055 RMAP Working Group was formed that met a total of eight times between November 2023 and April 2025. Working group members provided feedback on PAG recommendations and project inclusion based on priority, timeframe and anticipated costs. Performance measure information and data including traffic volume, safety, environmentally sensitive areas, and congestion were also provided to aid in project selection.

The working group also reviewed performance measures and associated targets, making a recommendation to the PAG Transportation Planning Committee (TPC) for what will be tracked in the 2055 RMAP. Refer to **Appendix 4** for additional information on performance measures.

Ultimately, the TPC approved the project lists (in-plan, reserve, and aviation) and the performance measures and targets.

Lastly, regular updates were provided throughout the plan development process to the Transportation Planning Committee, Management Committee and PAG Regional Council.

Related to inputs for population and land use projections, the PAG Population Technical Subcommittee (PopTech) discussed and approved these inputs over the course of eleven meetings from January 2023 to January 2025. These inputs were also presented to the working group and TPC and were critical to ensure accurate outputs that are foundational to the RMAP modeling process. The PopTech committee approved the modeling outputs and they were also discussed with the working group. Lastly, individual meetings were held throughout the process with jurisdictional representatives.

Additional Engagement

As the 2055 RMAP was being developed, outreach results from additional projects occurring concurrently were also used to help inform the plan. This included outreach efforts for development of the draft RTA Next regional transportation plan, the draft PAG Regional Active Transportation Plan (RATP) and the Dial-a-Ride and Microtransit Service Area Analysis. Outreach efforts included surveys, open houses, and drop-in events. In particular, RTA Next is closely linked to the development of the RMAP since all RTA Next projects must be included within the in-plan RMAP list. Outreach from the other two projects helped inform the transit and active transportation elements of the plan.

CHAPTER 4: MODELING ADVANCEMENTS AND TECHNOLOGY INNOVATIONS

OVERVIEW

The rapid development and deployment of technology is affecting our region's transportation network and how we get around. A variety of technological advancements, such as electric, connected and autonomous vehicles, will continue to change how people make travel decisions during the life of this plan. New technologies can offer solutions addressing traffic congestion, safety, and environmental impacts. The delivery of real-time information is already contributing to the efficiency of moving people and goods throughout the region. Moreover, advancements in how we collect and analyze data – including changes in travel demand, socio-economic trends, and future community development – impact the forecast modeling for the RMAP and how to plan for transportation improvements.

In addition to the improvements in data collection and technology, member agency participation is critical to ensure accurate modeling outputs. Through formal meetings and individual discussions, PAG's PopTech committee reviewed and approved modeling inputs and outputs which were also discussed with the RMAP working group and TPC.

The sections below provide an overview of the modeling done for the 2055 RMAP and the advancements in methodology and data collection to improve the accuracy of modeling outputs and highlights of the various technologies that will continue to impact the transportation network in the coming years. Please refer to the full technical addendum describing the modeling methodology.

MODELING ADVANCEMENTS

Activity Based Model (ABM)

Travel models are created to support decision making and help planners make informed predictions about the impacts of transportation and land use investments. These tools are critical for accurate planning.

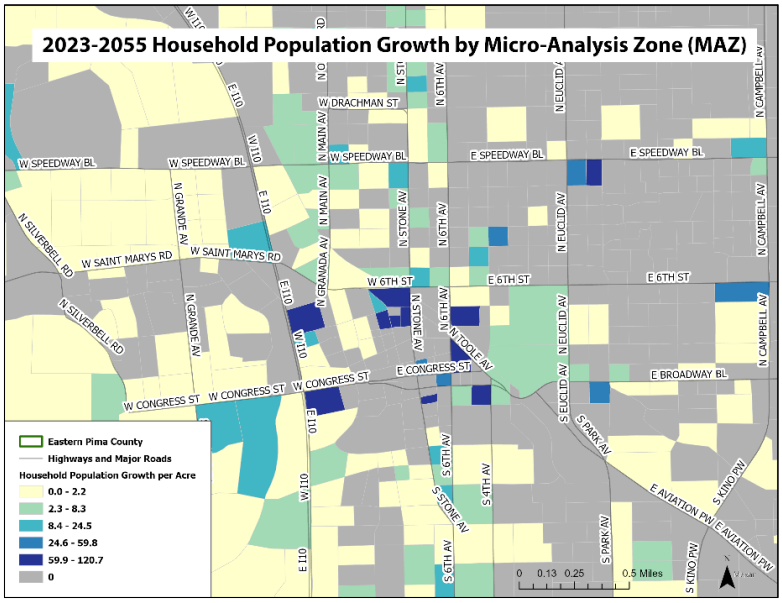
A step above the existing trip-based travel demand model, the PAG activity-based model (ABM) is a sophisticated model that aims to predict where and when people travel, and for how long, based on people's daily activity patterns. The model considers demographic and economic trends and can incorporate detailed household-level attributes including age, income, and activity dependency between household members. The model establishes travel patterns of household members in conjunction with a series of their daily activities. The ABM provides robust capabilities and sensitivities

for evaluating different scenarios. With changing work environments, particularly the increase of remote work following the COVID-19 pandemic, this model is useful.

PAG developed an ABM program that was used in the development of the 2055 RMAP, including scenario planning and the impacts of investment choices, with the following capabilities:

- Attractiveness of for-hire vehicles
    - ABM includes Transportation Network Company (TNC) on-demand services (i.e., Uber and Lyft) in the list of transportation mode alternatives.
- Automated vehicles (AV)
    - AV under household-level is allowed and ABM provides the utilization of AV for local transit access or zero occupancy service for utilization schedules between household members.
- E-shopping
    - To demonstrate the recent e-shopping behaviors and retailer business, the model provides the travel behaviors of increasing commercial vehicles around residential areas and decreasing brick and mortar retail stores.
- Land development
    - As a fundamental assessment of regional development, the model provides the impact of land development on travel patterns and demand.
- Telecommuting
    - In understanding and showing the impact of recent remote work trends, PAG ABM incorporates the latest telecommuting behaviors by NAICS and the number of days of telecommuting.
- EV market share
    - To review the impact of air quality in the future, the model allows the option to compare the effects of high or low EV market penetration.

Land Use Modeling



An output of the SAM showing population growth.

The land use model PAG currently uses to spatially allocate population and employment growth forecasts is the sub-area allocation model (SAM). This R script-based program simulates the development of the greater Tucson metropolitan region in ways that are consistent with population and employment projections, existing land use, and future land use plans. In addition to the socio-economic forecasts, the model is tasked to allocate inputs to SAM including existing land use from property parcels, undevelopable lands, transportation networks, general and specific plans from six of PAG's member jurisdictions, and known development projects. At all stages of the 2055 RMAP development process, PAG has consulted with jurisdictions, which include the region's two tribal governments, on model inputs, socio-economic forecasts, and final RMAP TAZ-level forecasts.

Underlying the future land use designation associated with each vacant parcel is a build-out density which is estimated from existing development patterns. Normally, the model assigns vacant parcels' preference scores and, ultimately, a probability of development that directly translates into units of forecast jobs and housing. In any given model year, however, known projects take priority in allocation and bypass the model's mathematical calculations. SAM's equations for seven growth sectors are based on a selection of measurable development preference factors, such as proximity to transportation infrastructure and accessibility to urbanized areas. With input from jurisdictions and regional stakeholders, PAG developed these factors and calibrated the model coefficients to best simulate patterns of regional development.

For the 2055 RMAP development process, PAG built an external module to predict urban redevelopment, defined as building improvements on parcels that result in greater utilization of urban land, providing employment and residential growth. Research by PAG to identify and quantify redevelopment over the 2010-2020 period characterized redevelopment as an increase in building square footage, 3.4% of total parcels with improvements on parcels with older buildings (>40 years), low floor area ratios (FAR) and low improvement-to-land value ratios (ILV). PAG developed a calibrated model for residential redevelopment and an employment sector model based on preference factors like the SAM model. In any given model year, the redevelopment model allocates a forecast square footage that is tied to the overall forecast and the remainder left from known projects. For the 2055 RMAP, PAG incorporated the City of Tucson into the redevelopment model. With boundaries (Infill Incentive District) to prioritize the geographic selection of parcels as well as land use designations that

specify redevelopment densities, the jurisdiction was an excellent candidate for the model.

AZ-SMART/UrbanSim

PAG is investing in cutting-edge land use modeling practices to ensure quality data is available for regional transportation planning well into the future. AZ-SMART, developed by Maricopa Association of Governments, is a python-based socio-economic modeling suite constructed in part from UrbanSim's open source Urban Data Science Toolkit (UDST). AZ-SMART/UrbanSim is an impressive software platform for simulating and predicting the dynamics of urban development. SAM's methodology takes a socio-economic forecast and applies a relative development preference and probability calculation to spatially allocate growth. In contrast, AZ-SMART expands this overall forecast into area demographic and employment changes. This specific growth in age groups and employment sectors, for example, generates demand that ripples into regional real estate market development decisions and pricing of units and job spaces in different locations. Those market-based conditions, in turn, set the basis for successive location choices made by households and employers. The sophistication and credibility of the AZ-SMART modeling platform's forecasts come at a price, however, as use of the model is data- and staff-resource intensive.

Improvement in Data Collections

Improvements in technology have expanded the available data that can be used for modeling and evaluating investments in the transportation network. These include:

- Traffic count data improvement
    - Reviewed PAG traffic count data resources and incorporated Miovision sensor traffic count data into PAG MS2 traffic count data.
- Travel behavior data improvement
    - Evaluated crowdsourced data and connected-vehicle data and utilized to validate PAG ABM and develop regional traffic performance measures.
- Traffic performance measure improvement
    - Converted the existing performance measures into ABM and created new updated performance measures.
- Pavement condition evaluation
    - Consolidated new regionally collected pavement data to support the federal Highway Performance Monitoring System (HPMS).

TECHNOLOGY INNOVATIONS

Electrification of Vehicles

Electric vehicles (EVs) are vehicles that use electric motors with battery storage technology. Because EVs do not run on fossil fuels, they can significantly improve air quality through decreased emissions of greenhouse gases and other harmful air pollutants. In particular, the electrification of heavy trucks, public buses, and large freight vehicles could provide substantial benefits since these vehicles produce the most emissions.

As of 2024, approximately 9,500 electric vehicles[4] are registered in Pima County accounting for 1.3% of passenger vehicles, and more EVs are entering our transportation network every year. It is anticipated that approximately 207,000 electric vehicles[5] will be on our region's roadways by 2055, accounting for 24.6% of passenger vehicles. Planning for infrastructure, such as expanding the EV charging station network, will be critical to accommodate EVs.

Micromobility

Micromobility refers to "any small, low-speed, human- or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles, electric scooters (e-scooters), and other small, lightweight, wheeled conveyances" (Federal Highway Administration or FHWA).

In the greater Tucson region, micromobility including e-scooters and bike share is becoming increasingly popular and changing how residents and visitors get around. These transportation options help expand mobility choices, provide a more affordable alternative to owning an automobile, and can connect residents more easily to transit routes. The City of Tucson currently offers bike share and e-scooter rental programs by contracting with outside agencies.

Connected and Automated Vehicles (CAVs)

Connected vehicles (CVs) are vehicles that have communications technology to enable data sharing with other vehicles and roadside infrastructure. In contrast, autonomous vehicles (AVs) use sensors, cameras and GPS to allow a vehicle to operate independently of a human operator. These

[4] December 2024 ADOT MVD data processed by Maricopa Association of Governments (MAG) and provided to PAG.
[5] December 2024 ADOT MVD data processed by Maricopa Association of Governments (MAG) and provided to PAG. MOVES 4 default source type populations for Pima County for 2024 and 2055, MOVES 4 age distribution projection tool, MOVES 4 AVFT tool.

technologies can be utilized for personal vehicles, public transit and freight vehicles.

Rapid advancement in CV and AV technology will continue beyond the planning horizon of the 2055 RMAP. While relatively new, these technologies can offer a range of benefits including increased safety and efficiency of the transportation network. This technology could be particularly useful for on-demand delivery services, freight vehicles, and truck platooning, which allows vehicles to wirelessly communicate information such as speed, braking, and alerts for obstacles. Infrastructure over the next 30 years must respond to this rapidly changing technology.

Signal Control Technology (SCT)

Beyond traditional adaptive signal control technology (ASCT), which "adjusts the timing of red, yellow and green lights to accommodate changing traffic patterns and ease traffic congestion" (FHWA), signal control technology can accommodate changing traffic patterns in real time with the image sensing or detection technology and artificial intelligence (AI) improvements. This technology decreases traffic wait times and delays while improving safety. Advancements in signalization technology are anticipated to greatly improve the near-term and long-term efficiency and safety of our region's transportation network.

Big Data and Artificial Intelligence (AI)

Big data refers to very large and diverse data sets and provides the opportunity to analyze large data sets to reveal patterns, trends and associations as they relate to human behavior. The data let us understand detailed daily location-to-location activities and corner-to-corner travel patterns. Additionally, real-time traffic system performances allow us to evaluate the operations system in real time. These data sets can be refined and merged to analyze travel behavior regionwide and provide improvements to connectivity, accessibility, and traffic network operation. PAG has been using big data (or crowdsourced data) to understand the travel behaviors and evaluate the developed planning models.

The use of AI technology, including vehicle and roadside sensors, enables remote monitoring and enhanced management of infrastructure and the transportation network. Especially with vehicle-to-everything (V2X) technologies, the data would be more versatile and valuable to improve transportation system efficiency and safety in the near term.

Shared Mobility

Shared mobility refers to a transportation service that is shared among users and offers a diverse menu of transportation options such as ride sharing (Uber and Lyft are examples), public transportation, bike sharing, e-scooters, taxi services and car sharing. These mobility options provide a range of safe and

inexpensive alternatives to using a private vehicle that can also be convenient, more sustainable, and reduce congestion in the transportation network.

Many shared-mobility options are in place and continue to expand in the greater Tucson region. In particular, the Tugo bike share program and e-scooter services have been recent additions to the shared-mobility offerings in the region. Lastly, microtransit is an on-demand public transit service model that is being explored in the region to serve areas that have difficulty or no access to regular transit service.

Material Technology

Changes and improvements in building materials can have significant effects on the transportation network. For example, advancements in building materials and maintenance practices will extend the lifecycle of pavement, drainage and communications infrastructure. Moreover, pavement technology improvements have the potential to improve roadway conditions with less required maintenance.

Unmanned Aerial Systems (UASs)

Unmanned aerial systems, commonly referred to as drones, are aircraft outfitted with cameras and sensors including light detection and ranging (LiDAR) technology and are controlled by a licensed operator on the ground. UASs can be used to increase safety and efficiency of the transportation network while reducing costs.

Drones are being deployed by transportation agencies to perform structural inspections, construction inspections, geologic analysis, environmental analysis, emergency response, and traffic conditions evaluations.

The use of drones is expected to expand in the greater Tucson region and provide benefits in the coming years. Close coordination will be required among federal, state, regional and local governments and the private sector.

CHAPTER 5: FINANCIAL PLAN

OVERVIEW AND FUNDING SOURCES

The 2055 RMAP must be a fiscally constrained plan, meaning the estimated cost of the included in-plan projects cannot exceed the amount of reasonably expected transportation revenues during the 30-year life of the plan. The financial plan lays out the fiscal framework and constraints and shows the reasonably expected revenues for the greater Tucson region over the next 30 years that can be used to fund multimodal transportation projects. Reasonably expected revenues include federal, state, regional and local funding sources, each with unique restrictions. All revenues are displayed in 2024 constant dollars. Projected funding is intended to cover "in-plan" projects. "Reserve" projects are additional projects with no identified funding and are thus not bound by fiscal constraints. Similarly, aviation projects have separate dedicated funding and are not included when calculating fiscal constraint.

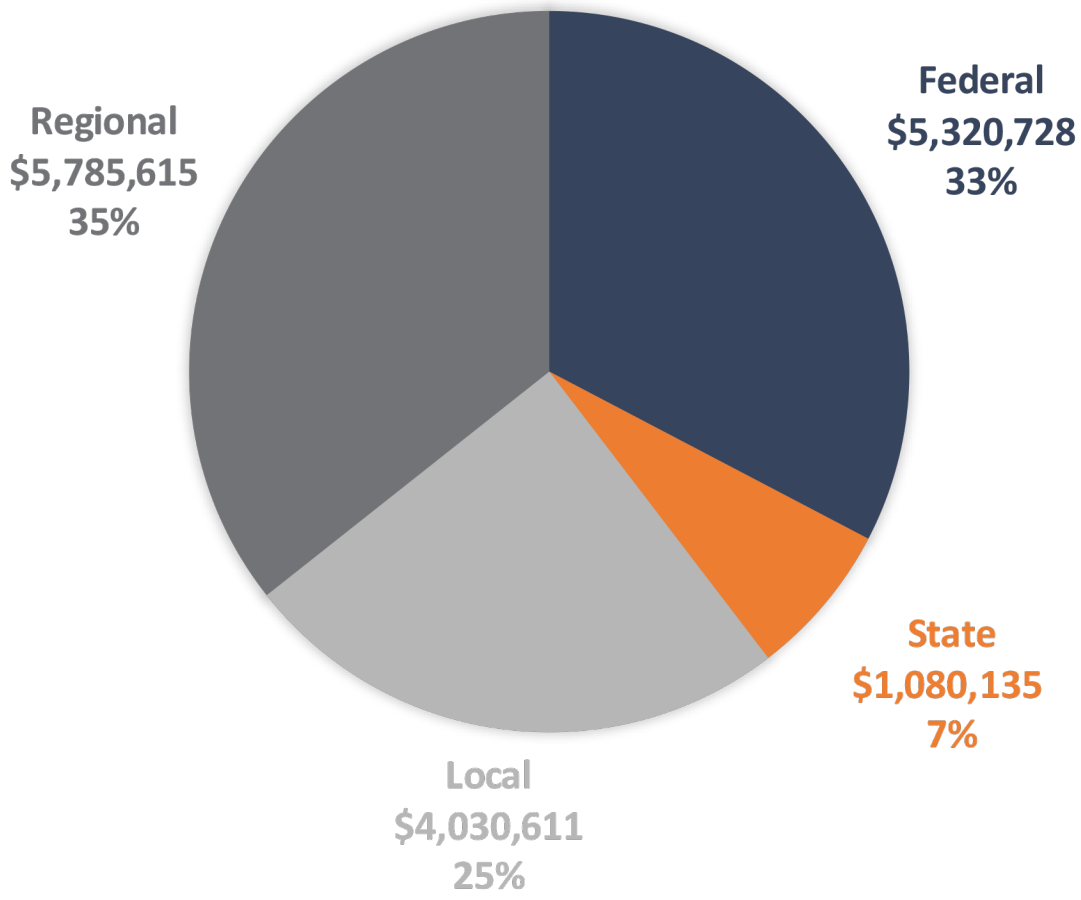
For this effort, the revenues forecast as part of the 2045 RMAP Update Financial Plan were revisited and updated as well as the project costs by member agencies. The 2055 RMAP forecasts approximately $16.2 billion in anticipated revenue, and the in-plan project list is fiscally constrained to that amount for project completion.

The future of regional transportation funding is uncertain. The RTA's second plan and new 20-year sales tax, referred to as RTA Next, are anticipated to go to voters as separate ballot measures in spring 2026. The fiscal constraint assumes the passage of a new 20-year RTA half-cent sales tax which is estimated to provide $2.46 billion in revenue through 2046. Refer to **Table 5.1** below for additional details on the current RTA and RTA Next and a summary of federal, state, regional, and local funding sources. **Figure 5.1** shows the breakdown by percentage of the funding sources.

Table 5.1 Funding Sources

Federal	State	Regional	Local
Surface Transportation Block Grant Program (STBGP) is a flexible funding source available for use on most types of transportation projects, including roadway, pavement preservation, bike/pedestrian, and transit capital. PAG currently receives approximately $21 million annually for the greater Tucson region. **Transportation Alternatives Program (TAP)** funds are provided annually to PAG and are administered through a separate process called the **Regional Transportation Alternatives Grant (RTAG).** PAG receives about $2.3 million annually. **Federal Transit Association (FTA) Grants** are available for a variety of transit projects. This includes 5310 funding, *Enhanced mobility of Seniors and Individuals with Disabilities,* and 5339 funding, *Grants for Buses and Bus Facilities.*	**AZ Surface Transportation Program (ASTP)** provides state discretionary funds which can only be used on state facilities. By agreement, 13% of state discretionary funds must be used for projects within the greater Tucson region. **AZ Dept of Environmental Quality (ADEQ)** is state environmental funding used for air and stormwater quality planning and travel demand management programs. **Regional Highway User Revenue Fund (HURF)** is set aside for PAG and Maricopa Association of Governments by state statute. The HURF is generated from the gas tax and other state taxes and fees. HURF 2.6% can only be used on state facilities, while HURF 12.6% can be used on locally owned arterials and collectors. Regional HURF is restricted to roadway projects. PAG is forecast to receive approximately $28.4 million in HURF 12.6% funds and $5.8 million in HURF 2.6% funds in FY25 as HURF distributions allocated to PAG.	**Regional Transportation Authority (RTA)** funds are collected through a countywide half-cent excise (sales) tax that was approved by Pima County voters in 2006. The tax revenues fund a 2006 voter-approved RTA regional transportation plan. RTA revenues provide more transportation funding than any other single funding source available to the region, with approximately $123 million in revenues for FY24 and $127 million forecast for FY25. The current RTA plan will continue until the conclusion of Period 4 in June 2026. Voters will be asked to approve a new RTA tax and plan in spring 2026. Current projections show expected revenues falling short of the originally planned $2.1 billion for the current RTA plan. The funding up to the ballot amount is made up by dedicated federal, state and local funding to complete RTA planned project commitments in the 4th period of the RTA plan (FY 2022-2026). This commitment is reflected in the RMAP financial plan. The anticipated forecast for RTA Next is $2.46 billion. If a half-cent sales tax is approved by voters, this will provide funding through 2046.	Local transportation funding is generated through local taxes and fees, direct local and county HURF allocations, county VLT* and local transit revenues. Locally funded projects do not need to be included in the RMAP except where such projects are regionally significant. Therefore, a large portion of the projected local revenues are reserved for these types of projects, as well as other non-capital projects and overhead costs. **County VLT refers to the portion of the vehicle license tax that is distributed directly to counties for transportation purposes.*

Figure 5.1 RMAP Funding by Source



REVENUE FORECAST AND METHODOLOGY

The foundation of the 2055 RMAP financial plan is an estimate of reasonably expected revenues over the next 30 years. Funding categories are shown in **Figure 5.2** below. Depending on the source, different growth rates are applied based on a conservative evaluation of actual growth rates over the last 10 years. These rates range from 2% to 3% and determine the 30-year total revenues from each source. As mentioned above, the new RTA Next half-cent sales tax is assumed in the forecast, totaling approximately $2.46 billion from 2026-2046.

Revenues for project funding are generally gathered from official sources when possible. For example, the Highway User Revenue Funds (HURF) forecast is directly provided by the Arizona Department of Transportation (ADOT) which administers this funding source. Generally, revenues gathered from official sources as well as those estimated by PAG are projected on a nominal basis, reflecting inflation and are thus in terms of "year-of-expenditure dollars" in compliance with federal requirements. These revenues are estimated to grow nominally and are discounted back to present value using an expected inflation rate held constant for the duration of the plan. What is presented in the financial plan is in 2024 dollars. **Table 5.2** below shows RMAP revenue projections by funding source.

Table 5.2 Revenue Projections by Funding Source

Funding Category	30-Year Revenue Projection
Federal (STBGP, RTAG, RAAC/NHPP/NHP, Supplemental Federal Grants)	$4.75 billion
State (ADEQ)	$6.4 million
Regional HURF (HURF 2.6%, HURF 12.6%)	$1.07 billion
RTA (2024-2026)	$359.26 million
RTA Next (2027-2055)	$3.8 billion
Local Budgets (Local Taxes and Fees, Local and County HURF, Pima County VLT)	$1.82 billion
Maintenance of Effort (MOE)	$1.63 billion
Federal Transit (5307, 5339, 5310, 5311)	$565 million
Non-Federal Transit (Local Collections, LTAF 2)	$2.2 billion

**Assumes the passage of proposed RTA Next plan and sales tax initiatives in spring 2026 and the passage of a future sales tax initiative through 2055*

COMMITTED AND UNCOMMITTEED FUNDS

It is important to note that some expected revenues are already committed to specific projects or purposes. This includes the completion of the existing RTA plan and funds committed through the current five-year Transportation Improvement Program (TIP). In addition, funding is committed to transit maintenance and operations over the life of the RMAP. Uncommitted funds are available for all eligible projects, since they have not been committed to a specific project or program.

Table 5.3 below summarizes committed funds associated with the RMAP.

Table 5.3 Committed Funding

Committed To	Time Period	Amount
Projects in the FY 2025–FY 2029 TIP	Through 2029	$1.73 billion
Completing the current RTA plan	Construction beginning before FY 27	$840 million
Transit Maintenance and Operations (2055 RMAP)	Through 2055	$3.4 billion
Local Fund Contributions	Through 2055	$4.03 billion
RTA Next*	Through 2055	$3.8 billion

**Assumes the passage of proposed RTA Next plan and sales tax initiatives in spring 2026 and the passage of a future sales tax initiative through 2055*

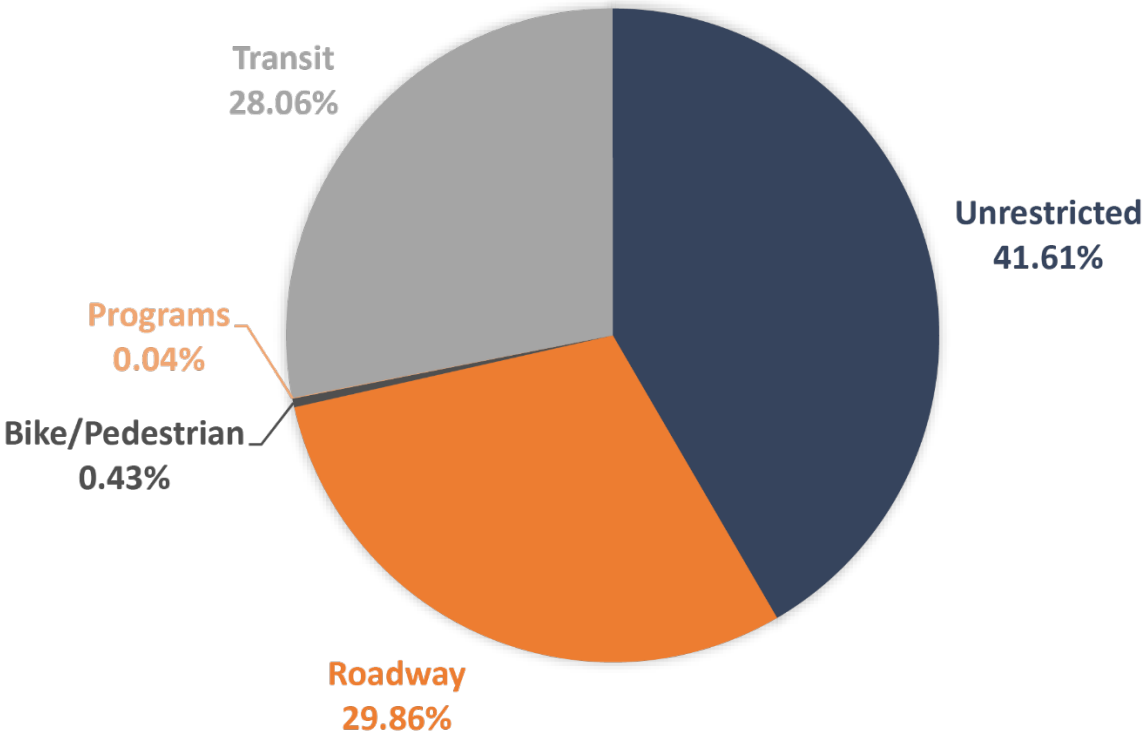
RESTRICTED FUNDS

Some uncommitted funds are restricted to certain types of activities depending on the funding source. For example, some federal funds are specific to what types of projects they can be applied to, such as transit or active transportation improvements. Another example is HURF funds, which can generally only be used for roadway improvements. Similarly, RTA funds are restricted to specific voter-approved projects.

In contrast, unrestricted funds can be used across all types of projects and are more flexible.

Figure 5.2 Allocation of restricted and unrestricted funds in the 2055 RMAP.

Figure 5.2 RMAP Funding by Category



PAVEMENT AND MAINTENANCE

As a region, each jurisdiction is responsible for maintaining the roads, bridges and pavement. Each year, the jurisdictions contribute local funds to the ongoing maintenance of their respective roads. Although these funds are not required to be calculated into fiscal constraint, the investments of the jurisdictions are significant and worth mentioning. Pavement conditions are often noted as a priority for local spending, and due to the size of these investments, collectively, they represent a sizeable investment in the region. The 2055 RMAP does include funds for roadway reconstruction, and it is important to note that many of the listed projects will include new pavement and upgraded facilities. These investments cumulatively will impact roadway conditions regionwide.

Regionwide, each jurisdiction contributes a portion of their annual budget to pavement maintenance. The 2055 RMAP includes $430 million in roadway reconstruction in the fiscally constrained project list.

CHAPTER 6: REGIONAL GROWTH, EXISTING SYSTEM CONDITIONS AND PLANNING FOR THE FUTURE

TRANSPORTATION SYSTEM OVERVIEW

The transportation system in the greater Tucson region includes an extensive roadway network, multiple transit services, bicycle and pedestrian facilities, airports, railroad corridors and critical freight corridors connecting the United States and Mexico. Our region has approximately 8,400 miles of public roadways consisting of freeways, parkways, arterials and collector streets as well as local roads that serve neighborhoods. In addition to these roadways, the PAG planning area has 1,340 miles of bicycle facilities and 1,027 miles of pedestrian facilities with more added every year.

A robust public transit system provides regular fixed-route bus service, express buses, service by Sun Link streetcar from the University of Arizona to the Mercado district, and dial-a-ride and paratransit services. More information including ridership numbers and maps of the service area can be found in **Chapter 7**.

It is critical that an effective transportation system meets the needs of diverse users, is safe, supports the economy, provides access to key destinations and essential services, and minimizes environmental impacts.

INFRASTRUCTURE CONDITION

The condition of the region's roadways is a top priority of residents as demonstrated by the public outreach results discussed in **Chapter 3**. The 2055 RMAP allocates $430 million toward roadway rehabilitation and reconstruction, including pavement repair. It should also be noted that roadway capacity projects will address pavement conditions as part of reconstruction. **Figure 6.1** shows an inventory of existing pavement conditions in our region.

Bridges are a critical piece of our transportation infrastructure, and the condition of public bridges is tracked as part of the performance-based planning approach (see **Appendix 4**). **Figure 6.2** shows the condition of bridges in our region. The 2055 RMAP allocates $250 million for bridge improvements including replacing bridges, maintenance, and repair. Numerous roadway projects also address specific bridges, such as the Rancho Vistoso Boulevard bridge over Big Wash in Oro Valley.

Figure 6.1 Pavement Condition

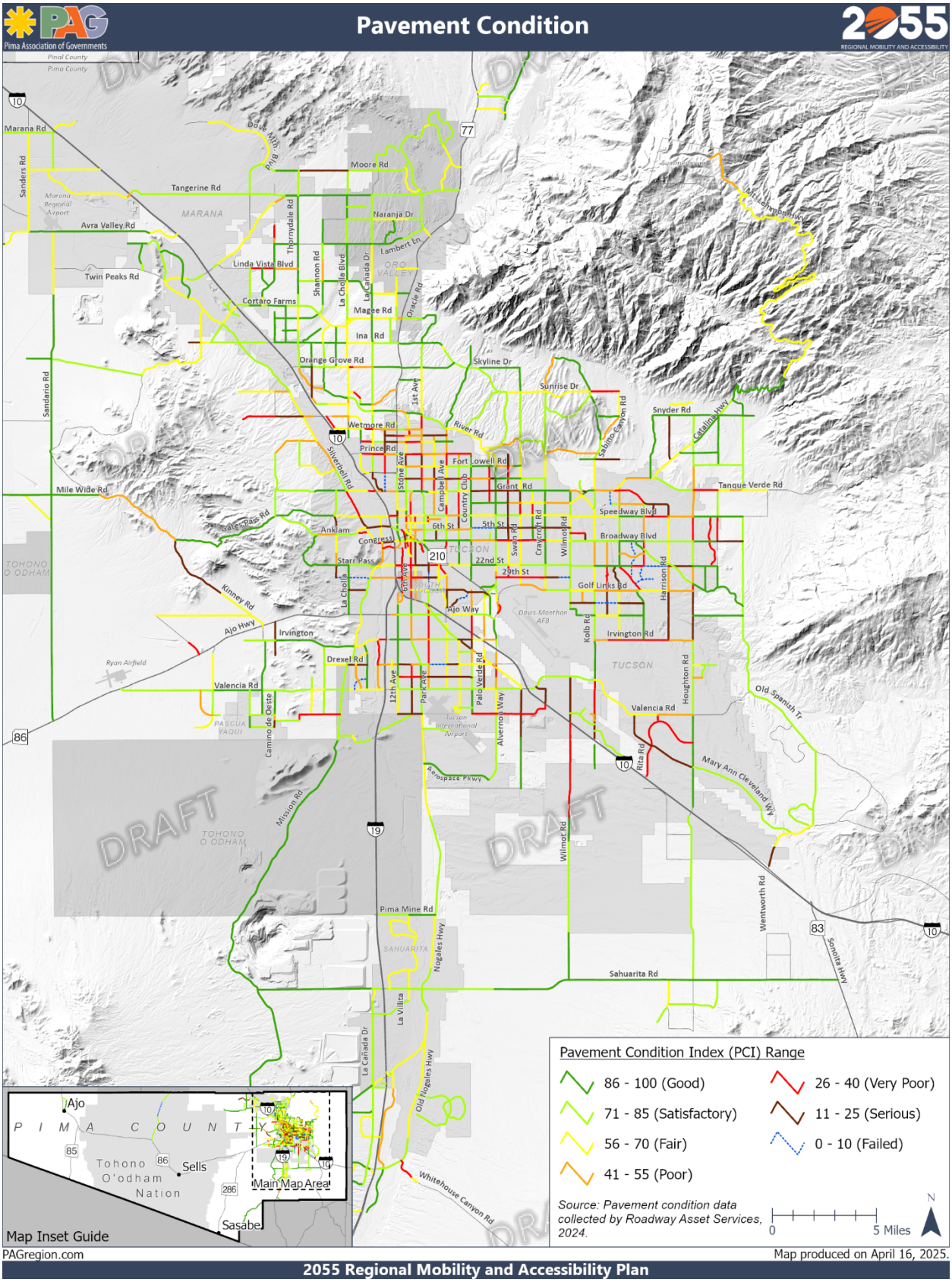
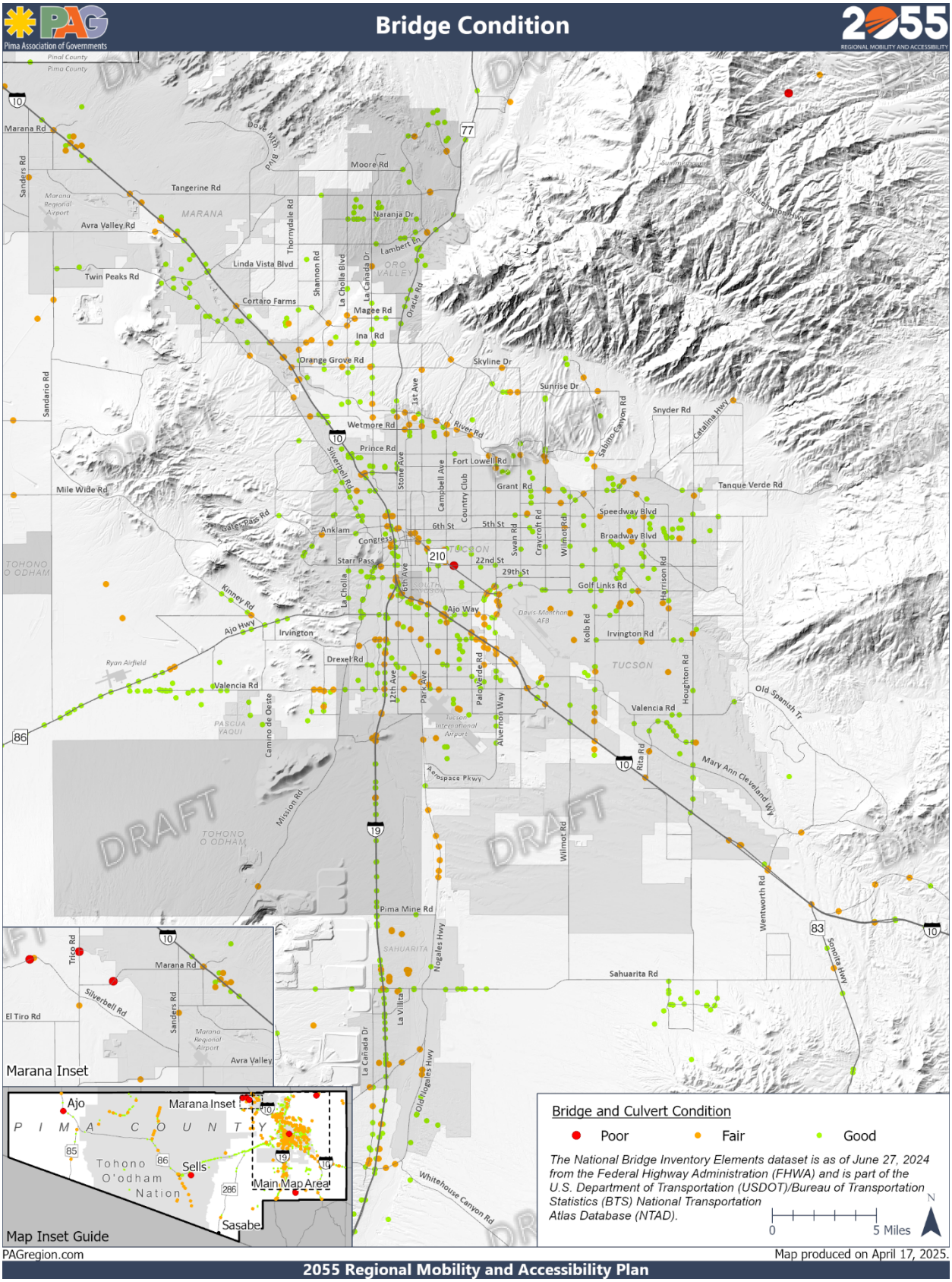


Figure 6.2 Bridge Condition



REGIONAL GROWTH AND PLANNING FOR THE FUTURE

As the greater Tucson region grows, the demands on the transportation network change. The PAG region currently has 1.08 million residents and is expected to have 1.27 million residents by 2055, approximately an 18% increase. **Figures 6.3** and **6.4** illustrate the current and projected population and population density.

Figure 6.3 Current Population Estimates

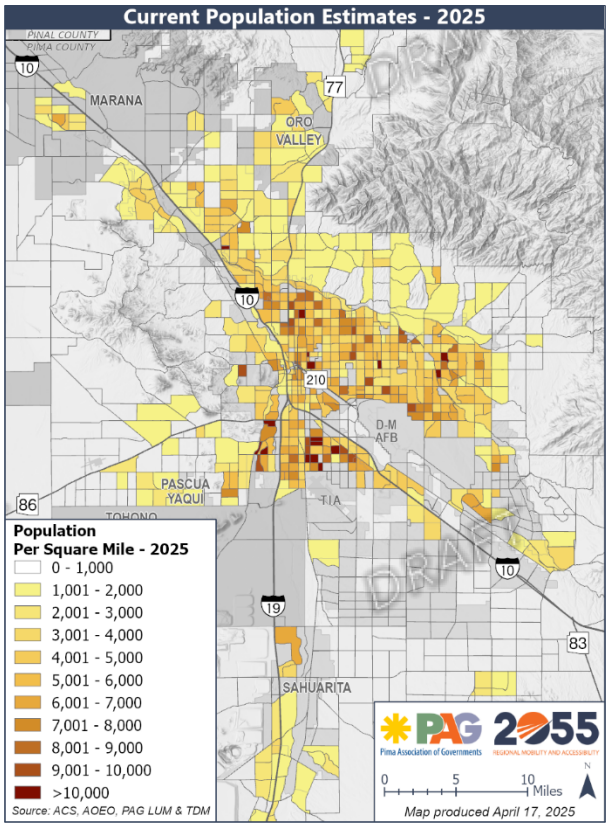
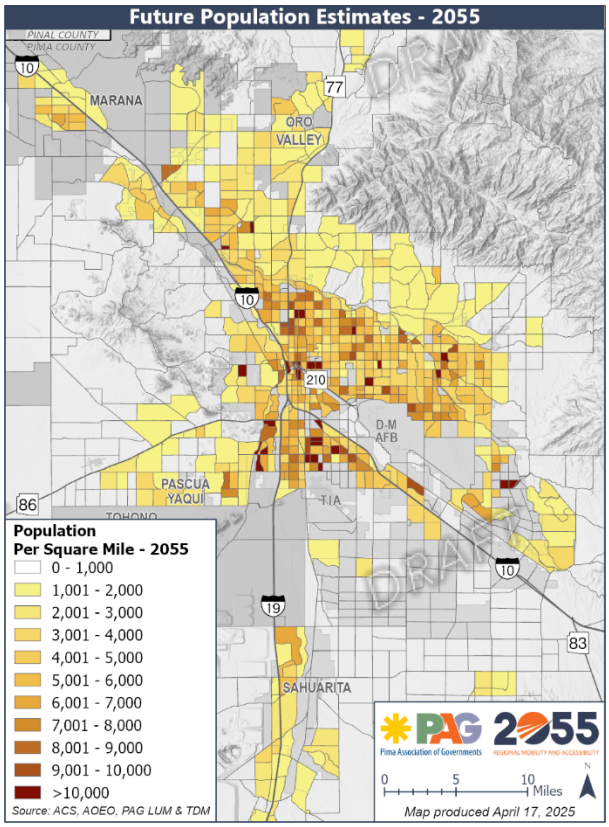


Figure 6.4 Future Population Estimates



With a growing population expected over the next 30 years, employment centers will also evolve. Currently, there are 395,000 jobs in the PAG region. By 2055, this is expected to increase by approximately 18% to 465,000 jobs. **Figures 6.5** and **6.6** below show the current and projected employment density.

Figure 6.5 Current Employment Estimates

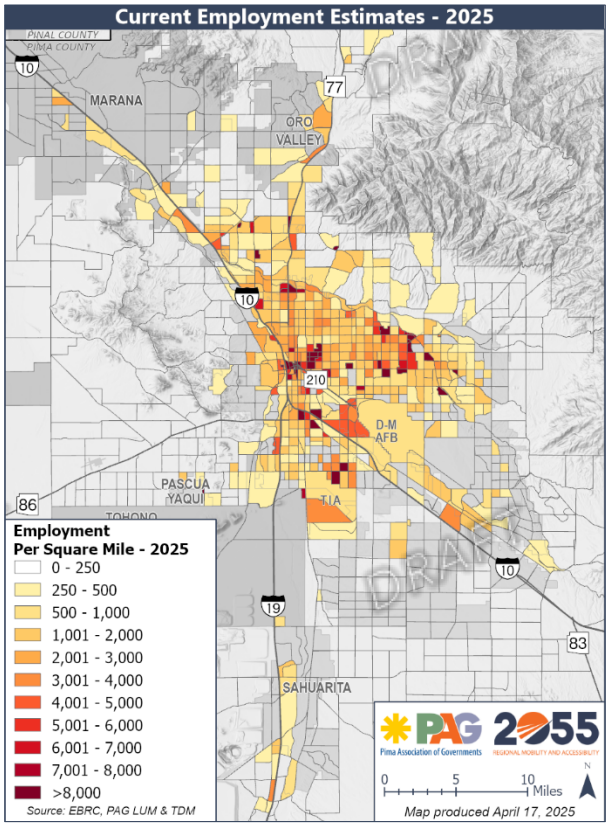
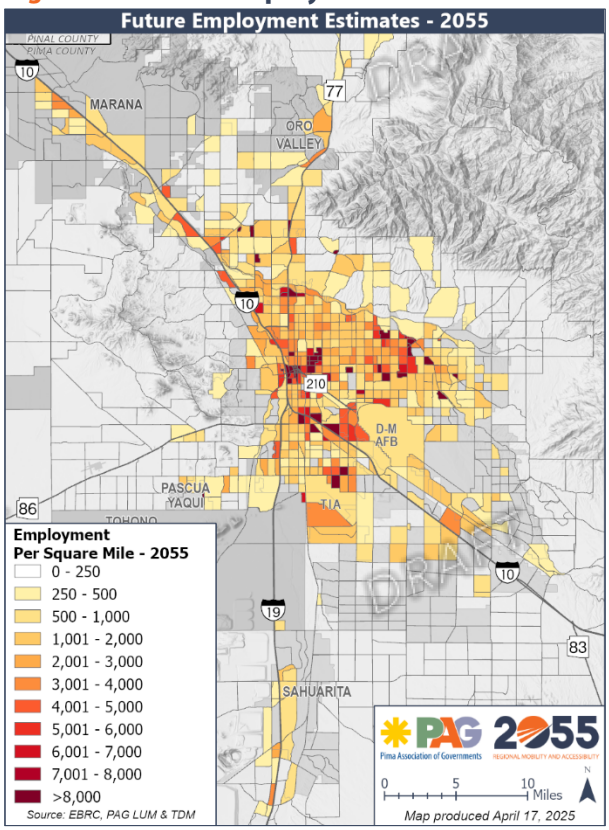


Figure 6.6 Future Employment Estimates



Multimodal Roadway Improvement Projects

The 2055 RMAP includes "in-plan" projects that member agencies have identified as priorities over the next 30 years. This includes roadway capacity projects assigned to specific locations, projects to improve safety, bicycle and pedestrian infrastructure projects, modernization projects (such as signal and lighting improvements and upgrading facilities), and public transit projects such as high-capacity transit expansion and improvements to existing transportation facilities. Categories of funding, including for safety and multi-use paths, are identified in the 2055 RMAP but will have specific locations assigned during the TIP development process when funds are programmed. Projects with identified locations are shown in **Figure 6.7**.

As discussed earlier in this document, RTA Next projects are included in the RMAP. **Figure 6.8** identifies these RTA Next projects in relation to the complete in-plan projects shown in **Figure 6.7**.

Figure 6.7 Multimodal Roadway Improvements

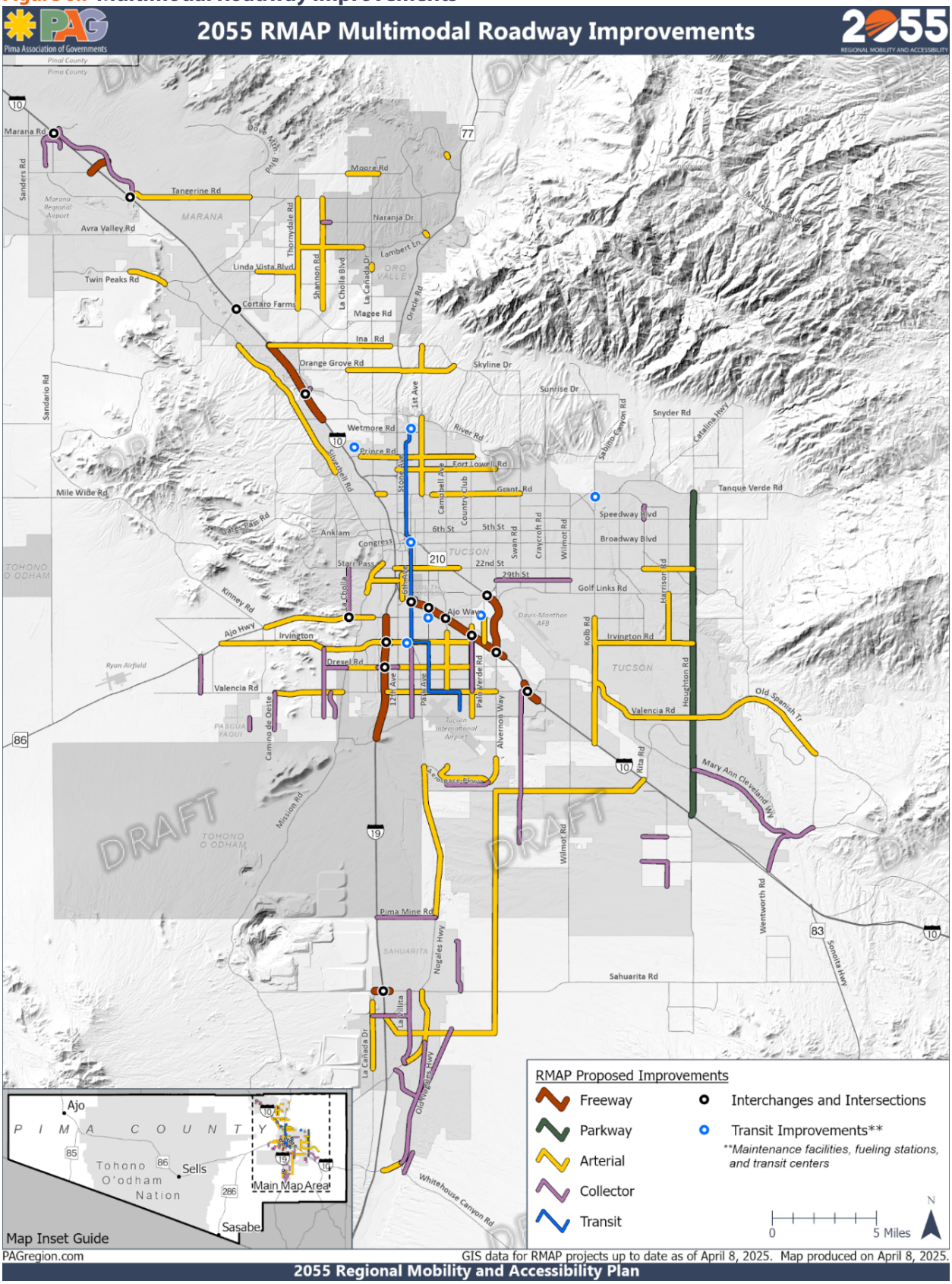


Figure 6.8 Multimodal Roadway Improvements with Proposed RTA Next Projects

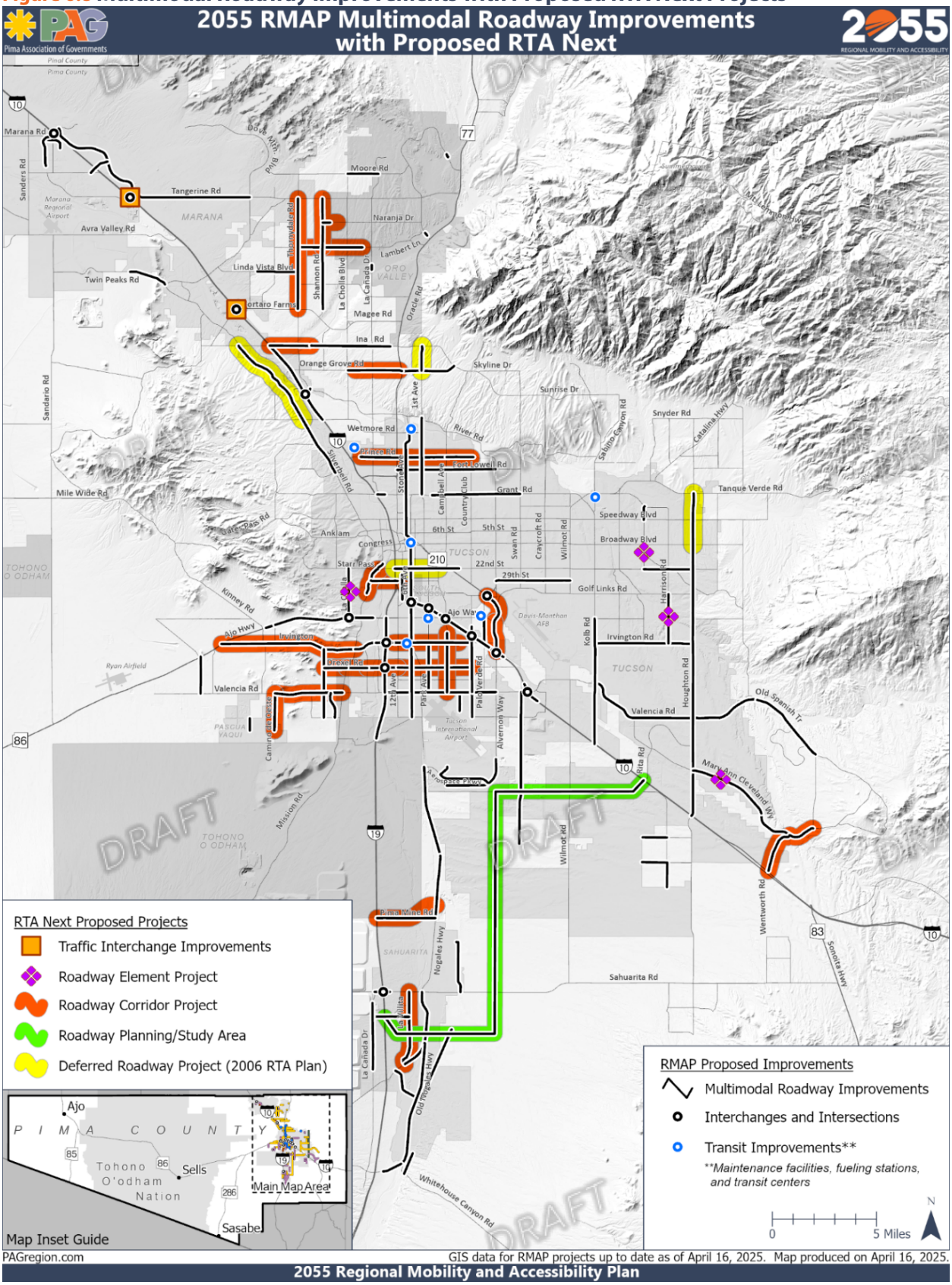
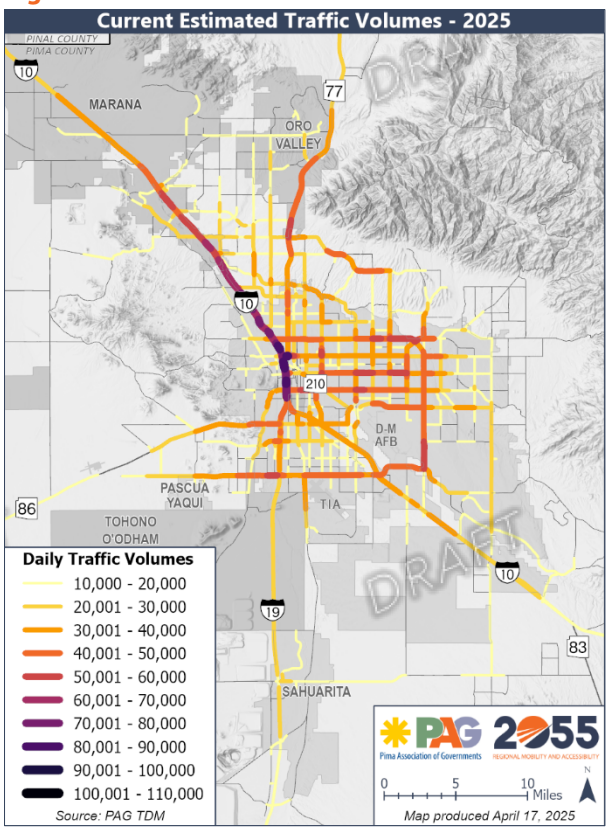


Figure 6.9 Current Estimated Traffic Volumes



Traffic Volume

With an expected population and employment increase, the region can also expect an increase in motor vehicles on our region's roadways. In-plan projects in the 2055 RMAP address increases in roadway capacity as well as alternative transportation to accommodate changes in traffic volume. **Figure 6.9** shows current estimated traffic volumes while **Figures 6.10** and **6.11** show expected traffic volumes under a "build" and "no-build" scenario for 2055 for in-plan projects.

Figure 6.10 Future Traffic Volumes - No Build

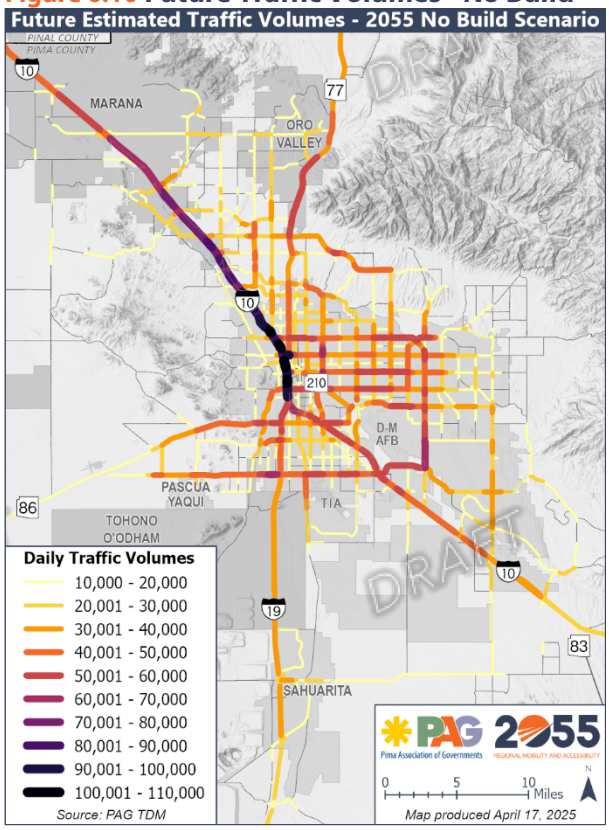


Figure 6.11 Future Traffic Volumes - Build

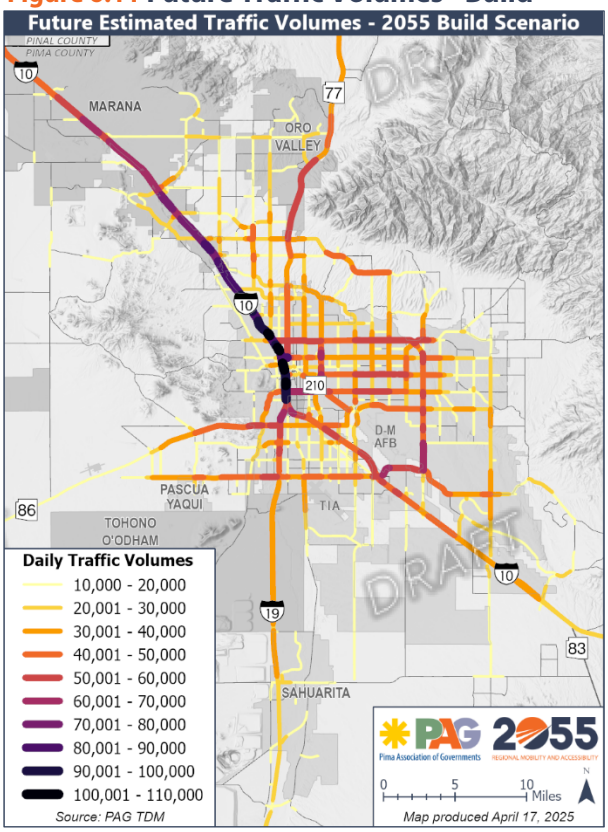
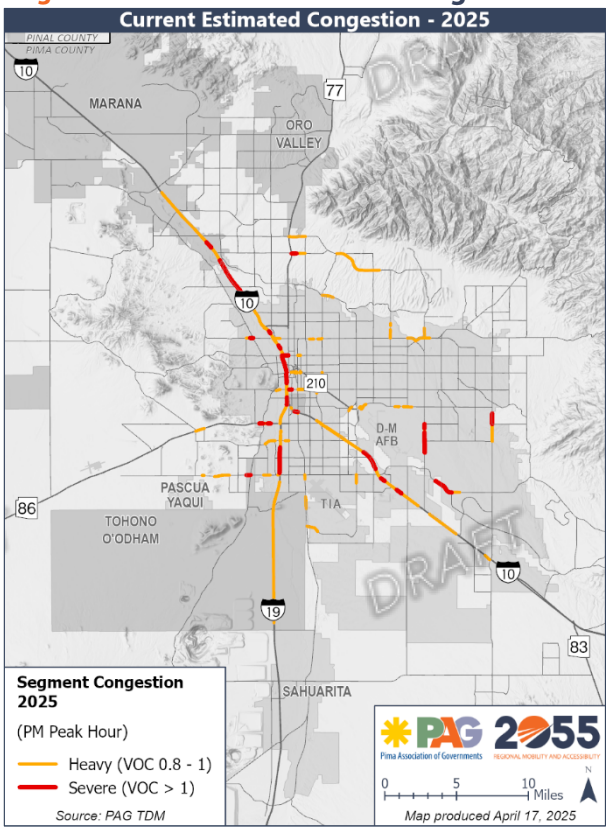


Figure 6.12 Current Estimated Congestion



Congestion

Part of evaluating the impact of transportation investment choices is comparing current evening peak congestion with what we expect in the future. According to the USDOT, congestion refers to excess vehicles on the roadway at a certain time that cause slower traffic speeds compared to normal "free flow" speeds. This RMAP models expected 2055 congestion levels both with and without the in-plan projects. The performance report in **Appendix 4** includes performance measures used to analyze congestion regionwide. These measures include travel time index, average transit speed, average transit travel time, freight travel time reliability, and the percentage of vehicle miles traveled under severe congestion. **Chapter 2** includes additional information about the congestion management process.

Figures 6.12, **6.13** and **6.14** show current evening peak hour congestion and what we can expect under a "build" and "no-build" scenario for 2055.

Figure 6.13 Future Congestion – No Build

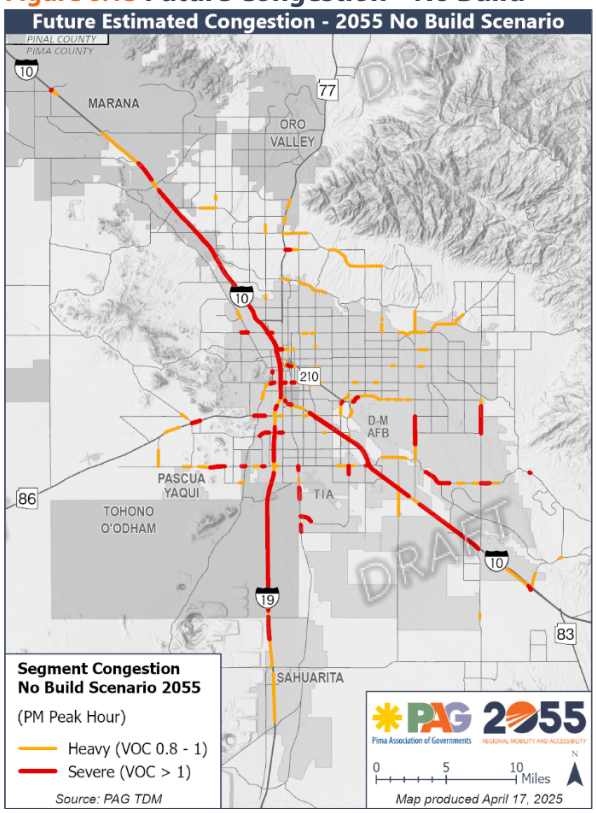


Figure 6.14 Future Congestion – Build

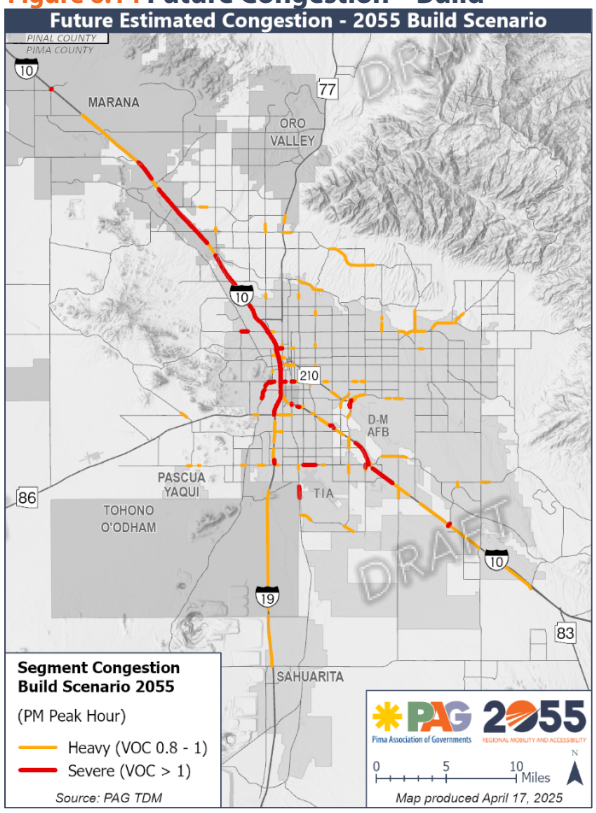
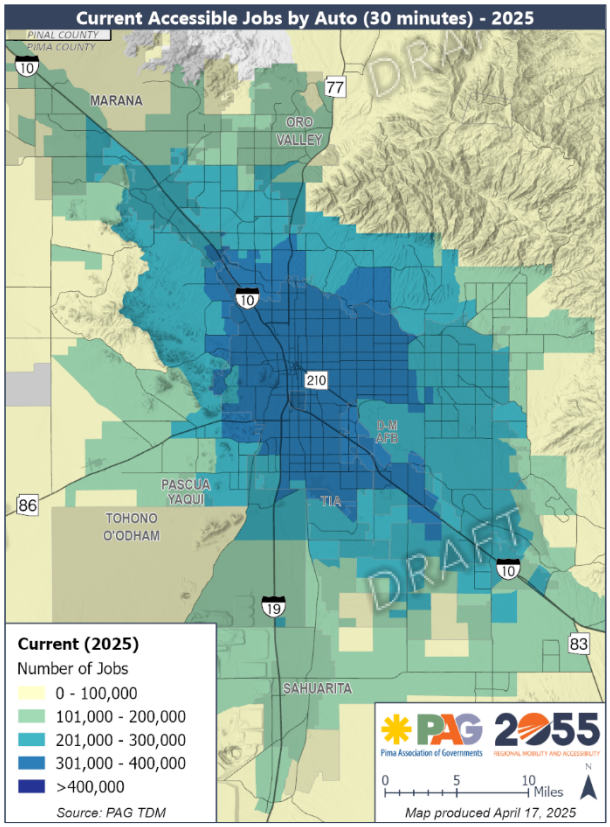


Figure 6.15 Current Job Accessible by Auto



Accessibility

It is important to understand the impact of transportation investments on how many jobs are accessible to residents in the region. As part of the 2055 RMAP, PAG evaluates how many jobs are currently accessible by auto within 30 minutes and jobs currently accessible by transit within 45 minutes. Similar to traffic volume and congestion, PAG evaluates the expected job accessibility in 2055 under "build" and "no-build" scenarios for auto and transit using the in-plan project list. **Figures 6.15**, **6.16** and **6.17** illustrate job accessibility by auto and **Figures 6.18**, **6.19** and **6.20** show job accessibility by transit.

Figure 6.16 Future Job Accessible by Auto – No Build

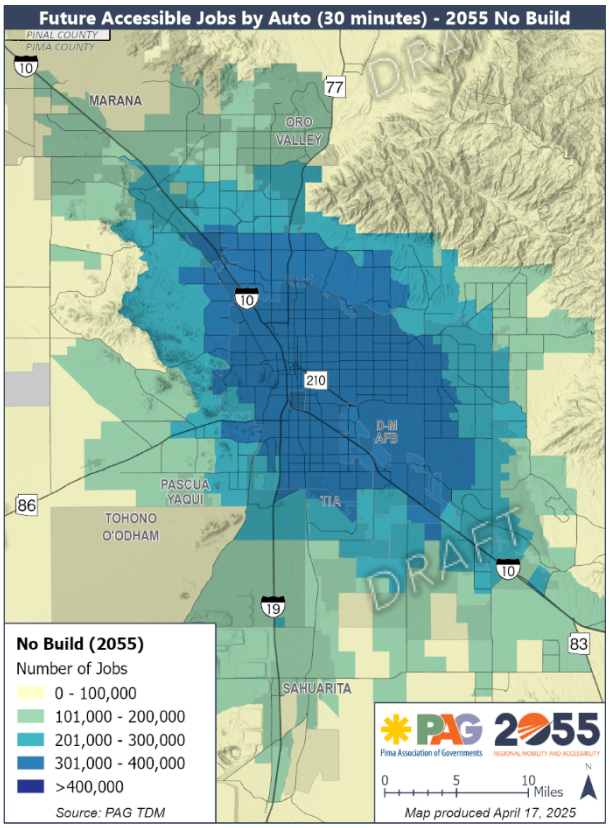


Figure 6.17 Future Job Accessible by Auto - Build

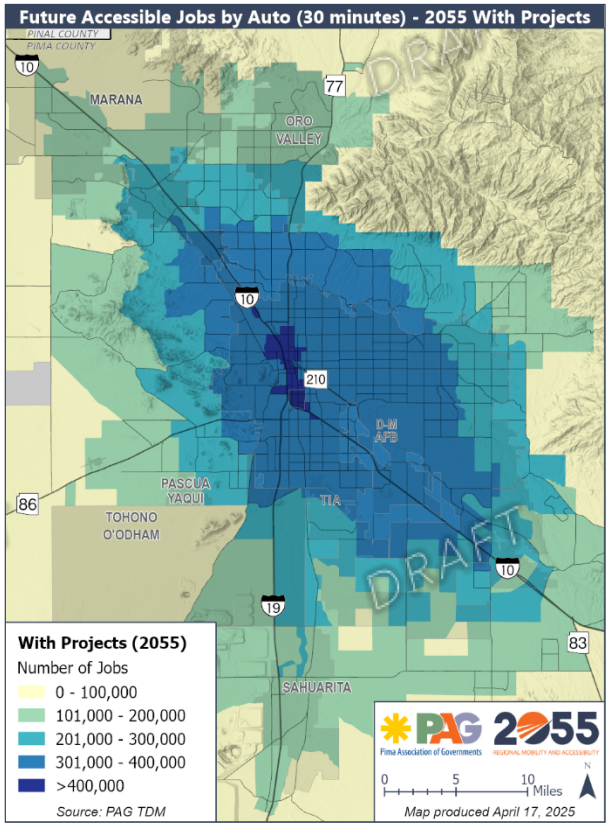


Figure 6.18 Future Job Accessible by Transit

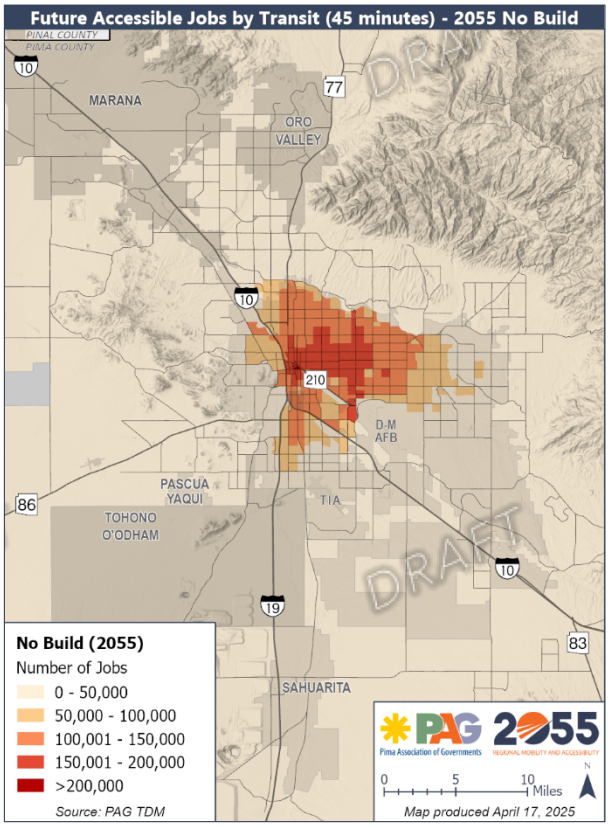


Figure 6.19 Future Job Accessible by Transit – No Build

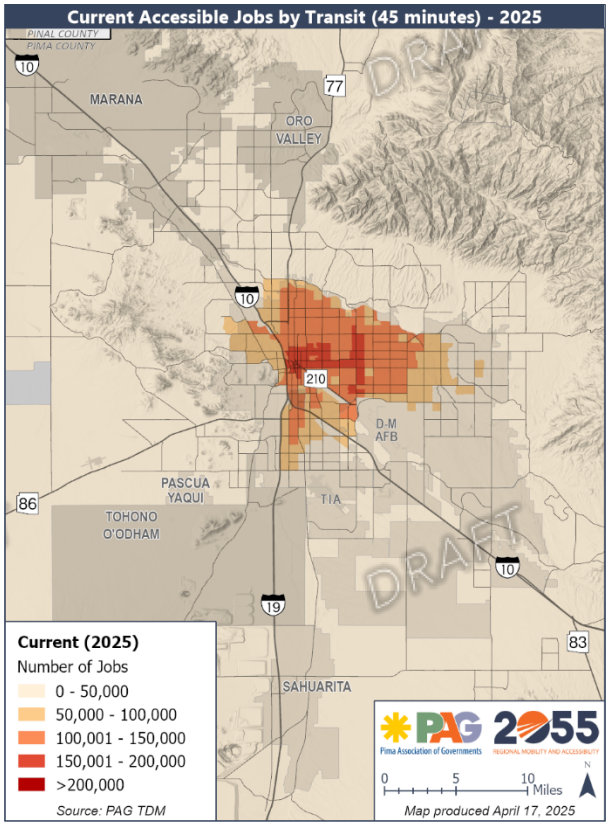
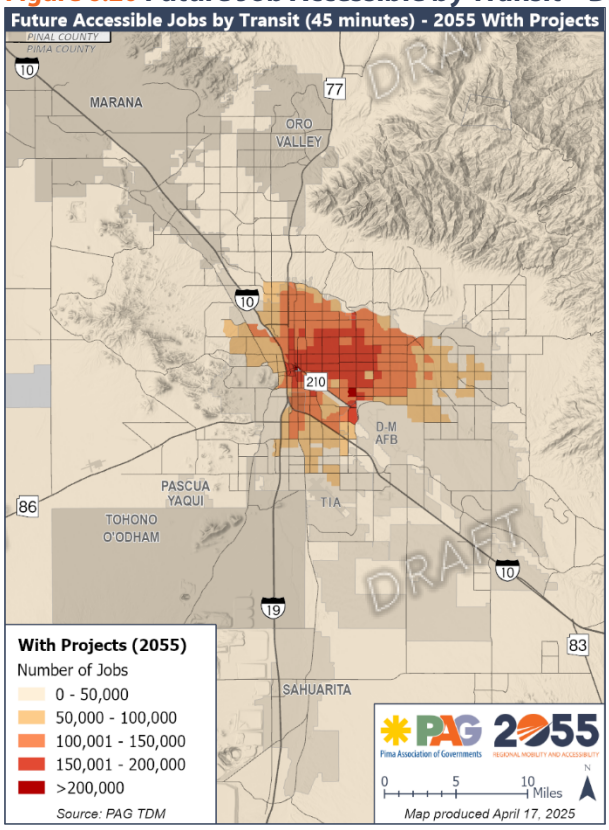


Figure 6.20 Future Job Accessible by Transit – Build



Active Transportation

Active transportation generally refers to human-powered, non-motorized travel such as walking, biking, micromobility, or using a mobility assistance device such as a wheelchair. With infrastructure that is safe and connected, active transportation provides alternative mode options that increase health benefits, improve air quality, and reduce motor vehicle roadway congestion. It is also critical that active transportation facilities connect to public transit to help close the "first mile" and "last mile" gap that can be a barrier to using public transit.

Figures 6.21 and **6.22** show major roadways in our region with existing, accessible sidewalks and major roadways where no sidewalks are present. Numerous roadway projects in the 2055 RMAP address the reconstruction or addition of sidewalks, including the addition of active transportation facilities on La Villita Rd. in the Town of Sahuarita. The *2055 RMAP* also allocates $400 million toward filling sidewalk gaps and additional maintenance and improvements such as lighting and landscaping.

Figure 6.21 Major Roadways with Accessible Sidewalks

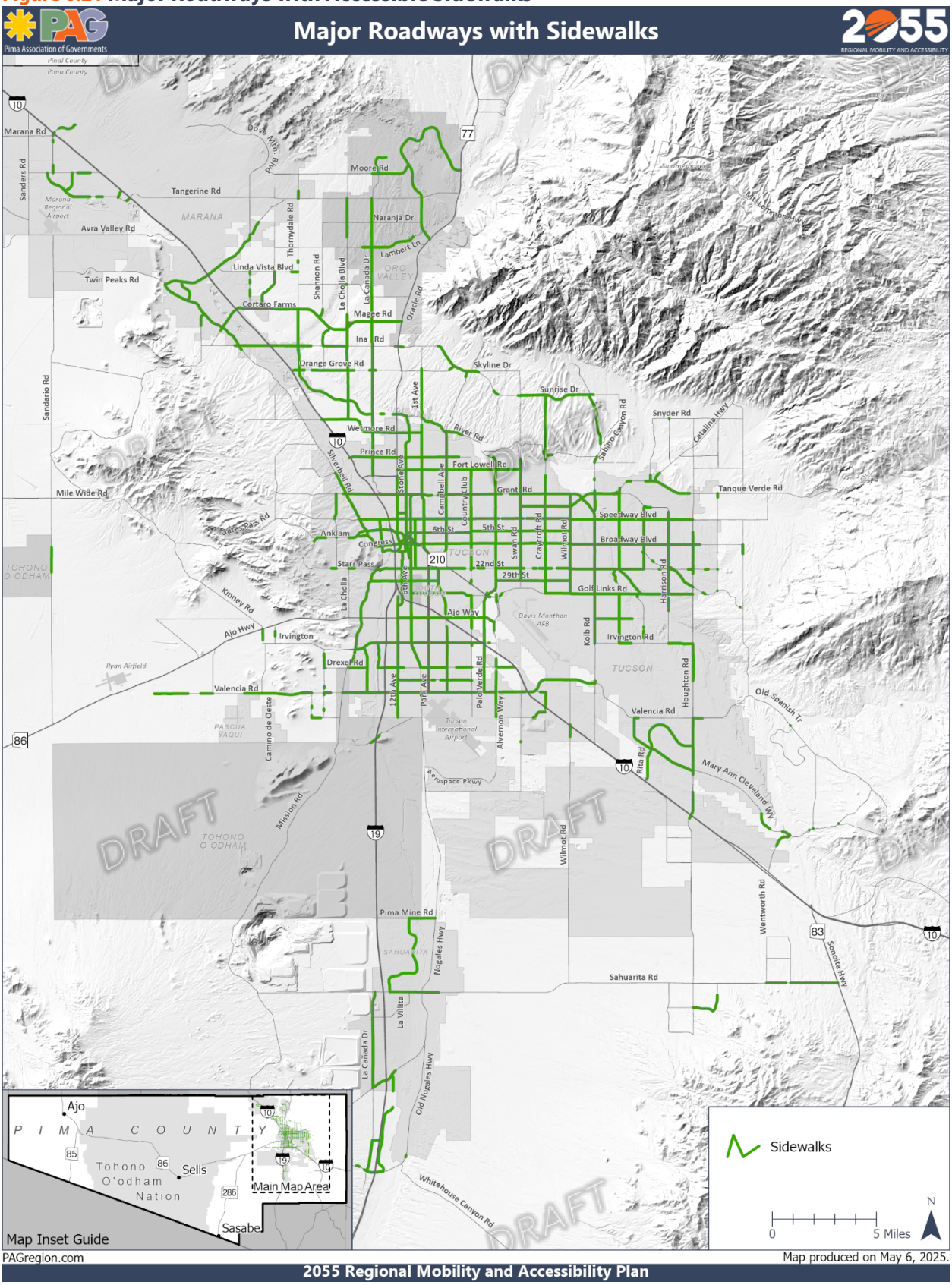
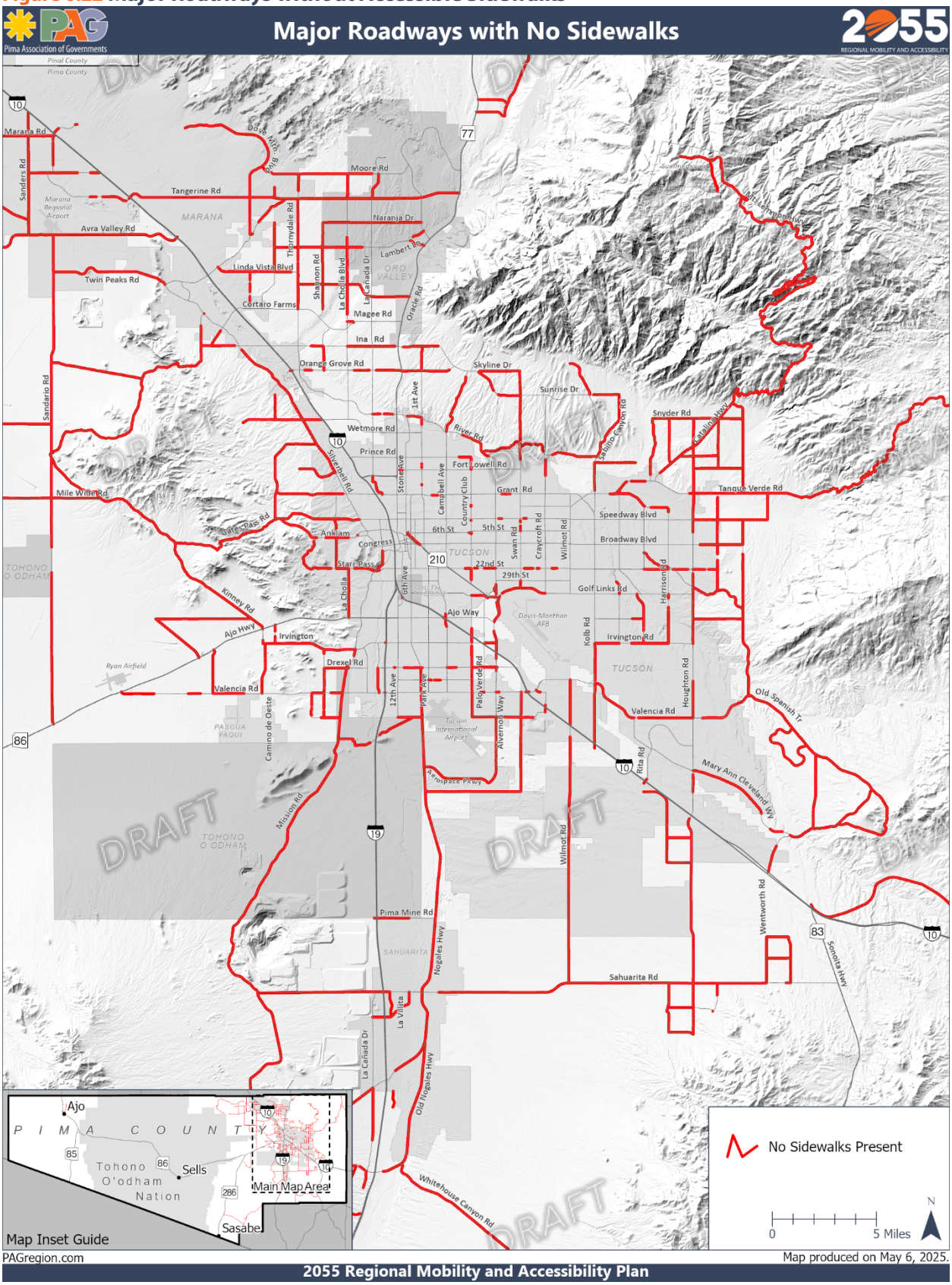


Figure 6.22 Major Roadways without Accessible Sidewalks



PAGregion.com

Map produced on May 6, 2025.

2055 Regional Mobility and Accessibility Plan

Figure 6.23 shows the existing bicycle infrastructure network. The 2055 RMAP includes $400 million for bicycle facility connectivity including filling gaps in the network and installing enhanced facilities such as protected bike lanes. Numerous roadway projects in the 2055 RMAP in-plan project list also include bicycle facility improvements, and funding for bicycle boulevards and shared-use paths is also included. The estimated active transportation facilities that could be constructed by RMAP categorical funding are shown in **Figure 6.24**. Proposed active transportation facility improvements are shown in **Figure 6.25.**

Figure 6.24 Estimated Regionwide Active Transportation Improvements

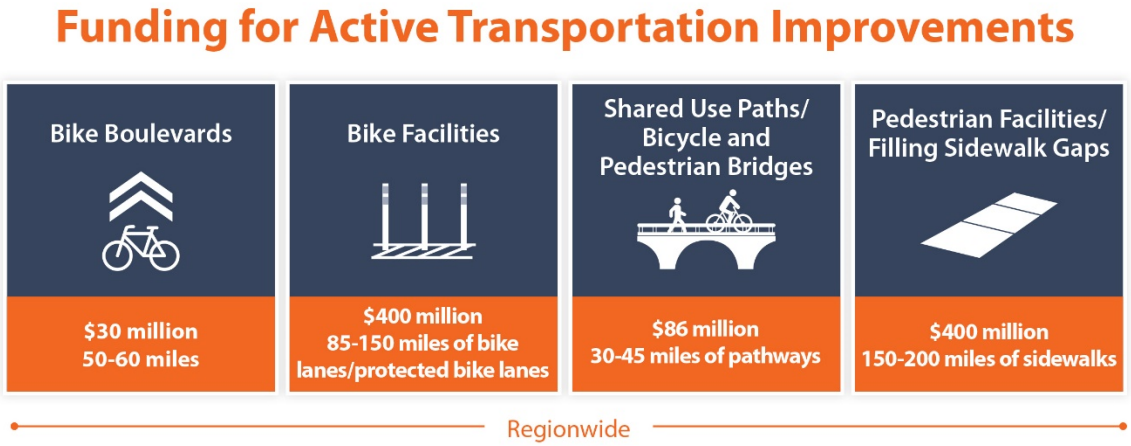


Figure 6.23 Existing Bicycle Facilities Network

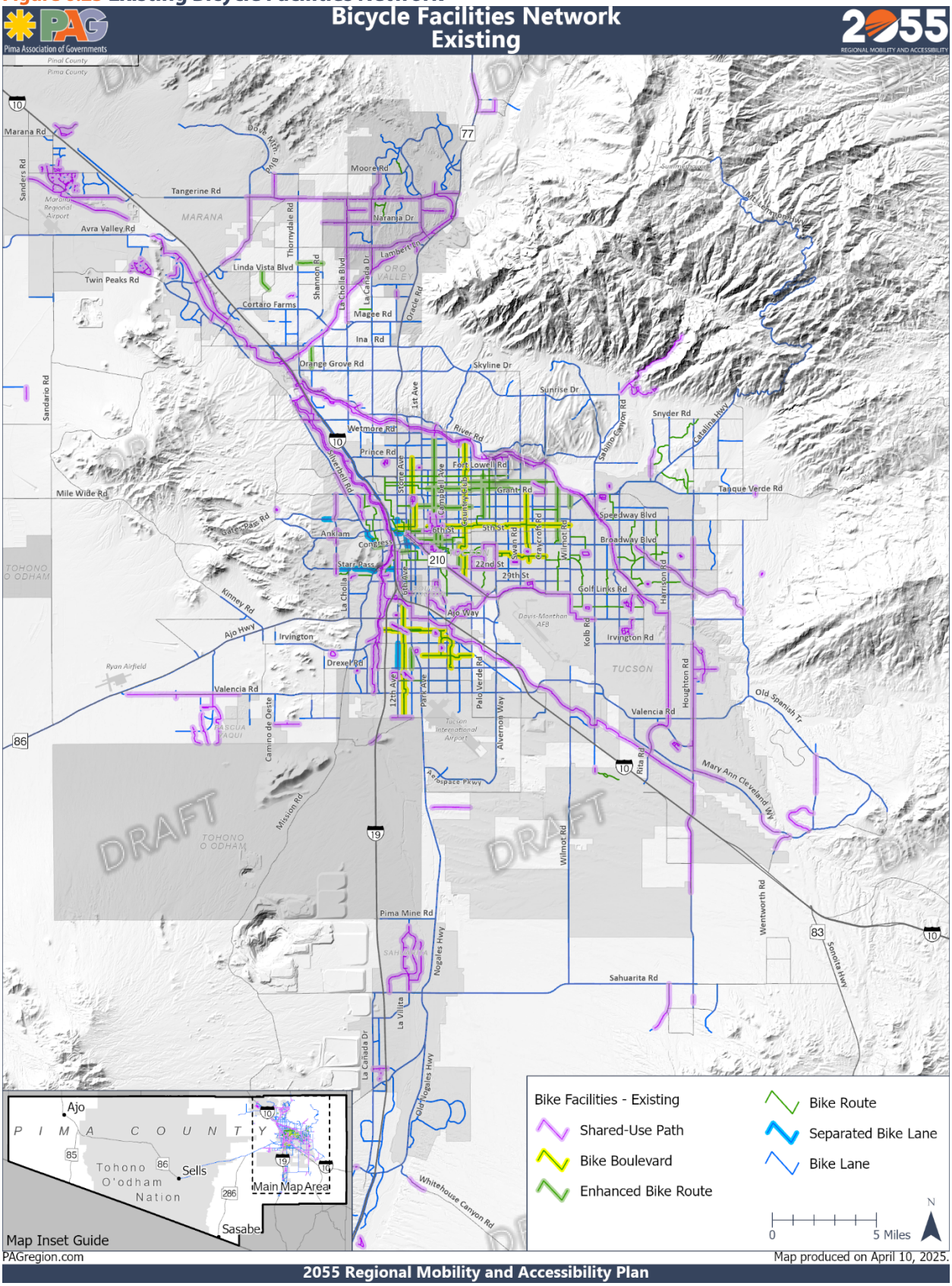
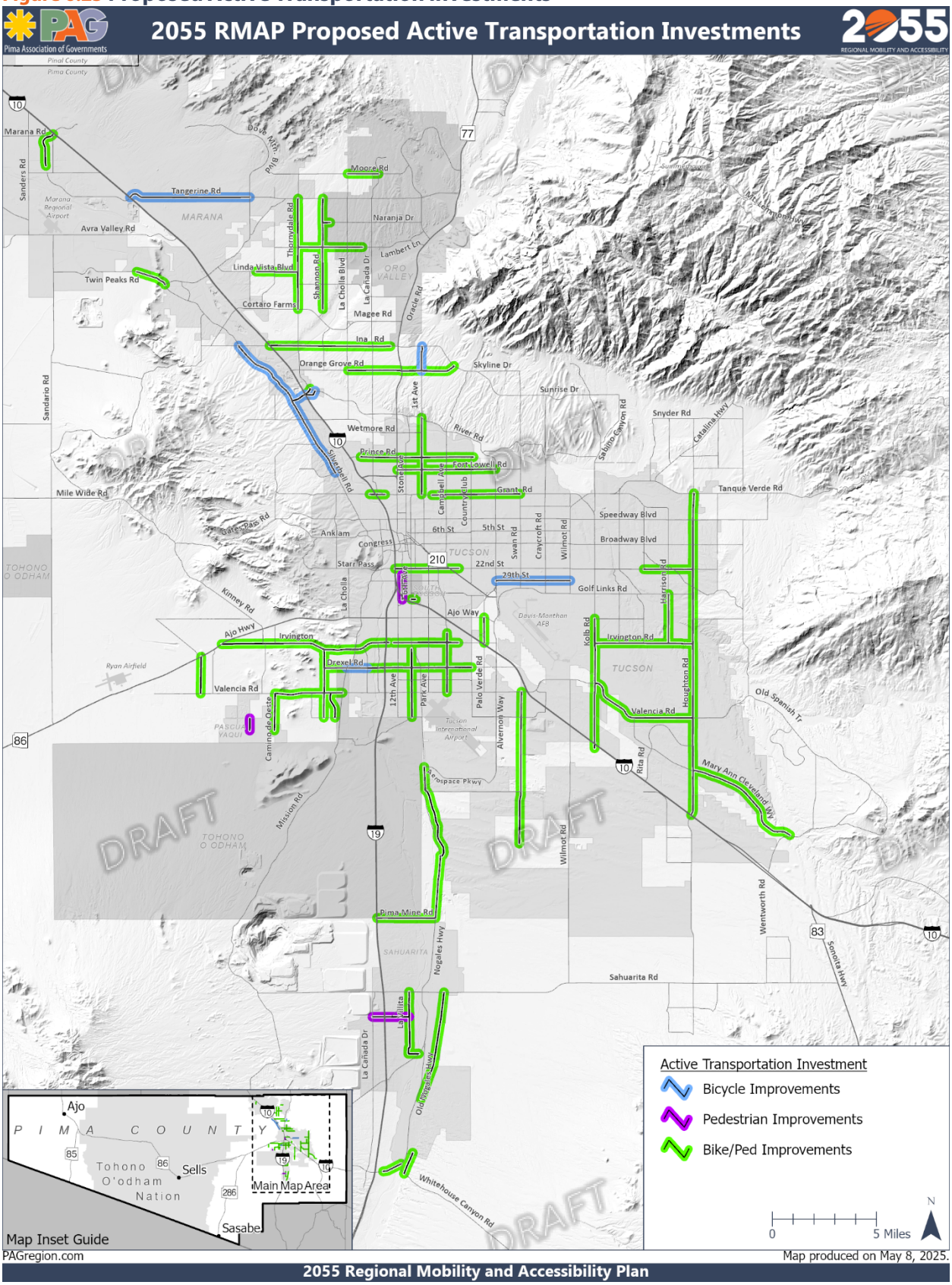


Figure 6.25 Proposed Active Transportation Investments

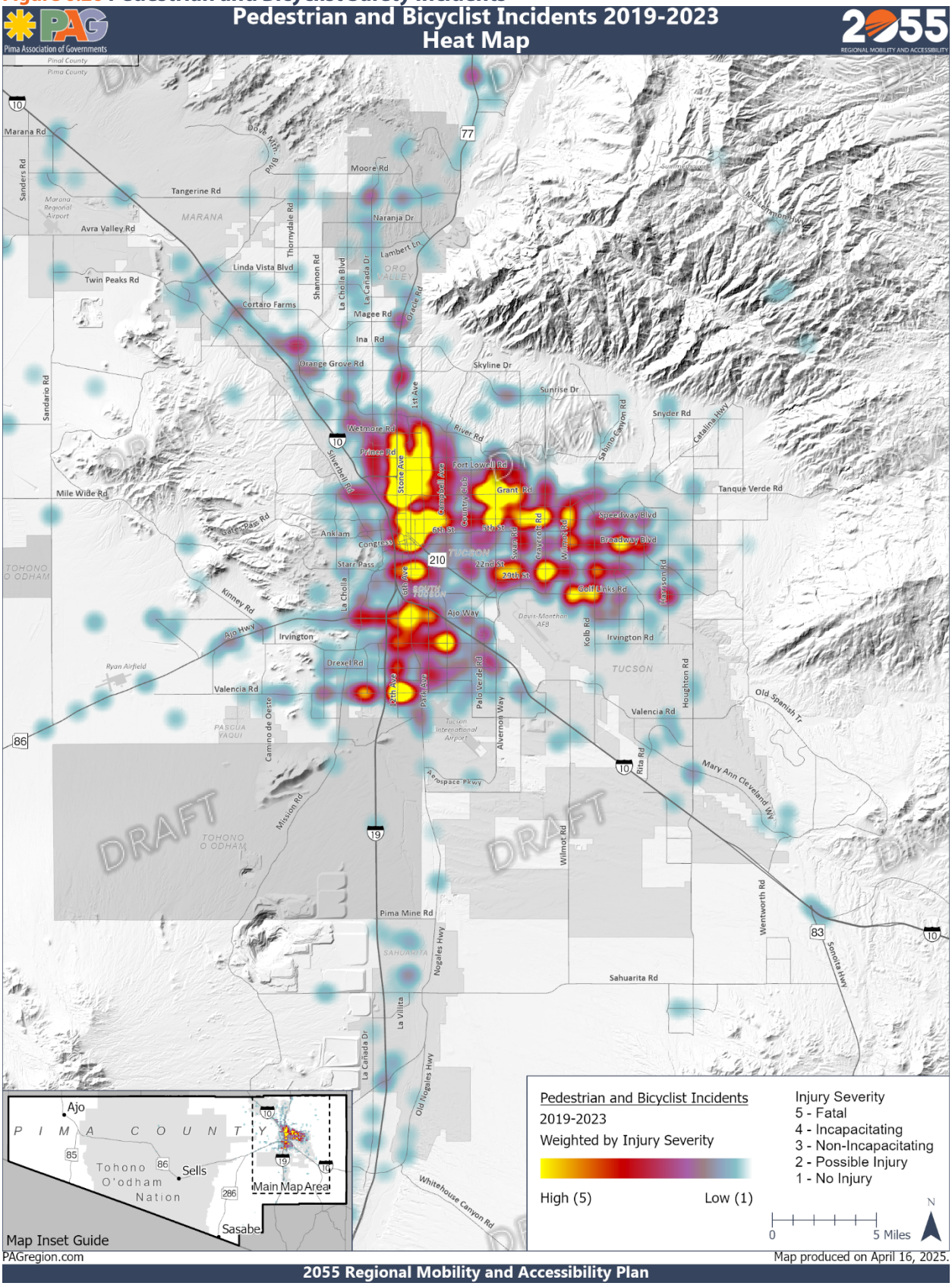


Safety

As detailed in **Appendix 4**, while the overall rate of serious injuries is declining, the number of fatalities is increasing and, overall, the region is trending away from the 2055 safety targets. In particular, bicyclists and pedestrians are at risk of fatalities and serious injuries. **Figure 6.26** displays the concentration of bicyclist and pedestrian incidents in our region from 2019-2023.

The 2055 RMAP includes $325 million in funding for multimodal safety enhancements to address this trend. Additional projects include improvements in signalization and modernization, both of which should also improve safety.

Figure 6.26 Pedestrian and Bicyclist Safety Incidents



Freight

Freight transportation is critical to the economic vitality of our region. Every day, trucks, rail cars, shipping containers and cargo airplanes carry products and raw materials that the region relies on. Efficient freight movement impacts the price of goods and regional competitiveness, with businesses weighing proximity to large markets, transport network access, and freight travel-time reliability when determining where to locate. Eastern Pima County is a transportation infrastructure nexus, located at a freight junction of national and international significance. As freight movement impacts congestion, traffic volume, safety and air quality, it is required as part of the long-range transportation planning process.

The Port of Tucson is a full-service intermodal facility offering rail, truck and air freight services. Located on the Union Pacific Railroad main line, it provides direct access to the Ports of Los Angeles and Long Beach, and the international border with Mexico. This connectivity reduces freight costs and customs delays.

Interstate 19 and the Union Pacific Railroad provide a direct connection to the U.S.-Mexico border at the Nogales port of entry with connections to the Ferromex rail lines. Interstate 10 and additional Union Pacific rail lines support freight movement to and from the north and east to other parts of the country. The Tucson International Airport (TIA) also operates 24/7 near the junction of two freeways. These components of freight movement and our unique geographic location work together to boost the region's economic vitality.

Figure 6.27 shows freight intensive employment centers and areas within a five-minute drive to interstates. **Figures 6.28** and **6.29** shows the freight travel-time reliability during the morning and afternoon peak periods based on the performance measure tracked as part of the RMAP in **Appendix 4.**

Figure 6.27 Freight Intensive Employment Centers

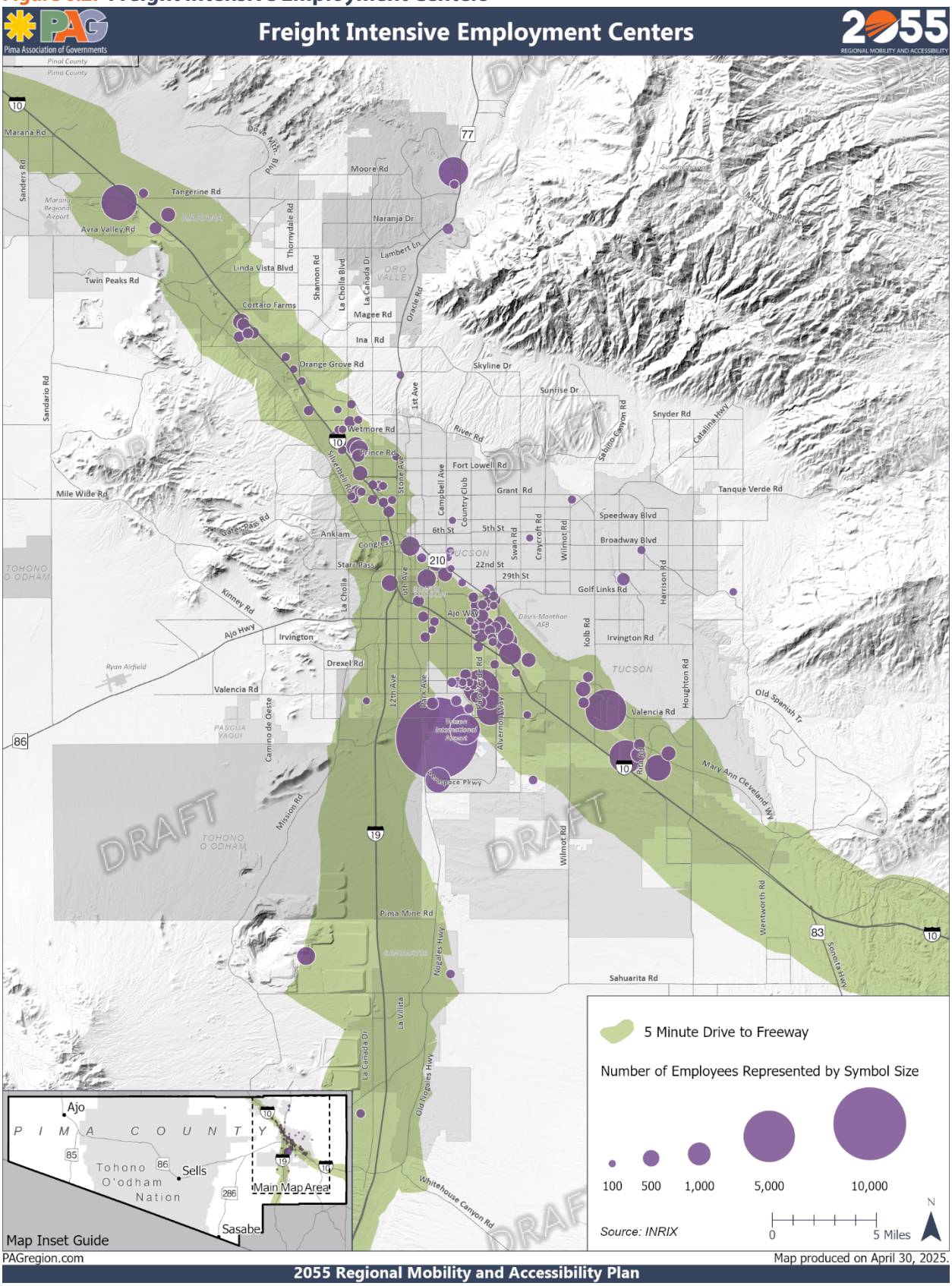


Figure 6.28 Morning Peak Hour Freight Reliability

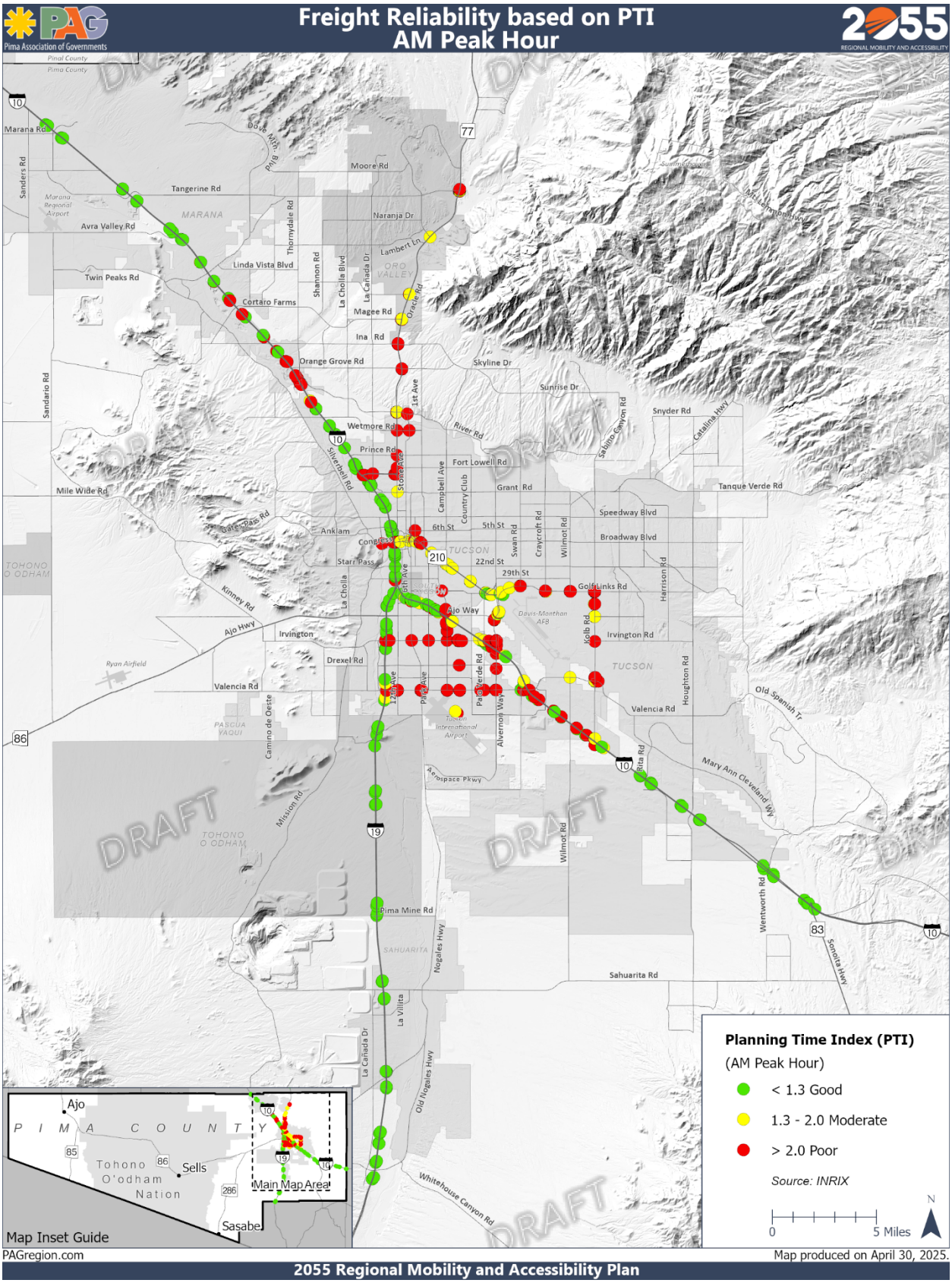
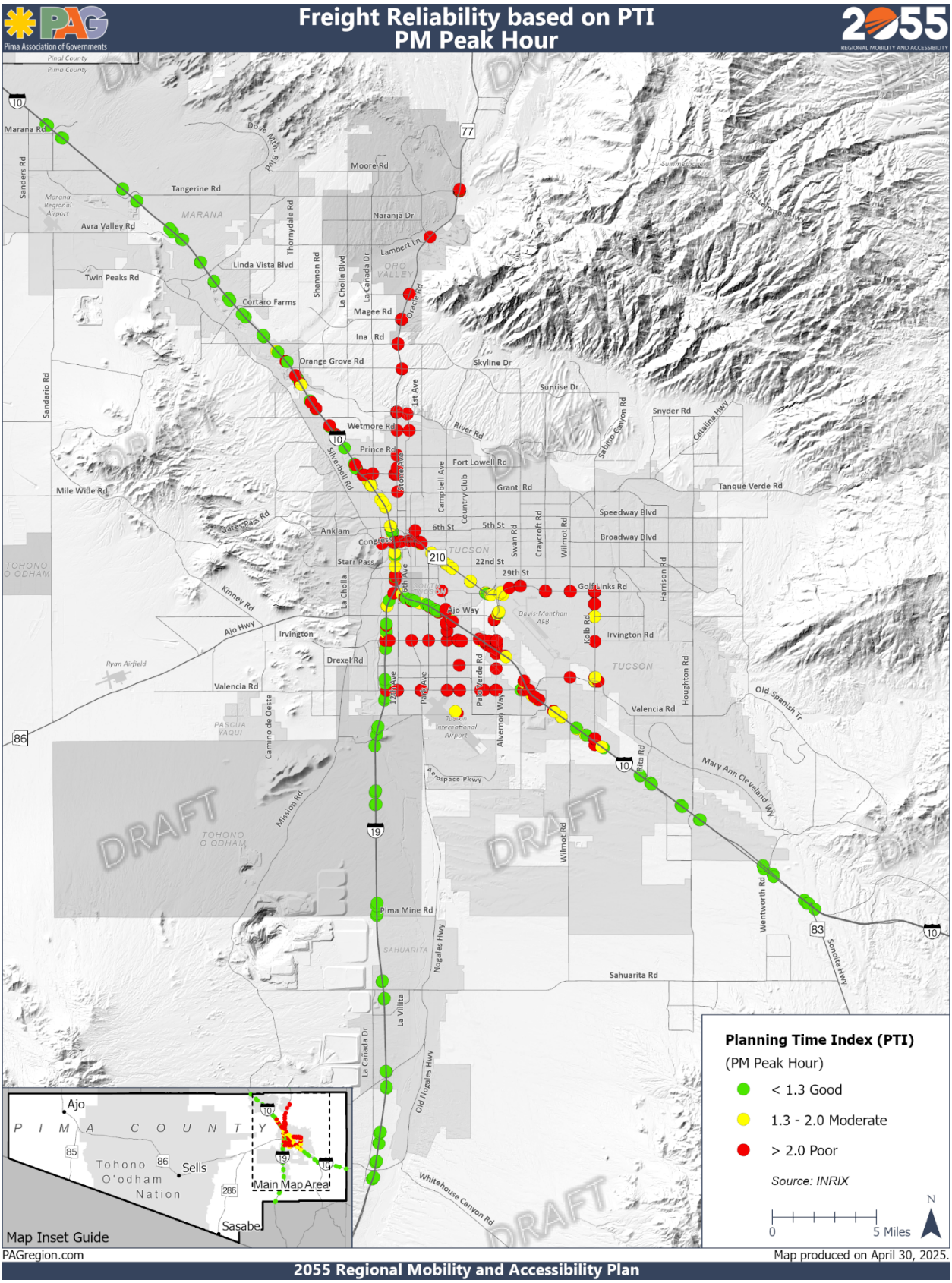


Figure 6.29 Afternoon Peak Hour Freight Reliability



Aviation

TIA is one of nine primary commercial service (PCS) airports in Arizona and the only PCS in Pima County. Ryan Airfield and Marana Regional Airport are general aviation reliever airports in Pima County, and the Eric Marcus Municipal airport in Ajo serves that community.

The aviation industry plays a significant role in the economy and transportation in the greater Tucson region through commercial aviation, aerospace manufacturing, and tourism. Aviation projects are included in **Appendix 3** and PAG worked with regional airport operators to include aviation improvements in the 2055 RMAP. Aviation projects were not considered as part of the financial analysis conducted for the 2055 RMAP because airports have their own mix of federal, state and local funding sources. Federal funding for aviation improvements is allocated directly to airports based on project evaluations performed by the Federal Aviation Administration (FAA). The Arizona State Transportation Board allocates state funding to airports through a separate process. As an MPO, PAG ensures that airports are connected with surface transportation facilities and services including roads and transit. Aviation projects are not included in the fiscally constrained in-plan projects list.

CHAPTER 7: TRANSIT

OVERVIEW

An essential part of our region's transportation network is public transit. Transit is a general term that encompasses all major forms of public transportation. In the greater Tucson region, this includes Sun Tran buses, shuttles and the Sun Link streetcar. Transit service in our region has grown significantly in recent years, including the launch of the Sun Link streetcar in July 2014 that connects the University of Arizona to downtown and expansion of express and on-demand service routes. For users of the system, transit services provide affordable mobility options, particularly with fares being free since March 2020 due to the COVID-19 pandemic. Transit has a positive impact on the environment by reducing traffic congestion and air pollution. Moreover, transit requires very little space, up to 10 times less road space per person compared to a typical sedan, and provides mobility options when a destination cannot be reached by foot, scooter or bicycle alone.

THE LONG-RANGE REGIONAL TRANSIT PLAN

A critical piece of our region's priorities for public transit investments is PAG's Long-Range Regional Transit Plan (LRRTP) which was approved by the PAG Regional Council in January 2020. That plan used a robust public engagement process involving workshops, open houses and surveys to develop the following recommendations to be implemented over three phases:

- Enhance the frequent transit network
- Frequent service seven days a week and more evening service
- Targeted service improvements to suburban transit routes
- Infrastructure improvements supporting speed, reliability and service quality

The LRRTP focuses on improving the transit network in the PAG region by expanding service routes, increasing frequency and providing infrastructure improvements over a 20-year timeframe. The plan estimates that approximately $1.4 billion is needed for these recommended improvements, although no funding sources are identified in the plan itself. The LRRTP findings are reflected in the RMAP in-plan project list by including, for example, funding to expand the transit service area and increase the hours of operation.

Also included in the LRRTP is a study PAG conducted in 2017 called the High-Capacity Transit Implementation Plan (HCTIP). High-capacity transit (HCT) is an optimized version of traditional public transportation and is characterized by the ability to carry a large volume of passengers and, in many cases, offers more frequent service and faster travel speeds. This study explored the viability of both a rapid streetcar line and bus rapid transit (BRT) in terms of ridership and land use patterns. The 2055 RMAP in-plan project list includes a proposed BRT route from the Tohono Tadai transit center to the Tucson International Airport with a connection at the downtown Ronstadt Transit Center.

HUMAN SERVICES COORDINATED TRANSPORTATION PLAN

Pima Association of Governments prepares and adopts a Public Transit-Human Services Coordinated Transportation Plan to guide transportation coordination in the region for older adults and persons with disabilities. The most recent plan was adopted by the Regional Council in 2022 to better understand the needs for wheelchair, paratransit, and low-income transportation. It aims to identify strategies to improve transportation services and coordination among the human services transportation providers in the region. Specific goals for the short-, medium- and long-term are included in the plan.

RIDERSHIP TRENDS AND EXISITING TRANSIT SERVICE

Overall, transit ridership has been declining both in the greater Tucson region and nationally for several years. The significant drop from FY 2019 to FY 2020 can in part be attributed to the global COVID-19 pandemic. Although ridership during and following the pandemic decreased significantly, Sun Tran has started to see a steady increase in ridership, which is mostly back to pre-COVID-19 levels. The Sun Tran system has recently made a concerted effort to modernize its website, launch an app to track vehicles in real time, and improve safety for both drivers and passengers. Lastly in 2024, Sun Tran completed a Transit Comprehensive Operational Analysis (COA) to determine potential improvements and proposed transit changes to best serve the needs of the community. The COA evaluated Sun Tran buses, the Sun Link streetcar, Sun Express and Sun Shuttle services. This effort included 11 months of public outreach and seven public meetings.

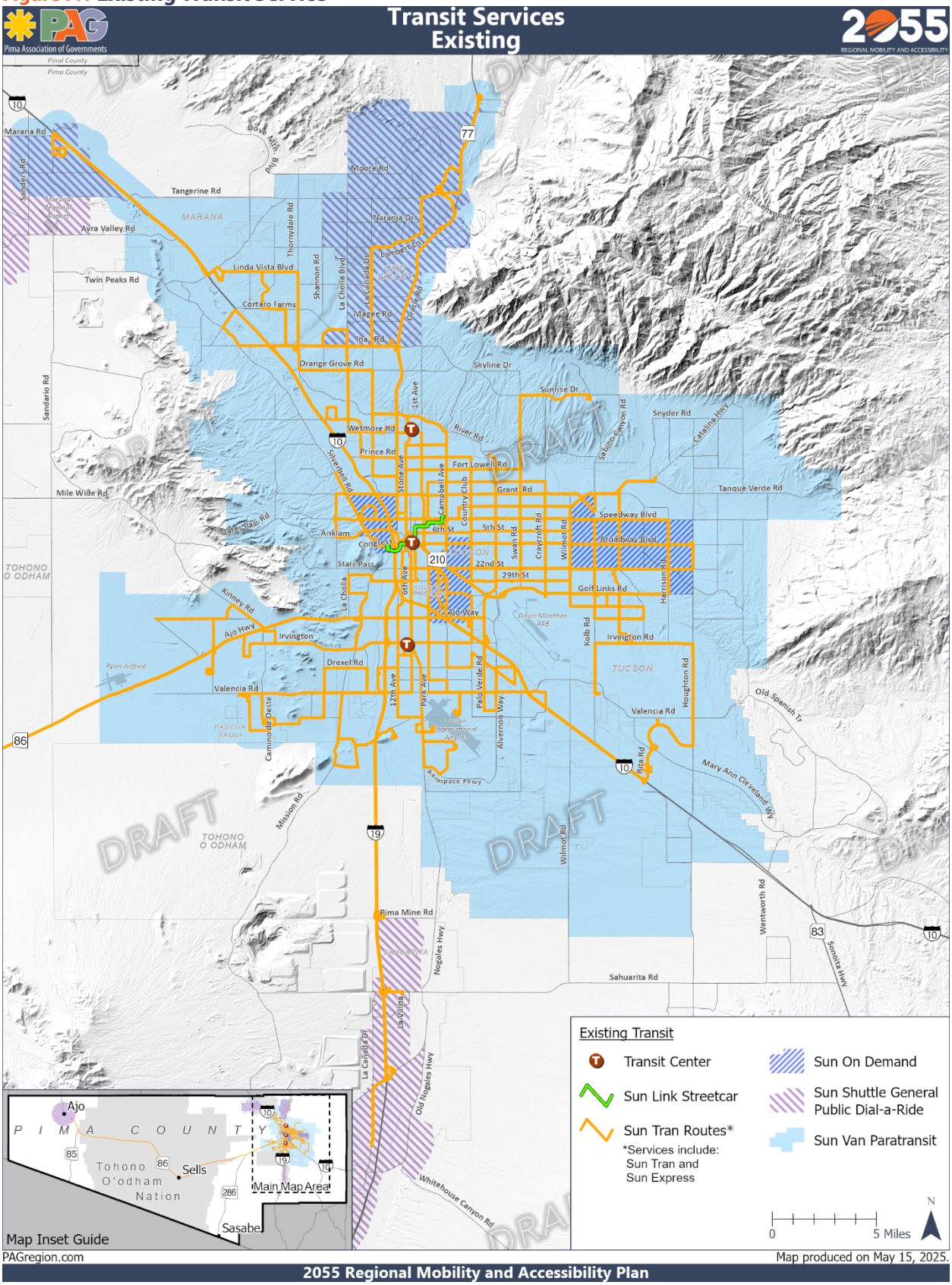
Public Feedback on Transit

During the 2055 RMAP public engagement process, the public provided input on the future of our region's transit system. A few key survey results are below:

- *Approximately 54% of survey participants indicated they rarely or never use transit and 7% indicated they use transit daily.*
- *For the group that selected transit as their usual transportation mode, survey participants selected costs (18%) and access to frequent transit near me (17.5%) as the most common reasons for using transit followed by environmental concerns (14.8%) and distance of travel (13.8%).*
- *22% of respondents indicated that having more transit service near their home or destination would motivate them to try transit if they don't regularly use it. This was followed equally at 18% by "more convenient routes/times" and "if transit got me to my destination faster."*

The following section details the existing public transit system in the greater Tucson region and service specific ridership data. **Figure 7.1** shows existing fixed-transit routes that include Sun Tran, Sun Shuttle, Sun Express and Sun Van. **Figure 7.2** shows proposed transit service changes that resulted from the COA effort mentioned above with the addition of the BRT line. **Figure 7.3** shows the existing population density within a quarter mile of a transit stop.

Figure 7.1 Existing Transit Service



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Map produced on May 15, 2025.

2055 Regional Mobility and Accessibility Plan

Figure 7.2 Proposed Transit Services

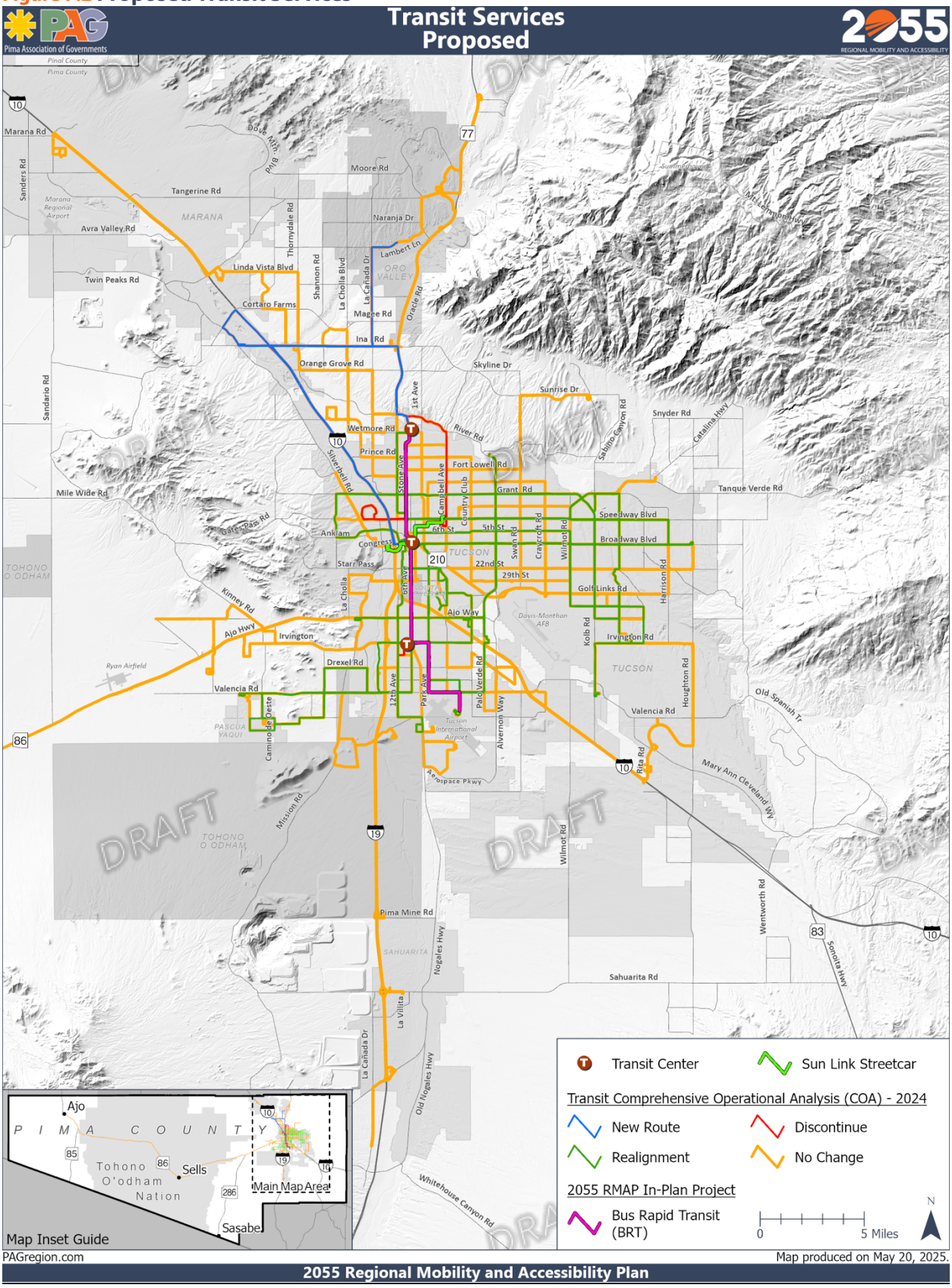
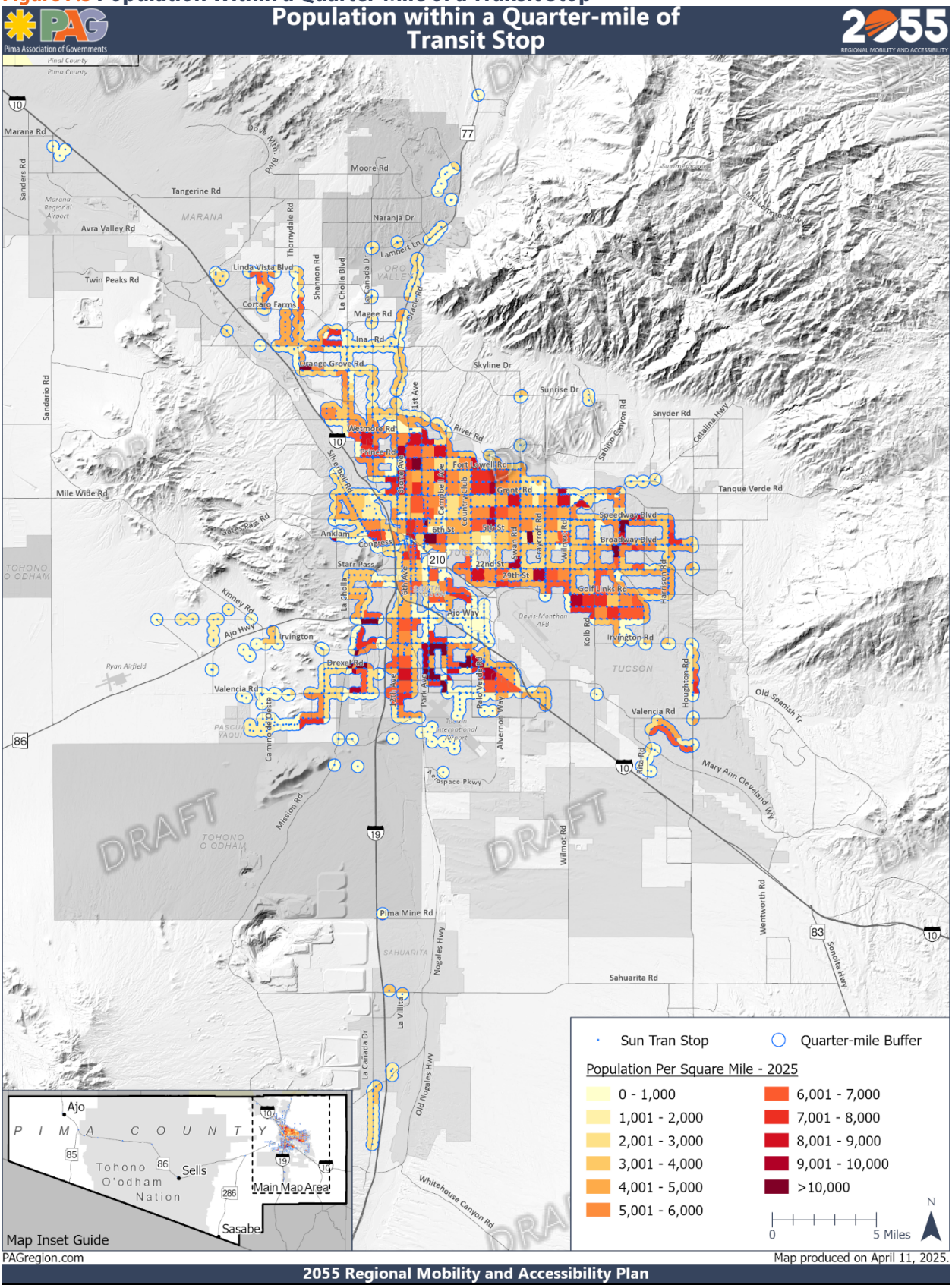


Figure 7.3 Population Within a Quarter-Mile of a Transit Stop

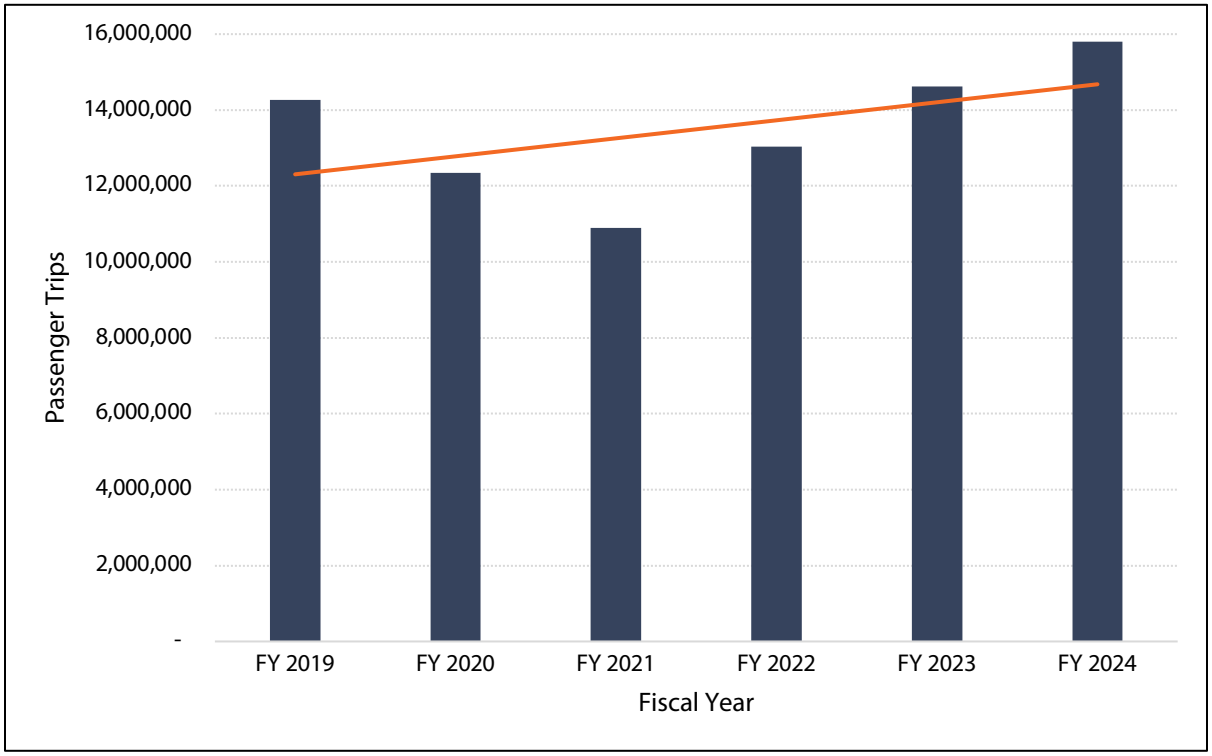


Sun Tran and Sun Express

Sun Tran, with a fleet of 185 buses and 560 employees, 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 and Town of Oro Valley, and for the Tohono O'odham Nation, and Pascua Yaqui Tribe. As of January 2025, the system has 41 fixed routes including 12 express routes that cover a 335-square-mile area. All Sun Tran buses use cleaner burning fuels, are fully accessible to people with disabilities and include bike racks. Recently, fully electric buses have been added to the Sun Tran fleet, continuing a transition to a more sustainable operation.

In FY 2024, the Sun Tran system provided 15,793,573 passenger trips, an 8% increase from FY 2023 (14,615,275 passenger trips). See **Figure 7.4** below showing a general increasing trend in ridership.

Figure 7.4 Annual Sun Tran and Sun Express Ridership



**The orange line represents the ridership trendline from FY 2019 to FY 2024.*

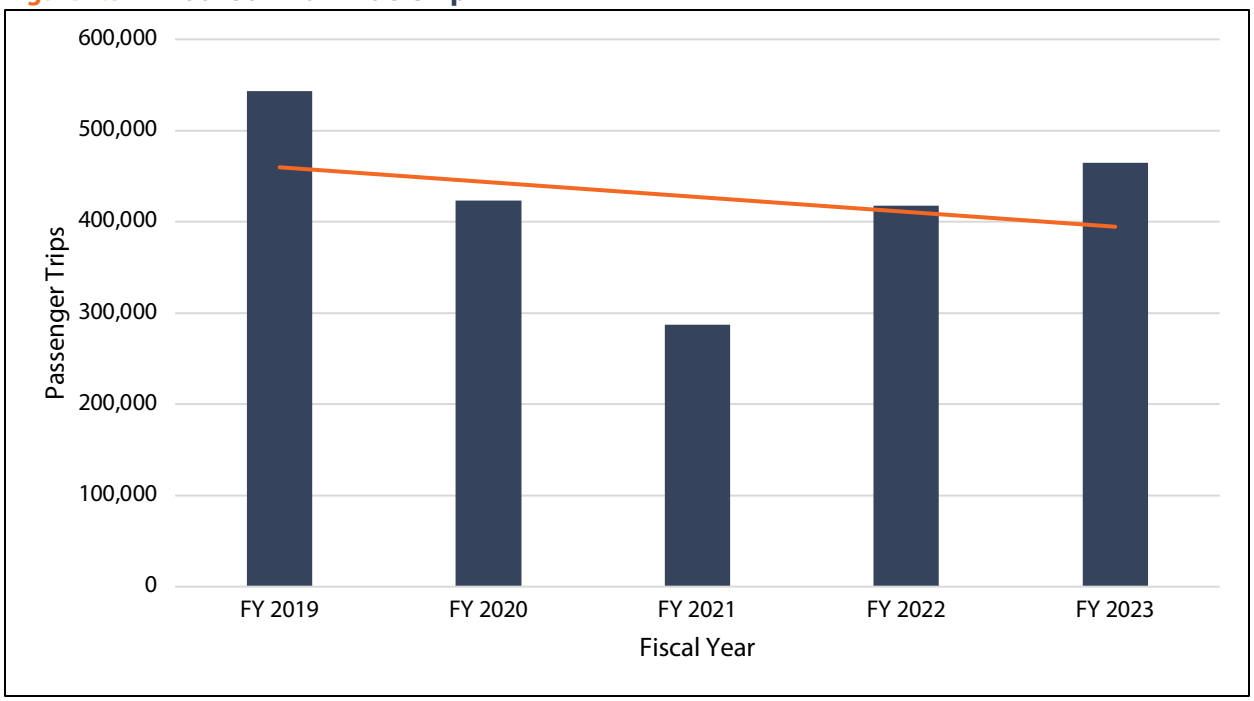
Sun Van

Sun Van is the City of Tucson's complementary paratransit service to individuals who, because of a 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. In addition to the ADA-required three-quarters of a mile service area, Sun Van also provides an optional ADA service within the remainder of the City of Tucson for trips beyond the service area or beyond the hours of operation for nearby fixed-route service.

As of January 2025, Sun Van operates with approximately 187 employees, providing service to the Tucson metropolitan area, portions of Pima County, and the City of South Tucson with a fleet of 136 vehicles.

In FY 2024, Sun Van provided 506,164 passenger trips, a 9% increase from FY 2023 (464,538 passenger trips). While this is a decrease from FY 2019 ridership (543,246 passenger trips), ridership has been increasing following FY 2021 shown in **Figure 7.5** below. However, the trend overall has been a decline since FY 2019

Figure 7.5 Annual Sun Van Ridership



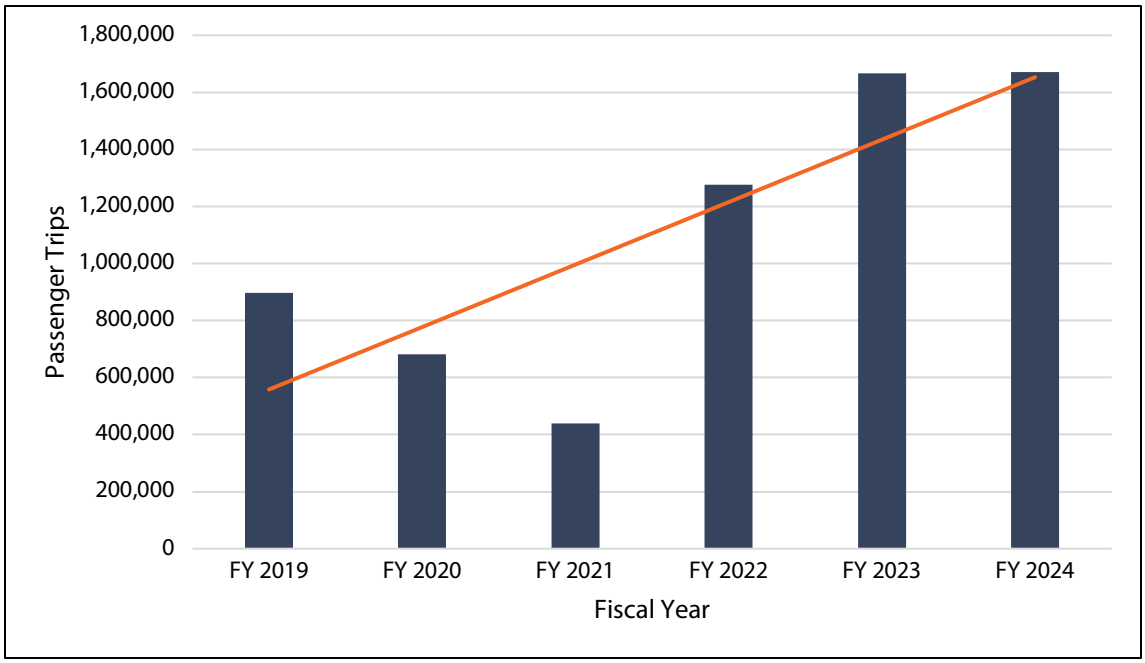
**The orange line represents the ridership trendline from FY 2019 to FY 2024.*

Sun Link Streetcar

The Sun Link streetcar service began in 2014 and provides daily service to Tucson's key entertainment and commercial districts along a 3.9-mile route, 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 approved by Pima County voters in 2006 and was funded by multiple sources, with the RTA being the single largest contributor. It is the region's first high-capacity transit line with a fleet of eight streetcars and 42 employees.

Since 2014, ridership has exceeded pre-launch projections with an average daily ridership of approximately 4,000 passenger trips. In FY 2024, Sun Link ridership recorded 1,671,376 passenger trips, a slight increase from FY 2023 (1,667,159 passenger trips) and the highest recorded ridership in its 10-year history (see **Figure 7.6**).

Figure 7.6 Annual Sun Link Ridership



**The orange line represents the ridership trendline from FY 2019 to FY 2024.*

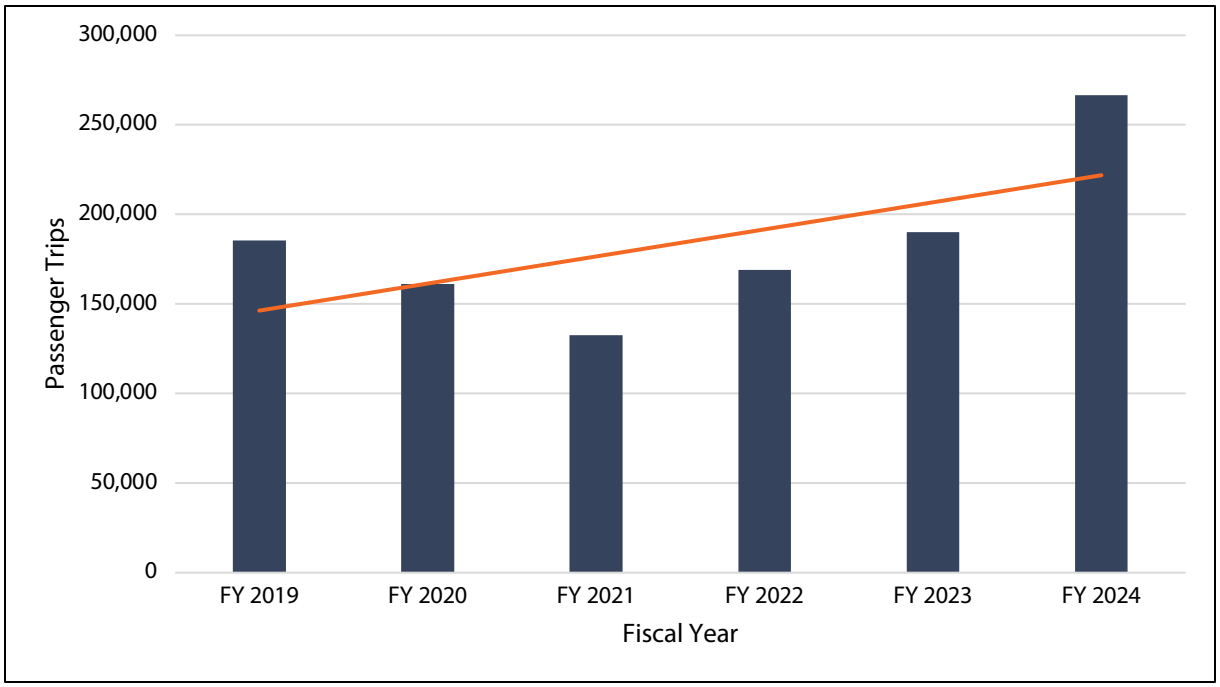
Sun Shuttle

Sun Shuttle is a neighborhood fixed-route transit service in the Town of Marana, the Town of Oro Valley, Catalina, the Town of Sahuarita, Green Valley, and rural western Pima County that provides rides within neighborhoods. Funded by the RTA, it was launched in 2009 and connects passengers to other Sun Tran routes and destinations within their communities.

Sun Shuttle also offers a public dial-a-ride service that offers a demand-response service more appropriate to the needs of customers in the Town of Oro Valley, Green Valley/Sahuarita, Marana/Avra Valley and Ajo/Why areas.

Total ridership on fixed-route and public dial-a-ride services for FY 2024 was 204,830 trips, an 8% increase from 190,075 trips in FY 2023 (see **Figure 7.7**).

Figure 7.7 Annual Sun Shuttle Ridership



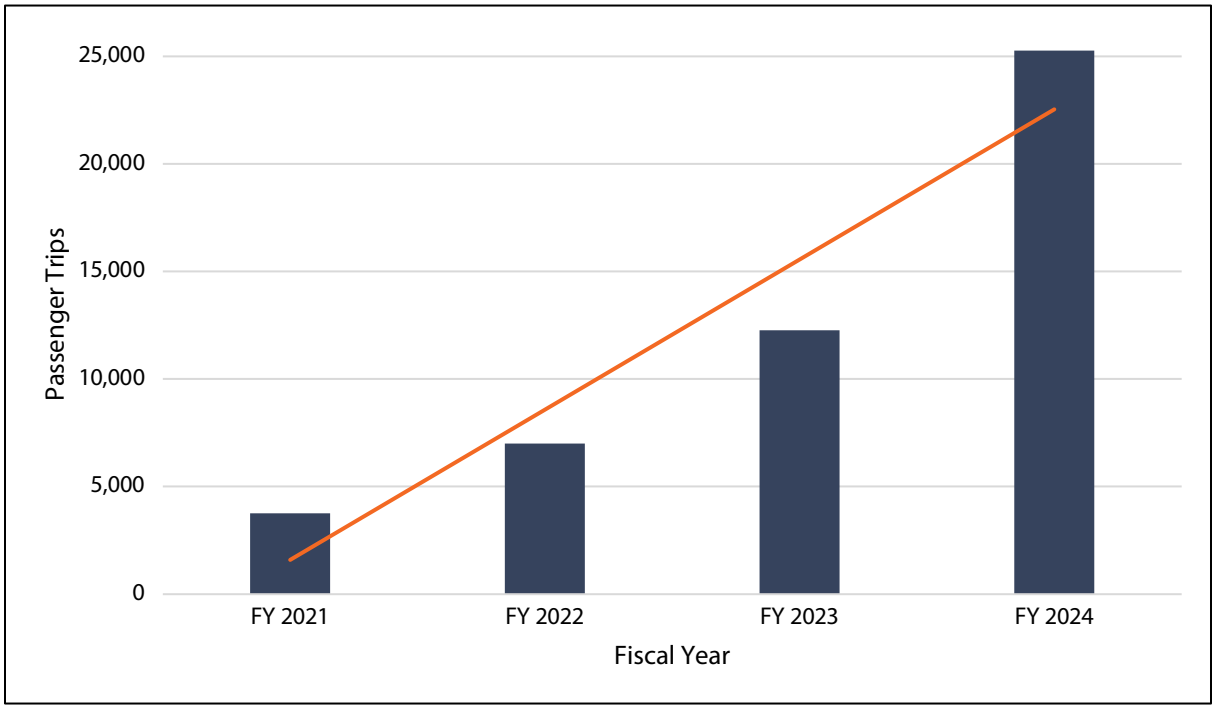
**The orange line represents the ridership trendline from FY 2019 to FY 2024 for fixed-route and public dial-a-ride service only.*

Sun On Demand

In November 2020, Sun Van launched a pilot program for a door-to-door transportation service that provides a more flexible way for riders to travel to nearby destinations within Tucson's 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.

The Sun On Demand service continues to expand to better meet the needs of riders in the City of Tucson service area and as of January 2025 operates with a fleet of six vehicles and nine employees. In FY 2024, the Sun On Demand provided 25,257 passenger trips, a 105% increase from FY 2023 (12,270 passenger trips). Refer to **Figure 7.8** below showing ridership.

Figure 7.8 Annual Sun On Demand Ridership



**The orange line represents the ridership trendline from FY 2021 to FY 2024.*

A REGIONAL CHALLENGE – FUNDING FOR TRANSIT

Transit operations and maintenance are typically funded from a variety of sources, including fares paid by riders, Federal Transit Administration (FTA) grant programs, the RTA, advertising revenue, contributions from regional jurisdictions, MOEs with Pima County and Marana, and the City of Tucson general fund. Transit fares have been free since the start of the COVID-19 pandemic in March 2020, and the future of fare funding is uncertain.

The transit needs in our region are great and exceed the projected revenue over the life of the plan. It is estimated that the cost to meet all transit needs over the next 30 years is approximately $10 billion. Approximately $5.5 billion has been identified to fund transit projects for our region in the 2055 RMAP including maintaining existing service, service expansion, and improving and modernizing transit facilities.

The 2006-voter approved RTA plan has been a foundational funding source for the region's public transit system. The RTA provides funding for the expansion of express Sun Tran routes, improvements in fare collection (as applicable), construction of bus pullouts, has made the deployment of the Sun Shuttle fixed-route and dial-a-ride services possible, and provided funding for the Sun Link streetcar construction. Approximately $30 million is provided by the RTA annually for regional transit services.

With the expiration of the current RTA plan set for the end of June 2026, the RTA Next plan would provide $610 million in transit funding over the life of the plan (until 2046) if approved by voters in

spring 2026. If the RTA Next plan is not approved by voters, funding for previously funded RTA transit projects and services must come from another funding source or the services provided will need to be heavily reduced or fully eliminated.

A continuing challenge facing the region is that costs for providing transit services are increasing faster than some revenue sources. The shortfall is often made up through Tucson general fund contributions, already the largest single source of transit funding in the region. Looking forward, it may be necessary to explore additional revenue sources to maintain and improve transit service in the future, particularly given the uncertainty of RTA Next at this time.

2055 RMAP TRANSIT PROJECTS

Adequate funding for both operations and maintenance is necessary to maintain the quality of the transit system. It is also important to regularly evaluate the services offered so they can be modified or expanded to ensure they provide cost-effective solutions that meet our region's changing transportation needs.

Public transit continues to be a regional priority with maintenance and more frequent and expanded service at the forefront of our regional community's needs. The majority of transit funding for the 2055 RMAP, approximately $3.4 billion, is for maintaining current levels of transit service for the next 30 years. This includes maintaining the fixed-route Sun Tran bus service, Sun Van paratransit service, the RTA-funded Sun Shuttle services, and the Sun Link streetcar. The outcome of RTA Next will determine if existing transit services will be impacted or if other revenue sources are necessary to fill the funding gap.

As described previously, transit needs exceed the available revenue provided for transit projects. Because this plan must be fiscally constrained, not all needs can be included within the "in-plan" project list. Examples of key transit projects included in this plan that work to achieve our region's long-term vision and goals are summarized below:

Examples of 2055 RMAP projects that will retain the quality of existing services:

- Replacement of transit vehicles
- Operations and maintenance of existing Sun Tran levels of service regionwide
- Maintenance of transit facilities and transit centers

2055 RMAP Proposed Regional Transit Improvements:

- Expansion of fixed-route bus system for increased service area and frequency
- Transit infrastructure improvements including pedestrian connections, bus turnarounds, amenities, and park-and-ride lots
- High-capacity transit enhancements including a bus rapid transit (BRT) service from the Tohono Tadai transit center to downtown and from downtown to the Tucson International Airport

CHAPTER 8: AIR QUALITY CONFORMITY AND ENVIRONMENTAL CONSIDERATIONS

AIR QUALITY AND TRANSPORTATION CONFORMITY

Regulatory Requirements

Transportation conformity is required by the federal 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 implementation plan (SIP) for air quality. 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 Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) in all nonattainment and maintenance areas. It applies to transportation-related criteria pollutants ozone (O_3), 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**, 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 8.1 and 8.2**). 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 the 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 8.1 Rillito PM_{10} Nonattainment Area

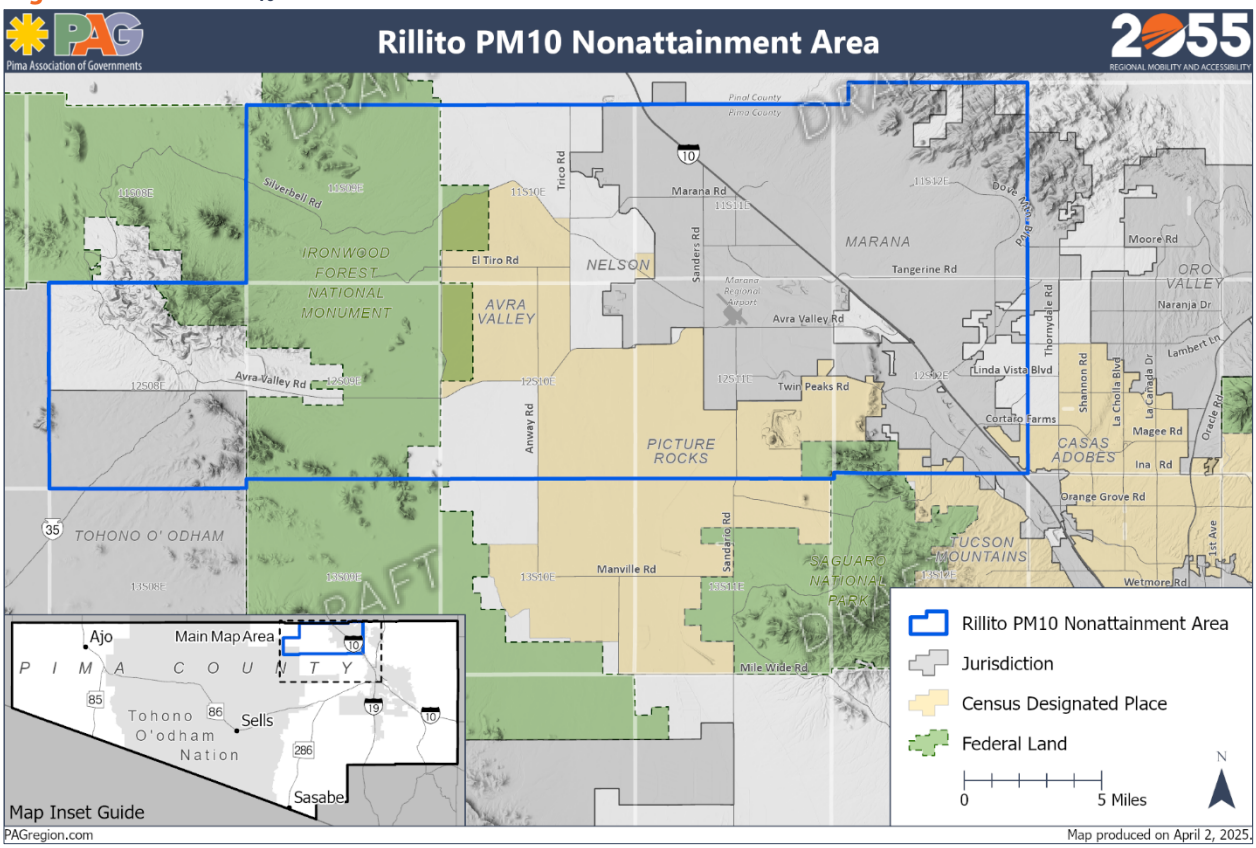
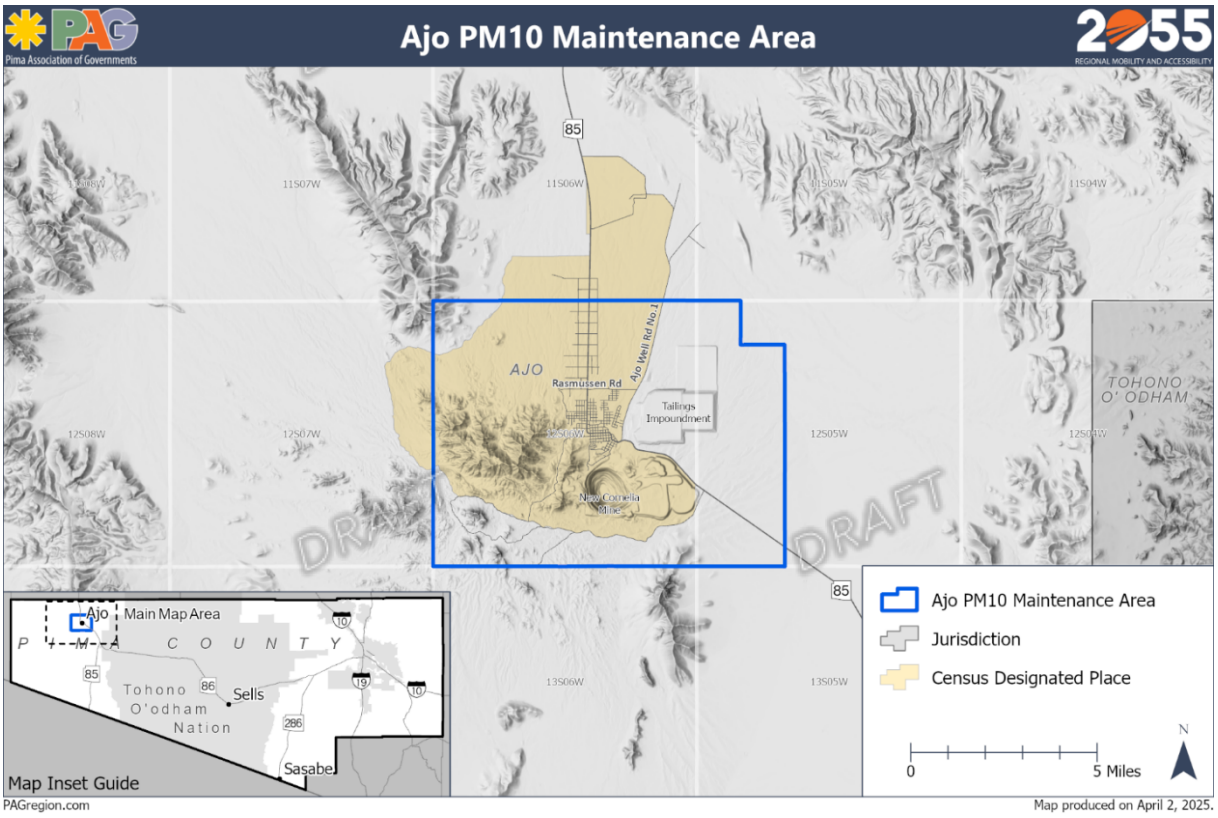


Figure 8.2 Ajo PM_{10} Maintenance Area



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 and 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, Arizona Department of Environmental Quality (ADEQ), Arizona Department of Transportation (ADOT) and Pima County Department of Environmental Quality (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 RMAP development process. Consultation on satisfaction of required criteria and procedures for determining conformity of the draft 2055 Regional

Mobility and Accessibility Plan was shared with agencies on November 8, 2024. The draft conformity analysis of the 2055 RMAP was shared with agencies on April 23, 2025.

The FHWA provided comments on December 10, 2024, and PAG responded to the comments on December 12, 2024. ADEQ provided comments on May 21, 2025, and PAG responded on May 22, 2025.

The public comment period for the 2055 RMAP was held in June and July 2025, with public input solicited for comments on the air quality conformity analysis conducted for the plan with targeted outreach for the Rillito PM_{10} nonattainment area. The comments received and public involvement process are addressed in **Chapter 3**.

Latest Planning Assumptions and Emissions Model

The latest planning assumptions for forecast population and employment estimates, land use modeling and travel demand modeling from the 2045 RMAP Update Technical Addendum continue to apply as revised for the 2055 RMAP Technical Addendum. Congestion is addressed in Chapter 2: State and Federal Requirements and Chapter 6: Existing Conditions and Trends. 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. 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 partnering jurisdictions.

Vehicle miles traveled (VMT) from the travel demand model (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 December 11, 2024, the EPA announced the availability of the latest major release of the Motor Vehicle Emission Simulator (MOVES) model MOVES5 for transportation conformity modeling outside of California (89 FR 99862). The notice started a two-year grace period before MOVES5 will need to be used as the latest EPA emissions model for transportation conformity determinations in new regional

emissions analyses. MOVES5 accounts for EPA's Light- and Medium-Duty Multi-Pollutant Rule with higher projected electric vehicle fractions and more stringent standards for carbon dioxide, particulate matter, non-methane organic gases and oxides of nitrogen. It also accounts for EPA's Heavy-Duty Greenhouse Gas Emissions-Phase 3 Rule with higher projected EV fractions and updated energy consumption estimates for heavy-duty EVs. PAG utilized MOVES4 for emissions modeling for the 2055 RMAP and will transition to MOVES5 for future analyses during the grace period.

PAG used MOVES4 for onroad motor vehicle emissions modeling for PM_{10} from vehicle exhaust, tire wear and brake wear in the Rillito PM_{10} nonattainment area for analysis years 2030, 2035, 2045 and 2055. Analysis was conducted using the TDM to estimate average daily VMT, speeds and travel pattern characteristics for the various road types in the regional roadway network for the following "Action" scenarios: 2030, 2035, 2045 and 2055. MOVES model inputs included the most recent local data for meteorology (2024, Tucson International Airport), vehicle registration [December 2024, ADOT Motor Vehicle Division (MVD)], speeds, HPMS traffic counts, travel patterns and Alternate Vehicle Fuel and Technology (AVFT), as well as default gasoline and diesel fuel properties. The vehicle inspection/maintenance program does not affect PM_{10} outputs in MOVES4, and default values were input. The MOVES4 model accounts for all current and future regulatory changes expected over the 2025-2055 period, which extends the full planning horizon of PAG's proposed long-range transportation plan, the 2055 RMAP.

ADOT MVD vehicle populations for Pima County as of December 2024 are distributed to the 13 MOVES source types using scripts developed by Eastern Research Group, Inc. (ERG) for Maricopa Association of Governments (MAG) specifically for the purpose of distributing ADOT MVD vehicle populations to the MOVES source types. For each source type and for each of the forecast years 2030, 2035, 2045 and 2055, a ratio is computed by dividing the default MOVES4 source type population for the forecast year by the default MOVES4 source type population for 2024 (13 source types X four forecast years = 52 ratios). Each source type population for 2024 is then multiplied by each of the four ratios developed for that source type to project that source type population to each of the four forecast years.

The EPA *Age Distribution Projection Tool for MOVES4* was used to project age distributions from the 2024 age distribution for Pima County received from MAG to each of the forecast years: 2030, 2035, 2045 and 2055. ERG developed these scripts specifically for the purpose of computing age distributions for each of the 13 MOVES source types from the ADOT MVD registration data.

The regionally significant projects modeled within the Rillito PM_{10} nonattainment area in the proposed 2055 RMAP were:

- 571.08, Adonis Rd #2, widen to 4-lane roadway (2035, 2045 and 2055 analysis years)
- 86.14, Linda Vista Bl, widen to 4-lane roadway (2035, 2045 and 2055 analysis years)
- 37.00, Moore Rd/I-10, construct traffic interchange (2035, 2045 and 2055 analysis years)
- 257.98, Silverbell Rd, widen to 4-lane roadway (2035, 2045 and 2055 analysis years)
- 204.00, Tangerine Rd, widen to 4-lane divided highway (2035, 2045 and 2055 analysis years)
- 196.23, Ina Rd #3, widen to 6-lane roadway (2045 and 2055 analysis years)

The 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 2030, 2035, 2045 and 2055.

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 Emissions Inspection Fund (ARS §49-544).

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 encourage major employers to promote the use of alternative transportation among employees 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 healthier 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 2023, the TRP reduced regional vehicle miles traveled by 87,647,016 miles and resulted in reductions of 3.8 tons of PM_{10}, 21.0 tons of NOx, 30.6 tons of VOC, 364.3 tons of CO and 36,505.2 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 6.0% 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} onroad mobile source emissions in the "Action" scenario analysis years were estimated using EPA's MOVES4 model and AP-42 emission factors.

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 the 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 8.1 details the results of PM_{10} emissions calculated for the Rillito PM_{10} nonattainment area.

Table 8.1 Conformity Interim Emissions ("Action" Scenario/Baseline Year) Test Results (U.S. tons/year)

Analysis Year	Rillito PM_{10} Nonattainment Area PM_{10} (tons/yr)
1990 Baseline	**921.90**
2030 "Action" Scenario	418.37
2035 "Action" Scenario	454.15
2045 "Action" Scenario	488.60
2055 "Action" Scenario	392.45

Vehicle exhaust, tire wear and brake wear in Rillito PM_{10} nonattainment area

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.

Table 8.2 Direct Onroad Mobile PM_{10} Emissions in Rillito PM_{10} nonattainment area (U.S. tons/year)

	2030 Action	2035 Action	2045 Action	2055 Action
Exhaust	29.53	27.63	28.22	28.41
Brake Wear	12.60	13.86	16.59	19.71
Tire Wear	8.42	9.23	10.75	12.00
Total	50.55	50.72	55.56	60.12

Paved Road Re-entrained PM_{10} Emissions in Rillito PM_{10} nonattainment area

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. 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, 2030, 2035, 2045 and 2055. 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 updated inputs once they become available. Vehicle miles traveled 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

Table 8.3 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	0.338
2030 Action	Freeway	1.00	0.020	3.470	35	365	0.0987
	Art, Col & Loc	1.00	0.085	2.491	35	365	0.2627
2035 Action	Freeway	1.00	0.020	3.463	35	365	0.0985
	Art, Col & Loc	1.00	0.085	2.495	35	365	0.2632
2045 Action	Freeway	1.00	0.020	3.492	35	365	0.0994
	Art, Col & Loc	1.00	0.085	2.518	35	365	0.2657
2055 Action	Freeway	1.00	0.020	3.603	35	365	0.1026
	Art, Col & Loc	1.00	0.085	2.545	35	365	0.2686

Table 8.4 Annual VMT on Paved Roads in Rillito PM_{10} nonattainment area

	1990 Baseline	2030 Action	2035 Action	2045 Action	2055 Action
Freeway	182,109,815	493,674,944	550,477,287	638,365,299	684,658,773
Arterial & Collector	51,707,725	363,383,250	384,853,937	432,371,463	480,793,742
Local Residential	9,903,545	80,627,929	86,969,424	99,216,327	111,006,348
Total	243,721,085	937,686,123	1,022,300,648	1,169,953,089	1,276,458,863

Table 8.5 Paved Road Re-entrained PM_{10} Emissions in Rillito PM_{10} nonattainment area (U.S. tons/year)

	1990 Baseline	2030 Action	2035 Action	2045 Action	2055 Action
Freeway	18.20	53.74	59.80	69.94	77.44
Arterial & Collector	19.28	105.33	111.69	126.76	142.56
Local Residential	3.69	23.37	25.24	29.09	32.91
Total	41.17	182.44	196.73	225.79	252.91

Table 8.6 Control Measure Reductions (U.S. tons/year)

	2030	2035	2045	2055
PAG Travel Reduction Program	1.2	1.3	1.6	1.6
PDEQ Voluntary No-Drive Day/ Clean Air Program	0.3	0.3	0.4	0.4
Total	1.5	1.7	1.9	2.0

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.

Unpaved Road Re-entrained PM_{10} Emissions in Rillito PM_{10} nonattainment area

The 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 2030, 2035, 2045 and 2055. 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 updated inputs once they become available. Vehicle miles traveled 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

Table 8.7 Unpaved Road Re-entrained PM_{10} Emission Factors

		k (lb/mi)	s (%)	S (mph)	M (%)	C (lb/mi)	P (wet days)	N (days/yr)	E (lb/mi)
2030	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
2055	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

Table 8.8 Annual VMT on Unpaved Roads in Rillito PM_{10} nonattainment area

	1990 Baseline	2030 Action	2035 Action	2045 Action	2055 Action
Collector	24,624	188,123	199,149	186,983	232,227
Local residential	4,317,781	915,856	1,034,921	1,054,033	196,516
Total	4,342,405	1,103,979	1,234,070	1,241,016	428,743

Table 8.9 Unpaved Road Re-entrained PM_{10} Emissions in Rillito PM_{10} nonattainment area (U.S. tons/year)

	1990 Baseline	2030 Action	2035 Action	2045 Action	2055 Action
Collector	4.58	38.86	41.14	38.63	47.98
Local residential	803.12	146.52	165.56	168.62	31.44
Total	807.70	185.38	206.70	207.25	79.42

Table 8.10 Control Measure Reductions (U.S. tons/year)

	2030	2035	2045	2055
PAG Travel Reduction Program	1.250	1.415	1.432	0.568
PDEQ Voluntary No-Drive Day/ Clean Air Program	0.286	0.324	0.343	0.120
Total	1.536	1.739	1.775	0.688

Conformity Determination

As demonstrated by the PM_{10} emission modeling results in Table 8.1, completing the RMAP projects as stipulated in the 2055 RMAP 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 2055 RMAP 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. Per 40 CFR § 93.104(b)(3), a conformity lapse grace period began January 21, 2025. Adoption of this document by PAG's Regional Council on July 31, 2025, finds that the RMAP and all projects contained within are in conformity with the applicable SIP and transportation conformity requirements.

The final determination of conformity for the 2055 RMAP is the responsibility of the Federal Highway Administration and the Federal Transit Administration. Upon a finding of conformity by FHWA and FTA, major amendments to PAG's FY 2025-FY 2029 TIP may resume.

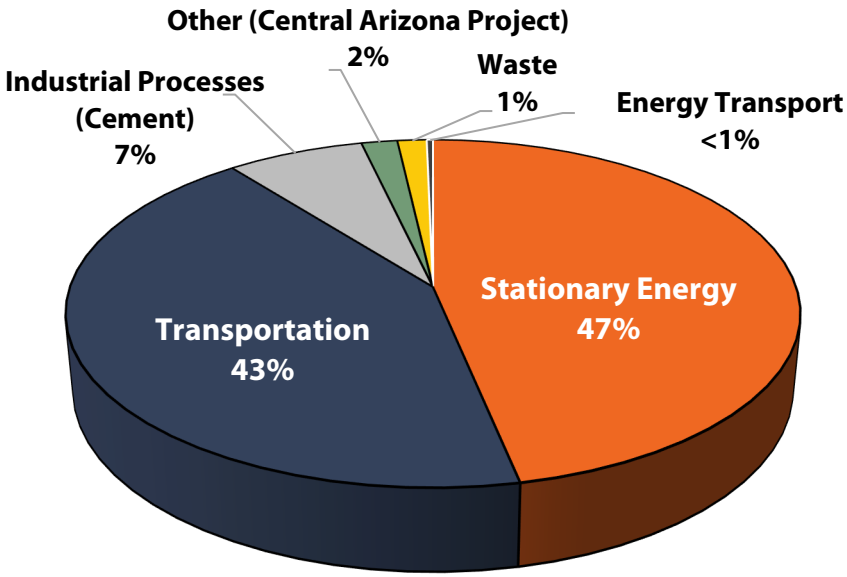
Air Pollution

The federal regulation for Metropolitan Transportation Planning and Programming requires development of the TIP and RMAP, "while minimizing transportation-related fuel consumption and air pollution." Transportation conformity requirements in the PAG region currently apply to the specific particulate matter pollutant, PM_{10}. However, the regional air quality monitoring network has historically recorded high levels of another significant transportation-related NAAQS air pollutant, ozone (O_3). Combustible hydrocarbon fuels used for onroad transportation emit exhaust compounds that are precursors to ozone development; nitrogen oxides (NOx) and volatile organic compounds (VOCs). Reduction of combustible transportation fuels can be achieved through reduction of vehicle miles driven regionally and increased utilization of non-combustion transportation fuels with zero tailpipe emissions, such as electricity.

While NAAQS transportation pollutants affect health issues in the direct airshed, other emissions are designated as air pollutants by the EPA and have the effect of trapping increased heat in the global atmosphere, which intensifies climatic events and endangers public health and welfare. These other emissions are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6). Reduction of transportation-related fuel consumption has the additional benefit of simultaneously reducing air pollutant emissions without any additional effort. The average light-duty, all-battery electric vehicle (EV) with electricity sourced in Arizona in 2022 emitted 83% less CO_2 equivalents than a comparable gasoline vehicle on a fuel consumption basis, while the average light-duty plug-in hybrid battery electric vehicle emitted 65% less than a comparable gasoline vehicle, according to the USDOE Alternative Fuels Data Center.

PAG conducts periodic regional emission inventories to provide baseline and comparison tracking of the region's emissions over time. The regional emissions inventory completed in 2023 indicates that in 2021, 43 percent of regional emissions were generated by the transportation sector, with onroad vehicles contributing 34 percent of total regional emissions (**Figure 8.3**).

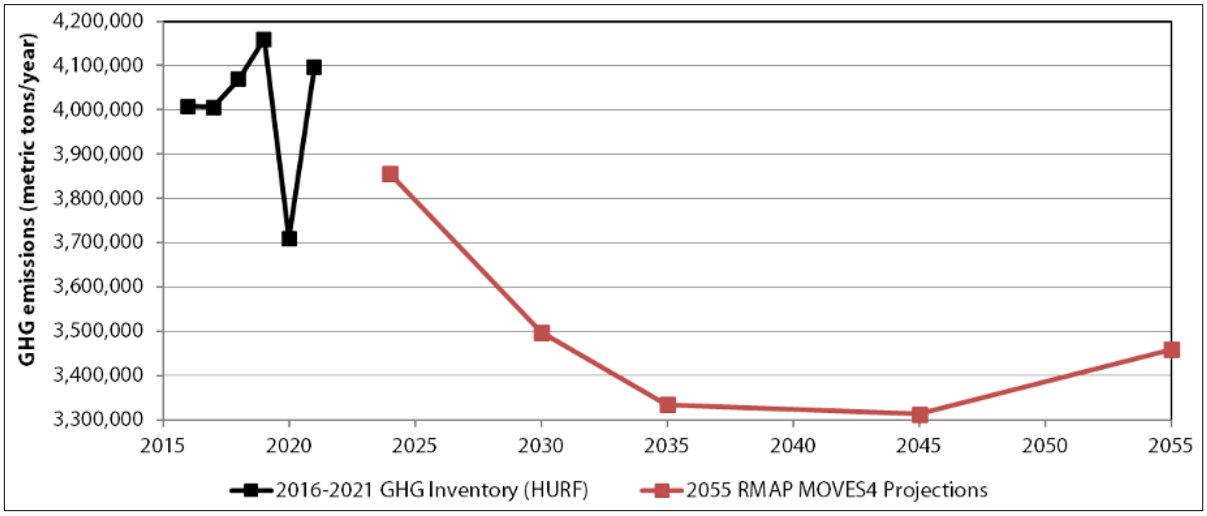
Figure 8.3 2021 Eastern Pima County Emissions by Source



Source: Regional Emissions Inventory (PAG, 2023)

Figure 8.4 shows historic and projected emissions from regional onroad vehicle travel estimated using EPA's MOVES4 emissions model. The emissions shown in 2055 represent those associated with the 2055 "Action" scenario in the 2055 RMAP.

Figure 8.4 Regional Historic and Projected Onroad Transportation Emissions



ENVIRONMENTAL CONSIDERATIONS

The Sonoran Desert is remarkable in its biodiversity, and unique climatic conditions create an ecosystem and microhabitats that support plants and animals found nowhere else on earth. In addition to its ecological value, the Sonoran Desert landscape and biodiversity attract visitors from all over the world, supporting the local economy through recreation and watchable wildlife opportunities.

Green infrastructure that captures stormwater runoff can reduce roadway hazards, recharge groundwater, and promote shade for active transportation users and at bus stops. Photo courtesy of Wheat Design Group.

Over the decades, residents and leaders in the greater Tucson region have made environmental protection and conservation a priority through ordinances, resolutions, and a balanced approach to development while preserving critical natural resources. The award-winning Sonoran Desert Conservation Plan (SDCP), adopted in 1998, is a prime example of this commitment.

Transportation impacts our region's environment in numerous ways. According to the PAG Regional Greenhouse Gas Emissions Inventory (2016-2021), transportation is the second largest contributor of emissions in our region behind stationary energy consumption. Impervious roadway surfaces can increase stormwater runoff leading to flooding that impacts water quality, traffic flow, mobility access issues and human safety. Roadways also impact wildlife corridors, fragment habitat, and lead to wildlife-vehicle collisions.

The projects and programs in the 2055 RMAP, such as transit and active modes facilities, can help mitigate some of these transportation-related impacts. For example, some projects may include aspects of green streets (i.e., streets with green stormwater infrastructure), divert stormwater off streets, sustain treescapes, increase tree shade to reduce heat exposure, and create a buffer from traffic for people using alternative and active modes of transportation. Trees have been proven to alter driver behavior and thereby calm traffic and improve safety for all users by giving the perception of a narrower street and stimulating driver self-regulation. Additionally, the plan incorporates regional programs that support maintaining critical wildlife linkages and air quality planning. Several alternative energy and fuel vehicle infrastructure programs include adding public electric vehicle charging stations and CNG infrastructure for Sun Tran buses. Programs are available for education and encouragement of alternative modes of transportation.

This wildlife underpass beneath Oracle Road/SR 77 in Oro Valley was funded by the Regional Transportation Authority and was included in previous long-range plans under wildlife crossing infrastructure. Source: Pima Association of Governments.

2055 RMAP Projects and Regional Collaboration

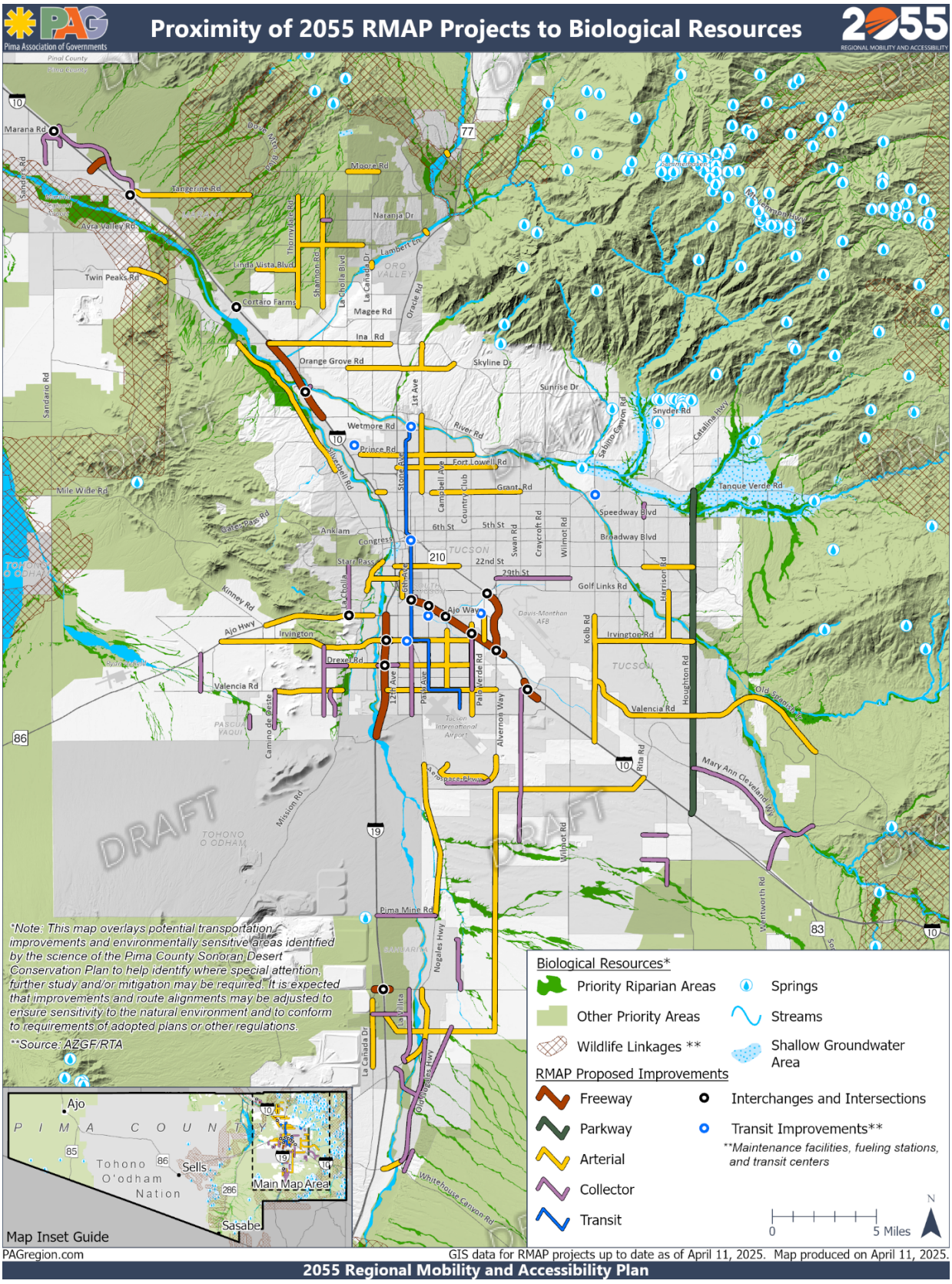
During the development of the 2055 RMAP, jurisdictional members were provided with a map of important biological resources in the greater Tucson region so members could make informed decisions regarding the locations of proposed projects and potential impacts. However, it is worth noting that environmental mitigation and specific impacts on a project-by-project basis are not determined during the RMAP planning process. This level of evaluation and analysis occurs during the design and implementation phase, and projects would be subject to all local and federal regulations as applicable.

Numerous projects in the 2055 RMAP address transportation-related environmental impacts. This includes funding for wildlife crossing infrastructure, alternative fuel infrastructure, transit expansion and enhancements, air quality planning, active transportation projects, and programs that support alternative transportation. These efforts aim to reduce habitat fragmentation and wildlife-vehicle collisions, reduce emissions, and improve air quality. Moreover, improvements to traffic signal timing can result in increased traffic flow and a reduction in vehicle idling at stop signs, which reduces air pollutants and emissions.

Regional environmental coordination is critical for effective planning. The RMAP Working Group and TPC were instrumental in developing the in-plan project list, including funding amounts for the aforementioned projects and programs. The TPC and working group were given regular updates and provided feedback throughout the process. Additionally, environmental and cultural resource stakeholders had the opportunity to comment and provide feedback.

Figure 8.5 below shows the 2055 in-plan RMAP projects in relation to biological resources.

Figure 8.5 Proximity of 2055 RMAP Projects to Biological Resources



Climate Change

Climate change affects our region with increasing intensity every year. According to the National Oceanic and Atmospheric Administration (NOAA), 2024 was the world's warmest year on record. Increasing daily temperatures, more variable precipitation, and extreme weather events put our region and transportation infrastructure at risk. In the Southwest, summers are anticipated to be impacted by more days of extreme heat, prolonged heatwaves with droughts becoming hotter, more severe, and more frequent. Additionally, increasingly variable precipitation and impacts to our water supply is also anticipated.

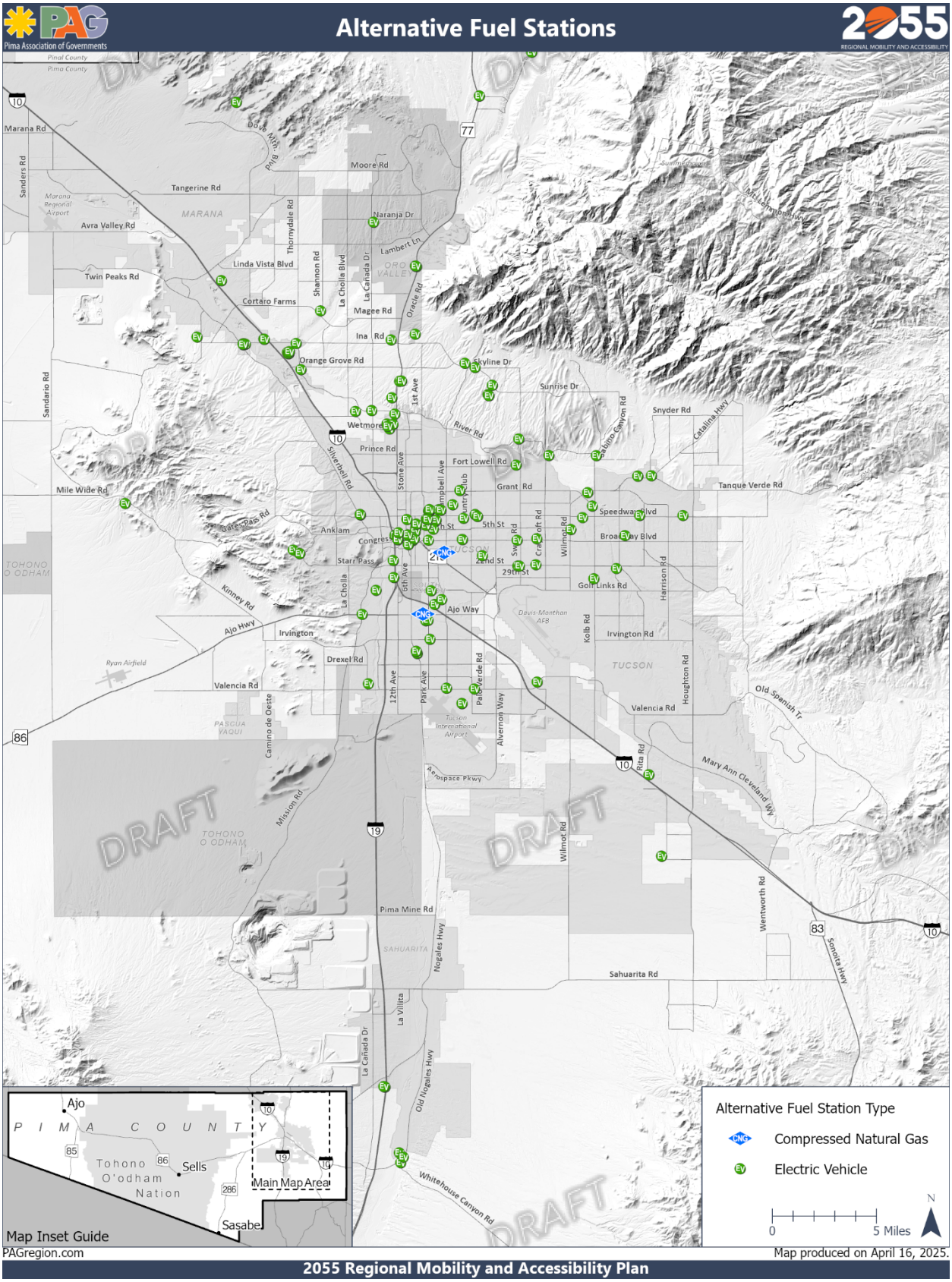
In the greater Tucson region, jurisdictions are addressing climate change through plans and policies. The City of Tucson passed its climate action plan, Tucson Resilient Together, in 2020 which will "provide a strategic pathway to reduce the City's emissions to net zero by 2030." Pima County, in partnership with the City of Tucson, Town of Oro Valley, City of South Tucson, and the Tohono O'odham Nation developed a Pima County Priority Climate Action Plan (PCAP) in March 2024. This plan includes a number of projects aimed at reducing emissions through 2030.

In the RMAP in-plan project list, member jurisdictions included approximately $1 billion in funding for bicycle and pedestrian improvements, $1.6 billion for transit expansion including a bus rapid transit line from Tohono Tadai transit center to the Tucson International Airport, and $60 million for alternative fuel infrastructure. **Figure 8.6** shows the locations of alternative fuel stations in the greater Tucson region.

Projects and programs that address active transportation infrastructure in the 2055 RMAP *help reduce vehicle miles traveled and improve air quality.*

These investments demonstrate a commitment to reducing emissions and improving air quality to address climate change through the regional transportation system if implemented. Additionally, many roadway projects include active transportation elements such as the addition of sidewalks, bicycle facilities, and improved connections to public transit.

Figure 8.6 Alternative Fuel Stations



APPENDIX 1: 2055 RMAP IN-PLAN PROJECT LIST

Appendix 1 of the 2055 RMAP includes "in-plan" projects expected to be funded by or before 2055. A performance assessment was completed for these projects, including analyses on traffic congestion, air quality, environmental impact and travel time data and of the impact of these projects on individuals protected by Title VI of the Civil Rights Act. Projects are sorted alphabetically by name. This project list represents transportation priorities established and provided by each jurisdiction in the greater Tucson region. The table presents information in columns that cover the following:

RMAP ID#: Each project has an ID number that is used to identify and track the project. Numbers after the decimal point indicate the year the project was originally added to PAG's regional project database.

Project Name, Location, Description: The general scope and location of each project is provided.

Jurisdiction/Sponsor: Each project identifies the agency that is expected to be responsible for its implementation. "Multiple" indicates more than one sponsor is responsible for implementing the project.

Estimated Project Costs: Totals include the anticipated costs, as appropriate, for planning, design, right-of-way and construction for each project. All costs and revenues are in 2024 dollars and may be subject to change as project scopes are further defined.

Estimated Time Frame: Estimated project time periods are shown where available. The early period includes projects anticipated for fiscal years 2025-2035, the middle period includes project anticipated for fiscal years 2036-2045, and the late period includes projects expected to be developed between fiscal years 2046-2055. Projects with a timeframe of "All" are programs or activities that are ongoing throughout this planning timeframe. Actual implementation time periods may vary based on changing priorities and do not require a plan amendment to the RMAP.

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
3.18	10th Ave Enhancements	25th St to 40th St	Improve pavement conditions	South Tucson	$3,000	All
40.02	1st Ave	Orange Grove Rd to Ina Rd	Modernize existing roadway	Pima County	$10,069	Middle
684.03	1st Ave #1	Grant Rd to River Rd	Modernize 4-lane roadway, bike lanes, sidewalks & bus pullouts	Tucson	$136,500	Middle
180.98	22nd St #1	I-10 to Tucson Bl/Barraza-Aviation Pkwy	Widen to 6-lane divided roadway, bridge over railroad & bike lanes	Tucson	$253,200	Early
327.98	22nd St #2	Camino Seco to Houghton Rd	Widen to 4-lane roadway, bike lanes, sidewalks & bus pullouts	Tucson	$36,510	Middle
39.23	29th St	Mission Rd to SW Greenway	Modernize corridor, remove travel lane	Tucson	$11,250	Middle
109.23	29th St	Alvernon Way To Wilmot Rd	Remove travel lane, install enhanced bike lanes, and improve landscaping. Repave roadway.	Tucson	$26,000	Early
300.98	40th St Extension	Between 4th Ave and 6th Ave	New roadway, curbs, walk, landscape & street lights	South Tucson	$6,000	Early
152.23	6th Ave	E Thoroughbred St to Los Reales Rd	Modernize corridor	Tucson	$9,000	Early
34.23	6th Ave Bus Rapid Transit	Ronstadt Transit Center to Tucson International Airport	High-capacity transit corridor from downtown to the airport	Tucson	$220,000	Middle
571.08	Adonis Rd #2	Tangerine Rd to San Lucas	Construct 4-lane roadway	Marana	$71,460	Early
429.03	Aerospace Pkwy Expansion	Raytheon Pkwy to Alvernon Way	Widen to 4-lane roadway	Pima County	$57,600	Early
299.03	Air Quality Model and Inventory Upgrades	Regionwide	Develop new air quality model with emissions inventory	PAG	$6,500	All
137.98	Air Quality Planning	Regionwide	Conduct regional air quality planning and inventory, and monitor pollutants	PAG	$10,000	All
63.18	All-weather Access Improvements	Regionwide	Provide all-weather access throughout the region	Multiple	$75,000	Early
541.08	Alternative Energy and Fuel Vehicle Infrastructure	Regionwide	Improve alternative energy and fuel infrastructure	Multiple	$60,000	All
65.00	Alternative Modes Program	Regionwide	Education and outreach to promote alternative modes	PAG	$3,000	All
193.08	Bicycle Boulevards	Regionwide	Install bicycle boulevards	Multiple	$30,000	All
556.08	Bicycle Facilities Connectivity	Regionwide	Fill gaps in the bike lane system, including protected bike lanes	Multiple	$400,000	All

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
196.08	Bicycle Parking and other amenities	Regionwide (in appropriate locations)	Install racks, corrals, lockers, etc.	Multiple	$4,000	All
237.08	Bond Debt Service	Regionwide	Repayment of regional bond debts	Multiple	$120,000	All
202.98	Bridge Improvements	Regionwide	Construction of new or replacement bridges, maintenance, deck repair, barrier walls	Multiple	$250,000	All
110.03	Bus Pullouts	Fixed-route system	Construct transit pullouts at select bus stops	Multiple	$25,000	All
14.23	Camino Seco	Wrightstown Rd to Speedway Blvd	Modernize corridor	Tucson	$10,000	Middle
17.23	Campbell Ave	Benson Hwy to Valencia Rd	Modernize corridor	Tucson	$35,198	Middle
27.00	Campbell Ave, South	Quail Crossing Blvd to Sahuarita Rd	Extend 2-lane roadway, bike lanes, sidewalks & drainage	Sahuarita	$74,072	Middle
96.23	Campbell Ave, South	Whitehouse Canyon Road to S Campbell Ave	Construct new 2-lane road with bike, ped, drainage	Pima County	$8,000	Early
99.23	Cardinal Ave	Los Reales Road to Irvington Rd	Modernization and capacity	Pima County	$38,400	Middle
7.14	CNG Fueling System NW	Sun Tran Maintenance Facility Northwest	Install new CNG fueling system to fuel CNG vehicles	Tucson	$10,000	Early
93.23	Colossal Cave Rd Corridor	I-10 to Camino Loma Alta	Widen roadway, new bridges over railroad tracks and Pantano Wash	Pima County	$160,400	Middle
355.03	Commuter Programs for Alternative Transportation	Regionwide	Programs aimed at changing the behavior of drive-alone commuters	Multiple	$5,000	All
704.03	Continental Rd	Abrego Dr to Old Nogales Hwy	Widen to 4-lane roadway, bike/ped, drainage, art	Pima County	$22,900	Middle
221.23	Country Club Rd	I-10 to Valencia Rd	ROW Purchase	Pima County	$5,400	Early
11.23	Drexel Rd	Mission Rd to Midvale Park Rd	Modernize corridor	Tucson	$22,500	Early
12.23	Drexel Rd	S 12th Ave to Country Club Rd	Modernize Corridor	Tucson	$73,900	Middle
16.23	Drexel Rd	Calle Santa Cruz to S 12th Ave	Bicycle pedestrian connection across I-19	Tucson	$8,640	Middle
31.23	Drexel Rd	Midvale Park Rd to Calle Santa Cruz	Construct new 2-lane bridge over the Santa Cruz River	Tucson	$25,500	Early
95.23	Drexel Rd	Cardinal Ave to Mission Rd	Roadway expansion and modernization	Pima County	$14,300	Middle
23.00	El Toro Rd - Part 1	La Cañada Dr to La Villita Rd	Construct new 2-lane roadway, sidewalks & multi-use lanes	Sahuarita	$15,174	Middle
165.03	Enhanced Pedestrian & Bike Crossings	Regionwide	Construct signalized pedestrian/bike crossings (HAWKS, etc.)	Multiple	$35,000	All

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
566.08	Expand Fixed-Route Bus System	Regionwide	Increase service area and frequency	Tucson	$1,000,000	All
558.08	Federal Transit Grants	Regionwide	5310 and 5311 programs	Multiple	$47,040	All
217.23	Federal Transit Grants	Regionwide	5339 programs	Multiple	$50,221	All
177.23	First Ave Bridge (Over CDO Wash)	First Ave	Reconstruct bridge deck	Oro Valley	$2,112	Early
43.23	Fort Lowell Rd	Oracle Rd to Alvernon Wy	Modernize corridor	Tucson	$86,700	Middle
259.98	Grant Rd Corridor Project	Santa Rita Rd to Swan Rd	Widen to 6-lane roadway, bike lanes, sidewalks & streetscaping	Tucson	$145,800	Early
44.23	Harrison Rd	Golf Links Rd to Irvington Rd	Widen roadway to 4-lane roadway	Tucson	$41,200	Late
203.23	Harrison Rd Bridge	Golf Links Rd to Irvington Rd	New two-lane bridge over Pantano Wash	Tucson	$15,000	Early
532.08	High-Capacity Transit Enhancements	Regionwide	Enhance transit infrastructure with high-capacity elements	Multiple	$10,000	All
11.02	Houghton Pkwy #3	I-10 to Tanque Verde Rd	Widen to 4- and 6-lane parkway, new bridges & greenway	Tucson	$122,200	Early
74.18	I-10 Cortaro Rd Traffic Interchange	I-10/Cortaro Rd	Reconstruct traffic interchange with grade separation at railroad tracks	Multiple	$250,000	Middle
82.14	I-10 Park Ave TI	I-10/Park Ave	Park Ave TI ramp reconstruction	ADOT	$56,296	Early
37.00	I-10 West: #H - Moore Rd TI	I-10/Moore Rd	Construct traffic interchange	Multiple	$150,000	Middle
44.18	I-10 Widening and Reconstruct Sunset Rd TI	Ina Rd to Ruthrauff Rd	Widen I-10 to 8 lanes (four in each direction) and reconstruct Sunset Rd TI	ADOT	$20,000	Early
54.18	I-10, Alvernon Way to Valencia	Alvernon Way to Valencia, MP 264.66 - 266.82	Widen I-10 to 6 lanes	ADOT	$290,190	Early
53.18	I-10: 6th Ave TI	I-10/6th Ave	Widen crossroad and bridge over I-10	ADOT	$25,000	Early
187.23	I-10: Country Club Rd and Kino Pkwy TI's	I-10 MP 262.25 to 264.66	Construct new TIs, remove Palo Verde traffic interchange and widen I-10 to 6 lanes	ADOT	$600,000	Early
428.03	I-10: I-19 to Kino Pkwy	I-10 MP 260.79 - 262.25	Widen to 8 lanes	ADOT	$147,148	Middle
612.03	I-10: Valencia Rd TI	I-10/Valencia Rd, MP 266.82 - 267.69	Construct traffic interchange	ADOT	$136,642	Late
32.02	I-19: Phase 2	I-19/Irvington Rd TI, MP 60.95	Reconstruct traffic interchange	ADOT	$94,788	Early
4.98	I-19: Phase 3	Valencia Rd to I-10 MP 58.82-62.72	Widen to 6 lanes (three in each direction)	ADOT	$223,720	Middle

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Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
49.18	I-19: Phase 4	San Xavier Rd to Valencia Rd, MP 56.3-58.82	Widen I-19 to six lanes (three in each direction)	ADOT	$170,334	Middle
13.02	I-19: Phase 5	Drexel Rd TI, MP 59.9	Construct Drexel Rd TI	ADOT	$115,854	Middle
84.14	I-19: Sahuarita Road I-19 TI Improvements	I-19/Sahuarita Rd from La Cañada to Rancho Sahuarita Blvd	Upgrade improvements to the I-19/Sahuarita Road TI	Sahuarita	$59,500	Early
161.00	Ignacio M Baumea Rd	Los Reales Rd to Calle Torim	Improve 2-lane roadway, add sidewalks, lighting, etc.	Pascua Yaqui	$4,800	Early
196.23	Ina Rd #3	I-10 to Camino de la Tierra	Widen to 6-lane roadway	Marana	$61,479	Middle
100.23	Ina Rd	Camino de la Tierra to Paseo del Norte	Roadway expansion and modernization	Pima County	$100,100	Middle
30.08	Intersection improvements	Regionwide	Improve intersections throughout the region	Multiple	$50,000	All
102.23	Intersection Improvements	Countywide	Improve non-corridor intersections, signalized and non-signalized	Pima County	$50,000	All
15.23	Irvington Rd	S 15th Ave to Tucson Blvd	Modernize corridor	Tucson	$63,050	Middle
37.23	Irvington Rd	Kolb Rd to Houghton Rd	Widen to 4-lane divided roadway	Tucson	$72,600	Middle
163.08	Irvington Rd #3	Santa Cruz River to east of I-19	Improve intersections, provide access management, bike lanes & sidewalks	Tucson	$9,800	Middle
207.23	Irvington Rd	Ajo Hwy to Mission Rd	Modernization and capacity and new roadway	Pima County	$86,176	Middle
170.23	Irvington Rd Roadway Widening and Modernization	Mission Road to Landing Center Dr	Wide to 6-lane divided roadway	Tucson	$50,990	Late
565.03	Kolb Rd #1	I-10 to Escalante Rd	Widen to 6-lane roadway, bike lanes, sidewalks & drainage	Tucson	$140,000	Middle
176.23	La Cañada Bridge (Over CDO Wash)	La Cañada Dr	Reconstruct bridge deck	Oro Valley	$7,658	Early
321.03	La Cañada Dr (South)	Camino Sueno de Sahuarita to North of El Toro Rd	Widen to 4-lane roadway	Sahuarita	$50,376	Middle
38.23	La Cholla Blvd	Starr Pass Blvd to Ajo Way	Modernize corridor	Tucson	$11,700	Middle
204.23	La Villita: Sahuarita Road to Nogales Hwy	La Villita Rd from Sahuarita Rd to Nogales Hwy	Improvements to existing and sections of new 2-lane road with multimodal facilities and drainage	Sahuarita	$31,084	Early
173.23	Lambert Ln	Thornydale to Rancho Sonora Dr	Widen to 4-lane roadway, bike lanes, multi-use paths & drainage	Oro Valley	$51,202	Early

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
86.14	Linda Vista Blvd	Marana town limits to Thornydale Rd	Widen to 4-lane roadway	Pima County	$48,600	Early
417.03	Main St Extension (Marana)	Grier Rd to Tangerine Farms Rd	Construct 2-lane roadway	Marana	$1,722	Early
197.23	Marana Rd - I-10 TI	Marana Rd - I-10 intersection	A grade-separated traffic interchange over the railroad tracks at Marana Rd and I-10	Marana	$90,000	Middle
102.00	Mary Ann Cleveland Way	Red Iron Tr to Colossal Cave Rd	Widen to 4-lane roadway	Pima County	$22,500	Middle
6.23	Mary Ann Cleveland Way	Houghton Rd to city limits	Widen to 4-lane divided roadway with turn lanes	Tucson	$60,287	Middle
42.23	Mission Rd	Santa Cruz River Park to 36th St	Modernize corridor	Tucson	$10,000	N/A
23.14	MOE and Complete Streets	Marana Rd	Measures of effectiveness and complete streets initiatives	Marana	$3,500	All
180.23	Moore Rd	La Cholla Blvd to La Cañada Dr	Redesign and reconstruct roadway	Oro Valley	$12,563	Early
20.18	Multimodal Mobility and Safety Enhancements	Regionwide	Mobility and safety improvements including complete streets elements and pavement	Multiple	$325,000	Early
182.23	Naranja Dr II	From Shannon Road to Ironwood Ridge High School	Widen to 3-lane roadway with drainage	Oro Valley	$4,412	Early
223.08	Neighborhood Circulator Bus System	Regionwide	Neighborhood circulator bus system	Multiple	$116,950	All
324.03	No Drive Days Program	Regionwide	PDEQ program to promote alternative modes of transportation	Pima County	$6,500	All
514.08	Nogales Hwy #1	Lumber St. to Aerospace Pkwy	Widen to 4-lane roadway	Pima County	$71,700	Late
325.03	Nogales Hwy #2 (South)	Calle Valle Verde to Sahuarita Rd	Widen to 4-lane roadway	Sahuarita	$59,300	Middle
427.03	Nogales Hwy #3	Pima Mine Rd to Lumber St	Widen to 4-lane roadway, bike/ped, drainage, art	Pima County	$53,900	Late
26.00	Old Nogales Hwy Corridor	Continental Rd to Nogales Hwy	Widen to 4-lane roadway, includes bridge over Santa Cruz	Sahuarita	$87,155	Middle
100.00	Old Spanish Trail	Valencia Rd to Camino Loma Alta	Widen to 4-lane roadway	Pima County	$64,900	Late
1.03	Orange Grove Rd #4	Oracle Rd to Skyline Dr	Widen to 4-lane roadway	Pima County	$48,000	Early
208.23	Orange Grove Road #1	La Cholla Blvd to Oracle Rd	Roadway expansion and modernization	Pima County	$51,800	Middle
202.08	PAG Bicycle & Pedestrian Programs	Regionwide	Coordinate ped/bike activities	PAG	$4,000	All
64.18	Palo Verde Rd	Irvington Rd to Ajo Way	Modernization including bike/ped, transit and public art	Pima County	$19,000	Early

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
222.08	Park & Ride Lots	Regionwide	New park-&-ride lots throughout region	Multiple	$21,673	All
433.98	Pedestrian Facilities and Sidewalk Gaps	Regionwide	Improvements include sidewalks, maintenance, ADA ramps, lighting, landscaping, etc.	Multiple	$400,000	All
234.23	Phoenix Zoo Access Road	North of Sahuarita Rd East of S Nogales Hwy	Access to conservation park and wastewater facility	Sahuarita	$7,000	Early
205.23	Pima Mine Rd #1	I-19 to Nogales Hwy	Widen to 4-lane roadway with multi-use lanes	Sahuarita	$39,020	Early
48.23	Prince Rd	Romero Rd to Campbell	Modernize corridor	Tucson	$70,000	Middle
49.23	Prince Rd	Campbell Ave to Rillito River	Modernize corridor	Tucson	$18,600	Middle
620.03	Quail Creek Blvd Extension Phase 1	Old Nogales Hwy to Nogales Hwy	Construct 2-lane divided roadway, including bridge over Santa Cruz	Sahuarita	$32,840	Early
154.03	Railroad Underpass at Grant Rd	Union Pacific Mainline and Grant Rd	Expand railroad underpass east of I-10 to accommodate 6 lanes and multimodal connections	Tucson	$27,154	Early
384.98	Regional Aerial Mapping and Data Acquisition	Regionwide	Orthophotos, mapping, and data collection	PAG	$15,000	All
24.18	Regional Freight Improvements	Regional	Spot freight improvements consistent with the 2018 Regional Freight Plan	Multiple	$10,000	Early
392.98	Regional Transit Maintenance Facility and Equipment Upgrades	Regionwide	Miscellaneous facility improvements over 30 years	Multiple	$36,000	All
370.98	Regional Traveler Information System	Regionwide	Programs to obtain and disseminate traveler information	PAG	$5,000	All
209.23	REVISED Valencia Road	Mission Road to Camino de Oeste	Roadway expansion and modernization	Pima County	$81,500	Early
616.03	Right-of-Way (RW) Preservation	Regionwide	Purchase RW to preserve from development	Multiple	$50,000	All
220.23	Roadway Rehabilitation	Regionwide	Reconstruction and pavement repair	Multiple	$430,000	All
178.23	RV Blvd Bridge over Big Wash	Rancho Vistoso Blvd	Reconstruct bridge deck	Oro Valley	$4,048	Early
83.14	Safe Routes to School	Regionwide	Regionwide bike, pedestrian, and safety infrastructure improvements	Multiple	$24,000	All
349.03	Safety Programming and Funding Process	Regionwide	Safety program	PAG	$15,500	All
179.23	Shannon Rd	Club Drive to Tangerine Rd	Construct new 3-lane roadway	Oro Valley	$52,704	Early

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
194.08	Shared-Use Paths and Bicycle and Pedestrian Bridges	Regionwide	Create more shared-use paths including bicycle and pedestrian bridges	Multiple	$86,000	All
257.98	Silverbell Rd	Goret Rd to Ina Rd	Widen to 4-lane divided roadway, bike lanes & drainage	Multiple	$193,000	Early
4.06	Small Business Assistance	Regionwide	Provides help to businesses along major construction corridors	RTA	$18,000	All
317.03	South Camino de Oeste	Calle Torim to Valencia Rd	Widen to a 4-lane roadway with bicycle, pedestrian and drainage improvements	Pascua Yaqui	$23,578	Middle
13.23	South Country Club Rd	Milber St to Los Reales Rd	South Country Club Rd widening from Milber St to Los Reales Rd	Tucson	$99,000	Middle
29.18	Southeast Logistics Center Access Roads	Vicinity of Pima County Fairgrounds	Roadway improvements to support economic development projects	Pima County	$28,100	Early
233.00	Special Needs Transit Services	Regionwide	Provide transit services beyond mandated ADA service area	Multiple	$165,000	All
149.08	SR 210: Right-of-Way Acquisition	I-10 to Palo Verde Rd	Advanced right-of-way funding for future connection with I-10	ADOT	$19,600	Middle
23.03	SR 210: Stage 1 & 2	Palo Verde to Ajo Way, MP 4.56-6.16	SR 210 and Golf Links interchange and other ramp connections	ADOT	$414,807	Middle
189.08	SR 210: Stage 3	Ajo Way to I-10, MP 6.16 - 7.31	Construct new corridor	ADOT	$251,401	Middle
5.14	SR 410: Sonoran Corridor	I-19 to I-10 in the vicinity of Rita Rd	New roadway connection	ADOT	$600,000	Middle
36.18	SR 86: Project #1	SR 86/La Cholla Blvd Intersection	Intersection improvement	ADOT	$8,592	Middle
37.18	SR 86: Project #2	SR 86, La Cholla Bl to Holiday Isle Boulevard	Widen SR 86 with intersection modifications	ADOT	$26,397	Middle
40.18	SR 86: Project #3	700 feet east of Kinney Rd to Camino de Oeste Rd	Widen SR 86 to six lanes (3 in each direction)	ADOT	$6,268	Middle
42.18	SR 86: Project #4	Camino de Oeste to La Cholla Blvd	Widen SR 86 to 6 lanes (3 in each direction)	ADOT	$19,280	Middle
35.23	Stone Ave High-Capacity Transit Project	Tohono Tadai Transit Center to Ronstadt Transit Center	Construct high-capacity transit improvement from downtown to Tohono Tadai	Tucson	$141,000	Middle
365.98	Street Lighting	Streets regionwide	Construct roadway lighting	Multiple	$20,000	All
33.14	Sun Link Modern Streetcar Operations and Maintenance	Downtown Tucson to University Medical Center	Operations and maintenance for the Sun Link modern streetcar	Tucson	$180,300	All
216.23	Sun Shuttle Vehicle Replacements and Support Vehicles	Regionwide	Replace existing Sun Shuttle vehicles and support vehicles	PAG	$20,810	All

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
393.98	Sun Tran Bus & Support Vehicle Replacements	Regionwide	Replace Sun Tran buses and support vehicles over 30 years	Tucson	$527,000	All
430.98	Sun Tran Existing Operations and Maintenance	Regionwide	Maintain existing Sun Tran levels of service regionwide	Tucson	$1,980,000	All
426.98	Sun Van Existing Operations and Maintenance	Regionwide	Operations and maintenance of existing Sun Van service regionwide	Tucson	$651,600	All
9.14	Sun Van Maintenance Facility Rehabilitation	3401 E Ajo Way	Building improvements and upgrades. Includes new fueling management system	Tucson	$5,000	Early
275.98	Sun Van Vehicle Replacements and Support Vehicles	Regionwide	Replace existing Sun Van and support vehicles for Sun Van and Sun Tran	Tucson	$105,000	All
715.03	Sunset Rd	I-10 to River Rd	New 3-lane roadway, bridge over Santa Cruz & bike lanes	Multiple	$5,000	Early
121.23	Swan Road (south)	Valencia Road to southern terminus	Capacity and modernization improvements	Pima County	$35,400	Early
35.18	TAA Business & Industrial Park Roadway	Tucson International Airport	New 2-lane connector roadway between Aerospace Pkwy and Old Vail Rd	Multiple	$6,825	Early
199.23	Tangerine Farms Rd Extension	I-10 TI to Clark Farms Rd	Construct 4-lane roadway, multi-purpose lanes & sidewalks	Marana	$22,900	Early
204.00	Tangerine Rd	I-10 to Dove Mountain Bl	Widen to 4-lane divided roadway, bike lanes & drainage	Marana	$108,695	Early
200.23	Tangerine Rd – I-10 TI	Tangerine Rd and I-10 intersection	A grade-separated traffic interchange over the railroad tracks located at Tangerine Rd and I-10	Multiple	$157,716	Middle
367.98	Technology Transfer Program (LTAP)	Regionwide	Ongoing training for regional jurisdictions	ADOT	$1,250	All
206.23	Thornydale Rd	Cortaro Road to Tangerine Rd	Roadway expansion and modernization	Pima County	$46,930	Middle
90.00	Transit - Minor Enhancements	Regionwide	1% FTA requirement for transit enhancement program	Multiple	$2,650	All
109.03	Transit Amenities at bus stop locations	Fixed-route transit system	Electronic signs, route maps, shelters, etc.	Multiple	$100,000	All
292.03	Transit Center Upgrades	Ronstadt, Laos, Tohono Tadai, Udall centers	Rehabilitate regional transit centers	Tucson	$11,000	All
218.23	Transit Infrastructure	Regionwide	Bus turnarounds, pedestrian connections, signalization etc.	Multiple	$15,000	All
407.98	Transit Planning and Project Development	Regionwide	Conduct comprehensive operations analyses (COA) study and other transit studies	Tucson	$12,200	All
13.18	Transit Technology Upgrades and Implementation	Regionwide	Provide smart technology for transit vehicles, communications and signalization	Tucson	$33,900	All

2055 RMAP In-Plan Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)	Estimated Time Frame
72.00	Transportation Art by Youth	Regionwide	A program that employs youth to create art for transportation facilities	PAG	$6,000	All
139.98	Transportation Planning Program	Regionwide	Regional transportation planning, includes RMAP and TIP planning	PAG	$60,000	All
659.03	Transportation Studies	Regionwide	Studies to improve transportation network	Multiple	$30,000	All
234.08	Transportation Technology	Regionwide	Traffic signal systems, fiber-optic comm., traffic data collection stations, sensor technology, ITS	Multiple	$85,000	All
136.98	Travel Demand Management	Regionwide	Includes rideshare, TRP, vanpool & congestion management	PAG	$20,000	All
202.23	Twin Peaks - Rattlesnake Pass Expansion	Twin Peaks Rd, Saguaro Bloom subdivision to Twin peaks Rd	Widen the 2-lane road to a 4-lane road, project to include wildlife crossings and a multi-use path	Marana	$45,000	Early
611.03	Valencia Rd	Houghton Rd to Old Spanish Tr	Widen to 4-lane roadway	Pima County	$69,700	Late
685.03	Valencia Rd #4	I-19 to Alvernon Way	Access management & safety improvements	Tucson	$9,800	Middle
153.08	Valencia Rd #6	Kolb Rd to Houghton Rd	Widen to 6-lane roadway, bike lanes & sidewalks	Tucson	$44,500	Early
184.03	Wade Rd	Valencia Rd to Ajo Way	Construct new 2-lane roadway, bike, ped, drainage	Pima County	$15,600	Late
123.23	Westover Rd	Los Reales Road to Valencia Rd	Modernization and capacity improvements	Pima County	$6,300	Early
3.06	Wildlife Linkages and Environmental Mitigation	Regionwide	Construct wildlife linkages, resilient infrastructure, mitigation for transportation projects	RTA	$65,000	All

APPENDIX 2: 2055 RMAP RESERVE PROJECT LIST

Appendix 2 of the 2055 RMAP includes "reserve" projects identified as future transportation needs. Projects on the Reserve List are not funded in the RMAP's 30-year plan horizon. These projects are not technically part of the 2055 RMAP and, therefore, were not included in the analysis of transportation performance. If additional funding is identified, a reserve project may be added to the plan through an amendment process. This project list represents transportation priorities established and provided by each jurisdiction in the greater Tucson region. Projects are sorted alphabetically by name. The table presents information in columns that cover the following:

RMAP ID#: Each project has an ID number that is used to identify and track the project. Numbers after the decimal point indicate the year the project was originally added to PAG's regional project database.

Project Name, Location, Description: The general scope and location of each project is provided.

Jurisdiction/Sponsor: Each project identifies the agency that is expected to be responsible for its implementation. "Multiple" indicates more than one sponsor is responsible for implementing the project.

Estimated Project Costs: Totals include the anticipated costs, as appropriate, for planning, design, right-of-way and construction for each project. All costs and revenues are in 2024 dollars and may be subject to change as project scopes are further defined.

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
104.23	10th Ave/44th St	40th St to 12th Ave	Modernize corridor	Tucson	$3,893
32.23	12th Ave	W 44th St to Irvington Rd	Modernize corridor	Tucson	$16,530
33.23	12th Ave	Irvington Rd to Drexel Rd	Modernize corridor	Tucson	$10,150
157.23	12th Ave	Drexel Rd to Los Reales Rd	Modernize corridor	Tucson	$12,000
166.23	17th St	Fremont Ave to Vine Ave	Provide bicycle and pedestrian connection across Aviation Pkwy	Tucson	$15,000
23.23	22nd St	I-10 To Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$2,625
28.23	22nd St	Alvernon Way to S Camino Seco	Modernize corridor	Tucson	$72,030
148.23	36th St	La Cholla Blvd to Mission Rd	Modernize corridor	Tucson	$6,000
167.23	4th Ave	University Blvd to 9th St	Modernize corridor	Tucson	$3,000
82.23	6th Ave	I-10 To Irvington Rd	Modernize corridor	Tucson	$33,000
142.23	6th Ave	Grant Rd To Speedway Blvd	Modernize corridor	Tucson	$11,000
168.23	6th Ave Streetcar	Ronstadt Transit Center to Tucson International Airport	HCT: Construct a new high-capacity transit route from downtown to the airport	Tucson	$1,465,000
113.23	6th St	Court Ave to Campbell Ave	Modernize corridor	Tucson	$27,767
128.23	6th St/5th St	Campbell Ave to Wilmot Rd	Modernize corridor	Tucson	$20,000
25.18	ADA Right-of-Way Improvements	Citywide	Implement ADA transition plan	Tucson	$1,488,000
572.08	Adonis Rd #1	Lambert Ln to Tangerine Rd	Construct 4-lane roadway	Marana	$38,864
421.03	Adonis Rd #3	Cochie Canyon Rd to north Town of Marana limits	Construct 4-lane roadway	Marana	$35,986
34.18	Aeronautical Way & Country Club Rd Connection	Tucson International Airport	2-lane roadway connecting Aeronautical Way & Country Club Rd	Multiple	$3,570
22.23	Ajo Way	S 12th Ave to Country Club Rd	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$735

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
130.23	Ajo Way	S 16th Ave to S 6th Ave	Fill sidewalk gaps	Tucson	$1,128
137.23	Alameda St	Manning House Way to N 6th Ave	Add protected bike lanes	Tucson	$1,038
85.08	Alvernon Way #1A	Hughes Access Rd to Valencia Rd	Widen to 4-lane roadway	Multiple	$32,333
25.23	Alvernon Way	River Rd to Palo Verde Blvd	Upgrade traffic signals to improve safety and the movement of traffic.	Tucson	$1,156
64.23	Alvernon Way	River Rd to Speedway Blvd	Modernize corridor	Tucson	$55,500
66.23	Alvernon Way	Valencia Rd to South of Los Reales Rd	Widen to 4-lane divided roadway	Tucson	$29,000
94.23	Andrada Rd	South Houghton Road to 1.8 miles west	Reconstruct and extend 2-lane road with drainage, bike/ped improvements	Pima County	$12,500
194.23	Avra Valley Rd – I-10 TI and Extension	Avra Valley Rd – I-10, to the NE to Tangerine Farms	A TI at Avra Valley and I-10 and extending Avra Valley to the NE and connecting with Tangerine Farms	Marana	$94,000
196.00	Avra Valley Rd #2	I-10 to Clayton Rd	Widen to 4-lane roadway, multi-purpose lanes & sidewalks	Marana	$44,084
56.18	Avra Valley Rd Extension	I-10 to Tangerine Rd	4-lane road	Marana	$29,669
198.08	Bicycle and Pedestrian Encouragement and Safety Outreach	Regionwide	Develop and distribute materials on bicycle safety	Multiple	$21,800
60.18	Bicycle Facilities	Countywide	Add new bicycle facilities countywide for capacity/safety/and mobility	Pima County	$900,000
74.23	Bilby Rd	S Nogales Hwy to Country Club Rd	Modernize corridor	Tucson	$12,500
140.23	Bilby Rd	S 12th Ave to S Nogales Hwy	Modernize corridor	Tucson	$7,000
95.08	Bopp Rd	San Joaquin Rd to Kinney Rd	Widen to 4-lane roadway, bike/ped, drainage, art	Pima County	$74,700
69.18	Broadway Blvd Bus Rapid Transit - Operations	Broadway Blvd: Ronstadt Transit Center to Wilmot Rd	7-mile bus rapid transit line connecting Ronstadt Transit Center to Wilmot Rd	Tucson	$309,720
70.18	Broadway Blvd Streetcar - Operations	Broadway Blvd: Downtown to Alvernon Way	3.75-mile streetcar connecting downtown Tucson to Alvernon Way along Broadway Blvd	Tucson	$188,700

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
52.23	Broadway Blvd Bus Rapid Transit	Ronstadt Transit Center to Wilmot Rd	HCT: Construct Bus Rapid Transit from downtown to Wilmot along Broadway	Tucson	$167,000
51.23	Broadway Blvd Streetcar	Ronstadt Transit Center to Alvernon Way	HCT: Construct streetcar from downtown to Alvernon Way	Tucson	$660,000
160.00	Camino de Oeste	Irvington Rd to Ajo Way	Reconstruct to 3-lane roadway, bike/ped, drainage, art	Pima County	$10,200
104.08	Camino del Sol	Ocotillo Wash to Continental Rd	Add bike/ped, drainage, art	Pima County	$11,100
95.00	Camino Loma Alta	Colossal Cave Rd to Old Spanish Tr	Widen to 4-lane roadway, bike/ped, drainage, art	Pima County	$58,100
97.23	Camino Loma Alta	I-10 to Success Drive	Construct new 2-lane road with bike, ped, drainage	Pima County	$52,400
131.23	Camino Seco	Golf Links Rd to Irvington Rd	Modernize corridor	Tucson	$20,000
101.08	Camino Verde	Valencia Rd to Copper Leaf Dr	Reconstruct to 3-lane roadway	Pima County	$16,600
57.23	Campbell Ave	Fort Lowell Rd to Grant Rd	Modernize corridor	Tucson	$25,000
145.23	Campbell Ave	River Rd to Fort Lowell Rd	Modernize corridor	Tucson	$40,000
54.23	Campbell Ave/Kino Pkwy Streetcar	River Rd to Tucson Marketplace Blvd	HCT: Construct streetcar from River Rd to Tucson Marketplace Blvd	Tucson	$1,215,000
102.08	Catalina Hwy	Houghton Rd to Snyder Rd	Widen to 3-lane roadway	Pima County	$15,600
14.14	Cayton Rd	Dove Mountain Bl to Thornydale Rd	New 2-lane roadway	Marana	$10,708
72.23	Church Ave	6th St to W Cushing St	Modernize corridor	Tucson	$12,500
231.08	Clark Farms Blvd Corridor	Sanders Rd to Tangerine Rd	Make Clark Farms Blvd a 3-lane roadway from Sanders Rd to Tangerine Rd	Marana	$15,070
211.00	Clark Farms Blvd Phase #1	Despain Dr to Moore Rd	Construct new 4-lane roadway, multi-purpose lanes & sidewalks	Marana	$8,538
207.00	Clark Farms Blvd Phase #1A	Sanders Rd to the East 2,700 feet	Construct new 3-lane roadway, multi-purpose lanes & sidewalks	Marana	$3,843
216.00	Collector A - North of Cochie Canyon/Project #22	Pinal County Line to Postvale Rd	Construct 4-lane divided roadway, multi-purpose lanes & sidewalks	Marana	$78,039

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
56.23	Colossal Cave Rd	City Limit to Dawn Dr	Widen to 4-lane divided roadway	Tucson	$10,350
118.23	Columbus Blvd	Fort Lowell Rd to E 22nd St	Modernize corridor	Tucson	$30,000
530.08	Commuter Rail - Marana to Downtown	Downtown to Marana Town Center	Commuter Rail to Marana	Multiple	$381,175
568.08	Commuter Rail Study - Green Valley	Downtown Tucson to Green Valley	Study feasibility and implementation of commuter rail	PAG	$5,000
567.08	Commuter Rail Study - Vail	Downtown to Vail	Study feasibility and implementation of commuter rail	PAG	$5,000
531.08	Commuter Rail to Green Valley	Green Valley to Downtown	Commuter Rail to Green Valley	Multiple	$460,000
90.23	Congress St Downtown Gateway Project	Santa Cruz to Granada Ave	Modernize corridor	Tucson	$9,000
79.23	Country Club Rd	Prince Rd to Aviation Pkwy	Modernize corridor	Tucson	$62,000
163.23	Country Club Rd	Prince Rd to The Loop	Modernize corridor	Tucson	$1,000
69.23	Craycroft Rd	Broadway Blvd to Golf Links Rd	Modernize corridor	Tucson	$37,500
111.23	Cushing St	Santa Cruz to Church Ave	Install protected bike lane	Tucson	$1,038
174.03	Dirt Roads & Shoulder Improvements	Regionwide	Pavement of dirt roads to control particulate matter	Multiple	$15,000
147.23	Dodge Blvd	City Limits to E 5th St	Modernize corridor	Tucson	$21,000
91.23	Drachman St	Oracle Rd to 9th St	Modernize corridor	Tucson	$3,100
18.00	East Frontage Rd along I-19 Phase 1	S 1/4 corner of Sec 26, T17S, R13E to Nogales Hwy	Realign and reconstruct roadway	Sahuarita	$10,857
3.14	Egleston Rd	Calle Concordia to Linda Vista Blvd	New roadway	Oro Valley	$2,583
31.14	El Toro Rd - Part 2	La Villita Rd to Wilmot Rd	Construct 4-lane divided roadway, includes bridge over Santa Cruz	Sahuarita	$174,495
498.08	Emergency & Incident Management System	Regionwide	Programs to address emergency situations and routine incidents	Multiple	$20,000
27.18	Enhance Ft Lowell Rd/Camp Lowell Rd	Alvernon Way to Swan Rd	Capacity and safety improvements	Tucson	$16,629

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
60.23	Escalante Rd	Camino Seco to Cedarwood Way	Build two new 2-lane bridges over the Pantano and Escalante Washes	Tucson	$40,000
119.23	Escalante Rd	S Calle Polar to Camino Seco	Modernize corridor	Tucson	$22,000
143.23	Euclid Ave	Grant Rd To Speedway Blvd	Modernize corridor	Tucson	$12,000
155.23	Fairview Ave	Roger Rd To Prince Rd	Modernize corridor	Tucson	$4,000
28.18	Fiber and Communications Systems	Citywide	City of Tucson fiber and communications systems design, construction and maintenance	Tucson	$40,000
77.23	Flowing Wells Rd	River Rd to Grant Rd	Modernize corridor	Tucson	$72,000
114.23	Glenn St	Country Club Rd to Craycroft Rd	Install continuous sidewalks, improve lighting and landscaping	Tucson	$10,899
129.23	Glenn St	Flowing Wells Rd to Oracle Rd	Modernize corridor	Tucson	$4,000
132.23	Glenn St	Oracle Rd to Country Club Rd	Modernize corridor	Tucson	$18,000
21.23	Golf Links Rd	Alvernon Way to Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$1,400
46.23	Golf Links Rd	Alvernon Way to Kolb Rd	Install grade-separated Intersections at major intersections	Tucson	$220,000
154.23	Granada Ave	St. Mary's Rd to Congress St	Modernize corridor	Tucson	$4,000
103.23	Grande Ave	Speedway Blvd to St. Mary's Rd	Modernize corridor	Tucson	$4,022
158.23	Grande Ave	St. Mary's Rd to Cushing St	Modernize corridor	Tucson	$11,000
26.23	Grant Rd	I-10 to Tanque Verde Rd	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$2,418
135.23	Grant Rd	Swan Rd to Tanque Verde Rd	Install raised bike lane or shared use path to provide a safe bike connection	Tucson	$10,000
125.23	Greasewood Rd	Ironwood Hills Dr to Starr Pass Blvd	Modernize corridor	Tucson	$27,000
208.00	Grier Rd	Luckett Rd/Moore Rd to Tangerine Farms Rd	Widen to 3-lane roadway	Marana	$24,500

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
432.03	Hardin Rd	I-10 to Trico Rd	Widen to 3-lane roadway	Marana	$31,882
184.23	Hardy Rd Improvement	From La Cañada Dr to Oracle Rd (SR77)	Widen Hardy Rd to three lanes with bike lanes, multi-use path, and drainage facilities	Oro Valley	$18,150
45.23	Harrison Rd	Irvington Rd to Valencia Rd	New divided 4-lane roadway	Tucson	$48,700
136.23	Highland Ave	E 6th St to Aviation Pkwy	Modernize corridor	Tucson	$8,000
12.02	Houghton Rd	Camino del Toro to Andrada Polytechnic High School driveway	Reconstruct to 4-lane roadway	Pima County	$92,000
22.03	Houghton Rd	Tanque Verde Rd to Catalina Hwy	Widen to 3-lane roadway	Pima County	$25,600
24.23	Houghton Rd	Tanque Verde Rd to I-10	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$1,515
58.23	Houghton Rd	I-10 to Pima Mine Ranch	Widen to 4-lane divided roadway	Tucson	$71,550
161.23	Houghton Rd	Greenway To Mary Ann Cleveland Way	Shared-use path	Tucson	$12,000
409.03	I-10 Marana Rd TI	I-10/Trico-Marana Rd	Construct traffic interchange	ADOT	$200,000
41.23	I-10 Frontage Rd	Grant Rd to 29th St	Install shared-use path along I-10 frontage road	Tucson	$8,000
5.98	I-10 West Phase 2: Prince Rd to Marana Rd	Prince Rd to Marana Rd	Widen to 10 lanes	ADOT	$536,283
661.03	I-10 West Phase 3: Marana Rd TI to N. County Line	Marana Rd TI to N County Line	Widen to 10 lanes	ADOT	$24,000
188.23	I-10: Alvernon Way to Craycroft Rd	I-10 MP 265 – 268	Widen I-10 to 8 lanes	ADOT	$29,897
191.23	I-10: Alvernon Way to Craycroft Rd	I-10 MP 265 – 268	Widen I-10 to 10 lanes	ADOT	$20,360
606.03	I-10: Craycroft Rd TI	I-10 / Craycroft Rd, MP 267.69 - 268.83	Reconstruct traffic interchange and widen I-10	ADOT	$146,447
189.23	I-10: Craycroft Rd to Kolb Rd	I-10 MP 268 – 270	Widen I-10 to 8 lanes	ADOT	$20,610
192.23	I-10: Craycroft Rd to Kolb Rd	I-10 MP 268 – 270	Widen I-10 to 10 lanes	ADOT	$17,970
1.23	I-10: Ina Rd to Twin Peaks	I-10 MP 244.9 - 248.7	Widen I-10 to 8 lanes	ADOT	$192,801

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
605.03	I-10: Kolb Rd TI	I-10/Kolb Rd, MP 269.93 - 272.3	Reconstruct traffic interchange	ADOT	$175,411
190.23	I-10: Kolb Rd TI Express Lanes	I-10 MP 270	Addition of Kolb Rd express lanes at the Kolb Rd TI	ADOT	$122,468
5.23	I-10: Kolb Rd to SR 83	I-10 MP 270 – 281	Widen I-10 to 6 lanes	ADOT	$82,745
604.03	I-10: Rita Rd TI	I-10/Rita Rd	Reconstruct traffic interchange	ADOT	$63,000
4.23	I-10: SR 83 TI	I-10 MP 281	Reconstruct I-10/SR 83 traffic interchange	ADOT	$84,600
2.23	I-10: Twin Peaks to Tangerine	I-10 MP 240.5 - 244.9	Widen I-10 to 8 lanes	ADOT	$508,845
3.23	I-10: Wentworth Rd TI	I-10 MP 279	Reconstruct Wentworth Rd TI	ADOT	$84,300
613.03	I-10: Wilmot Rd TI	I-10/Wilmot Rd TI, MP 268.83 - 269.93	Reconstruct traffic interchange	ADOT	$143,154
39.02	I-19 Mainline Widening	Continental Rd to El Toro Rd	Widen to 6 lanes	ADOT	$328,041
406.03	I-19 Mainline Widening	El Toro Rd to San Xavier Rd	Widen to 6 lanes	ADOT	$583,241
51.18	I-19: Phase 6	Valencia Rd to I-10, MP 58.82-63.00	Widen I-19 to 8 lanes (four in each direction)	ADOT	$236,358
52.18	I-19: Phase 7	San Xavier Rd to Valencia Rd	Widen I-19 to 8 lanes (four in each direction)	ADOT	$145,980
22.00	I-19: Pima Mine Rd TI	I-19/Pima Mine Rd	Reconstruct traffic interchange	ADOT	$67,000
169.00	Ina Rd	Wade Rd to Silverbell Rd	Widen to 3-lane roadway	Pima County	$23,300
63.23	Ironwood Hill Dr	Greasewood Rd to Silverbell Rd	Widen to 4-lane divided roadway	Tucson	$62,276
210.00	Kirby Hughes Rd	Luckett Rd to I-10 Frontage Rd	Widen to 4-lane roadway	Marana	$23,462
528.08	Kolb/Orange Grove Pkwy	La Cholla Bl to Houghton Rd	Upgrade to parkway level of service	Multiple	$406,341
20.23	Kolb Rd	Tanque Verde Rd to I-10	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$1,892
181.23	La Cholla Blvd Extension	Tangerine Rd to the Oracle Rd junction	DCR/Design/Construct a new 4-lane divided roadway	Oro Valley	$220,950

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
98.00	Lambert Ln #1	I-10 to Twin Peaks Rd	Construct 4-lane roadway, including wildlife crossing	Marana	$44,145
7.03	Lambert Ln #2	Twin Peaks Rd to Thornydale Rd	Widen to 4-lane roadway, including wildlife crossing	Marana	$44,835
71.23	Limberlost Dr	Oracle Rd To Campbell Ave	Modernize corridor	Tucson	$17,500
16.00	Linda Vista Bl #1	400' East of Marana Center Blvd to eastern town limits	Widen to 4-lane divided roadway, curbs & sidewalk	Marana	$15,789
183.23	Linda Vista Blvd Safety Improvements	Calle Buena Vista to Oracle Rd	Construct new 3-lane roadway	Oro Valley	$9,307
67.23	Los Reales Rd	I-19 To S Nogales Hwy	Widen to 4-lane divided roadway	Tucson	$29,250
201.00	Luckett Rd/Moore Rd	Marana Rd to Tortolita TI with I-10	Widen to 4-lane roadway	Marana	$34,491
434.03	Luckett Rd/Moore Rd	Luckett Rd to Sanders Rd	Construct 4-lane roadway	Marana	$55,382
165.23	Main Ave/Granada Ave	University Blvd to St. Marys Rd	New at-grade pedestrian crossing at UPRR; new PBL	Tucson	$2,000
199.00	Marana Rd	Trico Rd to Tangerine Farms Rd	Widen to 4-lane roadway	Marana	$65,000
90.08	Mark Rd/Joseph Rd/Kinney Rd	Los Reales Rd to Ajo Way	Modernization	Pima County	$46,078
692.03	Mission Rd	Valencia Rd to Drexel Rd	Widen to 4-lane roadway	Pima County	$21,200
198.00	Moore Rd	I-10 to Sanders Rd	Widen to 4-lane divided roadway with multi-purpose lanes & sidewalks	Marana	$37,817
88.23	Mountain Ave	E Prospect Ln to Speedway Blvd	Upgrade bike lanes to provide protected bike lanes	Tucson	$5,700
174.23	Naranja Dr	La Cholla Blvd to 1st Ave	Construct 3-lane roadway	Oro Valley	$32,980
83.23	New Road	Poorman Rd to Mary Ann Cleveland Way	New divided 4-lane roadway	Tucson	$88,500
84.23	New Road	Poorman Rd to Mary Ann Cleveland Way	New divided 4-lane roadway	Tucson	$64,500
32.14	Nogales Hwy #4	Sahuarita Rd to Pima Mine Rd	Widen to 4-lane divided roadway	Sahuarita	$52,713
185.23	Northern Ave/Calle Buena Vista	Magee Rd to Linda Vista Blvd	Construct new 3-lane roadway, add bike lanes, multi-use paths & transit elements	Oro Valley	$21,901

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
150.23	Old Spanish Tr	Broadway Blvd to E 22nd St	Modernize corridor	Tucson	$8,000
18.23	Oracle Rd	River Rd to Speedway Blvd	Upgrade traffic signals to improve safety and the movement of traffic.	Tucson	$838
55.23	Oracle Rd	Tohono Tadai Transit Center to Ronstadt Transit Center	HCT: Construct bus rapid transit from downtown to Tohono Tadai along Oracle Rd	Tucson	$140,000
67.18	Oracle Rd Bus Rapid Transit – Operations	Tohono Tadai Transit Center to Ronstadt Transit Center	6-mile bus rapid transit line connecting Tohono Tadai to Ronstadt Center along Oracle Rd	Tucson	$225,000
415.03	Orange Grove Rd #1	I-10 to Thornydale Rd	Widen to 8-lane roadway	Marana	$25,000
108.98	Palisades Rd	1st Ave to 1 mile east	Widen to 3 lanes, shoulders, turn lanes & bike lanes	Oro Valley	$5,684
89.23	Pantano Rd	22nd St to Irvington Rd	Modernize corridor and improve pedestrian facilities	Tucson	$9,000
159.23	Pantano Rd	Pima St to Kenyon Dr	Modernize corridor	Tucson	$5,000
73.23	Park Ave	Broadway Blvd to Valencia Rd	Modernize corridor	Tucson	$120,000
115.23	Park Ave	Fort Lowell Rd to Speedway Blvd	Modernize corridor	Tucson	$19,170
27.23	Park Ave	University Blvd to Aviation	Modernize corridor	Tucson	$15,000
22.18	Pavement Preservation	Regional	Pavement preservation on roadways	Tucson	$2,600,000
8.23	Pavement Preservation and Reconstruction	Countywide	Repave and reconstruct arterial and collector streets	Pima County	$1,200,000
232.08	Pavement Preservation and Reconstruction	Regionwide	Maintain and repair roadway pavement	Multiple	$2,268,725
75.23	Pima St	Swan Rd To Tanque Verde Rd	Modernize corridor	Tucson	$39,000
76.23	Pima St	Country Club Rd to Swan Rd	Modernize corridor	Tucson	$31,600
15.14	Pinal Air Park Connector	Luckett Rd/Hardin Rd to Pinal Air Park Rd	New 2-lane roadway	Marana	$10,556
85.23	Poorman Rd	Houghton Rd to New Road/HAMP	Widen to 4-lane divided roadway	Tucson	$34,050

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
116.23	Prudence Rd	Broadway Blvd to Escalante Rd	Modernize corridor	Tucson	$18,510
34.00	Railroad Grade Crossing Warning System	Regionwide	Install warning systems at railroad crossing locations	Multiple	$5,458
583.08	Rancho Sahuarita Blvd	Sahuarita Rd to El Toro Rd	Construct 4-lane roadway, bike lanes, sidewalk & drainage	Sahuarita	$17,820
47.00	Regional Component of Tucson/Nogales Passenger Rail	Southern border of Pima County to downtown Tucson	Construct rail transit system toward Nogales	ADOT	$604,188
46.00	Regional Component of Tucson/Phoenix Passenger Rail	TIA to northern Marana boundary	Construct passenger rail transit system toward Phoenix	ADOT	$693,988
86.23	Rita Rd	Houghton Rd to Old Spanish Tr	New divided 4-lane roadway with turn lanes	Tucson	$43,500
529.08	River Rd/Alvernon Way/Swan Pkwy	Thornydale Rd to Sahuarita Rd	Upgrade to parkway level of service and extend to south	Multiple	$730,940
65.18	River Rd	La Cholla Blvd to Oracle Rd	Modernization of arterial roadway	Pima County	$29,200
66.18	River Rd	1st Ave to Campbell Ave	Modernization of arterial roadway	Pima County	$16,800
28.08	Roadway Development - Arroyo Grande	Arroyo Grande Planning Area	Plan, design and construct new roadways to support Arroyo Grande	Oro Valley	$76,860
36.23	Roger Rd	Oracle Rd to Campbell Ave	Modernize corridor	Tucson	$28,500
146.23	Roger Rd	Oracle Rd to Campbell Ave	Modernize corridor	Tucson	$24,000
156.23	Romero Rd	Wetmore Rd to Miracle Mile	Install enhanced bike lane	Tucson	$4,000
139.23	Rosemont Blvd	Grant Rd To E 16th St	Modernize corridor	Tucson	$17,000
120.23	Sabino Canyon Rd Modernization	Sabino Canyon Rd, E Portal Airosa to Cloud Rd	Modernization, adding curbs, bicycle, pedestrian and drainage improvements	Pima County	$8,000
591.03	Sahuarita Rd	Country Club Rd to SR 83	Reconstruct 2-lane roadway with drainage	Pima County	$158,200
25.00	Sahuarita Rd #1	La Cañada Dr to La Villita Rd	Widen to 6-lane roadway	Sahuarita	$37,696
98.08	Sandario Rd	Ajo Way to Emigh Rd	Reconstruct 2-lane roadway	Pima County	$158,600
214.00	Sandario Rd #2	Moore Rd to Grier Rd	Widen to 3-lane roadway	Marana	$18,361

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
20.14	Sandario Rd #3	Grier Rd to Tangerine Farms Rd	Widen to 3-lane roadway	Marana	$4,000
198.23	Sandario Rd Widening, Avra Valley Rd to Emigh Rd	Sandario Rd, Avra Valley Rd to Emigh Rd	Widening of Sandario Rd from Avra Valley Rd. to Emigh Rd	Marana	$7,000
200.00	Sanders Rd Corridor Project	Twin Peaks Rd to Marana Rd	Widen to 4-lane roadway	Marana	$86,028
81.23	Science Park Dr	Kolb Rd To Rita Rd	Widen to 4-lane divided roadway	Tucson	$45,000
165.00	Shannon Rd	Cortaro Farms Rd to Lambert Ln	Widen to 4-lane roadway	Pima County	$58,100
138.23	Silverbell Rd	St. Mary's Rd to Congress St	Modernize corridor	Tucson	$8,000
219.00	Silverbell Rd	Sanders Rd to west town limits	Widen to 3-lane roadway	Marana	$13,862
144.23	Silverlake Rd	City Limits to Fairland Stravenue	Modernize corridor	Tucson	$12,000
4.03	Snyder Rd Bridge	Sabino Creek	Bridge, 2-lanes	Pima County	$10,800
98.23	Sonoran Corridor	I-19 to I-10	New limited access roadway	Pima County	$20,000
68.18	Speedway Blvd Bus Rapid Transit - Operations	Speedway Blvd: Main Ave to Kolb Rd	Operating costs for 8-mile BRT line along Speedway Blvd	Tucson	$408,000
10.23	Speedway Blvd	Alvernon Way to Wilmot Rd	Modernize corridor	Tucson	$81,389
29.23	Speedway Blvd	Main St to Kolb Rd	HCT: Construct bus rapid transit on Speedway Blvd from Main to Kolb	Tucson	$200,000
61.23	Speedway Blvd	Main St to Stone Ave	Modernize corridor	Tucson	$7,000
62.23	Speedway Blvd	Euclid Ave to Alvernon Wy	Modernize corridor	Tucson	$27,000
65.23	Speedway Blvd	Stone Ave to Euclid Ave	Modernize corridor	Tucson	$23,100
87.23	Speedway Blvd	Frontage Rd to Main St	Modernize corridor	Tucson	$8,000
108.23	Speedway Blvd	Silverbell Rd to I-10	Narrow travel lanes to add enhanced bike lanes, add landscaping, repave roadway	Tucson	$9,342
127.23	Speedway Blvd	Frontage Rd to Frontage Rd	Modernize corridor	Tucson	$1,500
133.23	Speedway Blvd	Painted Hills Rd to Silverbell Rd	Modernize corridor	Tucson	$23,000

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
162.23	Speedway Blvd	Wilmot Rd to Kolb Rd	Modernize corridor	Tucson	$12,000
42.00	SR 77 #1: Miracle Mile	I-10 to Oracle Rd	Widen to 6-lane roadway	ADOT	$24,035
186.00	SR 77 #2: Oracle Rd	Rudasill Rd to Ina Rd	Widen to 8-lane roadway	ADOT	$22,104
185.00	SR 77 #3: Oracle Rd	Ina Rd to Magee Rd	Widen to 8-lane roadway	ADOT	$15,696
30.23	St. Mary's Rd	Silverbell Rd to I-10	Modernize corridor, reconstruct bridge	Tucson	$28,732
92.23	Starr Pass Blvd	Shannon Rd to I-10	Modernize corridor	Tucson	$9,000
47.23	Stone Ave	Prince Rd to Drachman St	Modernize corridor	Tucson	$31,000
68.23	Stone Ave	Alameda St to Broadway Blvd	Extend two-way protected bike lane to Broadway Blvd	Tucson	$2,700
110.23	Stone Ave	River Rd to Prince Rd	Modernize corridor	Tucson	$27,351
153.23	Stone Ave	Drachman St to Franklin St	Modernize roadway	Tucson	$9,000
50.23	Stone Ave Streetcar	Tohono Tadai Transit Center to University Blvd	HCT: Construct streetcar along Stone Ave, connecting Tohono Tadai to University Blvd	Tucson	$690,000
72.18	Stone Ave Streetcar - Operations	Stone Ave: 4th Ave and University Blvd to Tohono Tadai	4.4-mile streetcar connecting 4th Ave/University Blvd to the Tohono Tadai	Tucson	$264,000
11.14	Sun Tran Maintenance Facility Roof Replacement- NW	Sun Tran NW Facility, 3920 N. Sun Tran Blvd	Replace/repair roof for all 7 buildings at facility	Tucson	$1,440
19.18	Sun Link Maintenance Facility Repair and Upgrades	Sun Link Maintenance Facility, 290 E 8th St	Repair and upgrade the existing Sun Link maintenance facility	Tucson	$4,800
18.18	Sun Link Rail Vehicle and Fleet Replacements	Sun Link Maintenance Facility, 290 E 8th St	Replace Sun Link rail vehicles and fleet vehicles and Improve Tracks	Tucson	$93,120
201.23	Tangerine Rd Connector	Tangerine Rd to Sandario Rd/Magee Rd	Construct 4-Lane roadway, multi-purpose lanes, and sidewalks	Marana	$122,137
162.98	Thornydale Rd	Cortaro Farms Rd to Lambert Ln	Widen to 4-lane roadway	Pima County	$48,300
70.23	Toole Ave	Stone Ave to Congress St	Modernize corridor	Tucson	$6,000
141.23	Toole Ave	Broadway Blvd to E 16th St	Modernize corridor	Tucson	$1,500

2055 RMAP Reserve Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
57.18	Traffic Operations Center Upgrades	Traffic Operations Center	Conduct maintenance and upgrades to the Traffic Operations Center	Pima County	$1,800
635.08	Transit Operations and Maintenance Expansion	Regionwide	Expand transit operations and maintenance	Multiple	$1,014,000
25.08	Transit Services - Oro Valley/Arroyo Grande	Arroyo Grande Planning Area	Transit circulator/paratransit expansion into Arroyo Grande	Oro Valley	$11,675
105.23	Tucson Blvd	Prince Rd To Aviation Pkwy	Modernize corridor	Tucson	$30,102
149.23	Tucson Blvd	Irvington Rd to Corona Rd	Modernize corridor	Tucson	$16,000
16.18	Tucson Historic Depot Upgrades	400 N Toole Ave	Building repairs and upgrades	Tucson	$3,750
56.14	Tucson Regional Bike Share	Regionwide	Implement public bike share system	Tucson	$11,600
195.00	Twin Peaks Rd #2	Sanders Rd to Sidewinder Ln	Widen to 4-lane roadway	Marana	$70,945
690.03	University of Arizona Transit System	In and around UA	Maintain and upgrade CatTran Shuttle Services	U of A	$1,528
19.23	Valencia Rd	Midvale Park Rd to Houghton Rd	Upgrade traffic signals to improve safety and the movement of traffic	Tucson	$2,500
215.00	Wentz Rd	Grier Rd to Hardin Rd	Widen to 3-lane roadway	Marana	$18,028
59.23	Wilmot Rd	Valencia Rd to I-10	Widen to 4-lane divided roadway	Tucson	$29,100
124.23	Wilmot Rd	Speedway Blvd to Broadway Blvd	Modernize corridor	Tucson	$5,000
134.23	Wilmot Rd	City Limits to Pima St	Extend bike and pedestrian facilities	Tucson	$2,500
581.08	Wilmot Rd #3 South	I-10 to Pima Mine Rd	Widen to 4-lane divided roadway, turn lanes, bike lanes & drainage	Multiple	$70,000
151.23	Wilmot Rd/Tanque Verde Rd	Grant Rd to Speedway Blvd	Modernize corridor	Tucson	$10,000
117.23	Wrightstown Rd	Tanque Verde Rd to Harrison Rd	Modernize corridor	Tucson	$25,000

APPENDIX 3: 2055 RMAP AVIATION PROJECT LIST

Appendix 3 of the 2055 RMAP includes aviation specific projects. PAG worked with regional airport operators to include aviation improvements in the plan. Aviation projects were not considered as part of the financial analysis conducted for the 2055 RMAP because airports have their own mix of federal, state and local revenue sources. For more information about planned aviation improvements, please refer to the long-range plans and programs of the region's individual airports. Projects on the aviation list are sorted alphabetically by name. Other information presented includes:

RMAP ID#: Each project has an ID number that is used to identify and track the project. Numbers after the decimal point indicate the year the project was originally added to PAG's regional project database.

Project Name, Location, Description: The general scope and location of each project is provided.

Jurisdiction/Sponsor: Each project identifies the agency that is expected to be responsible for its implementation. "Multiple" indicates more than one sponsor is responsible for implementing the project.

Estimated Project Costs: Totals include the anticipated costs, as appropriate, for planning, design, right-of-way and construction for each project. All costs and revenues are in 2024 dollars and may be subject to change as project scopes are further defined.

2055 RMAP Aviation Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
73.08	Air Traffic Control Tower	Marana Regional Airport	Air traffic control tower design and construction	Marana	$17,000
228.23	Aircraft Rescue and Firefighting Safety	Eric Marcus Municipal Airport	Water tank distribution system	Pima County	$66
133.08	Airport Land Acquisition 155 Acres	Marana Regional Airport	Airport land acquisition 155 acres	Marana	$5,100
71.08	Airport Land Acquisition 250 Acres	Marana Regional Airport	Purchase 250 acres on the west side of the airport	Marana	$6,200
72.08	Airport Terminal	Marana Regional Airport	Construct airport terminal	Marana	$7,314
78.08	Apron Reconstruction	Marana Regional Airport	Reconstruct ramp area for AZ State Aerial Fire Aircraft	Marana	$1,800
593.08	Apron Rehabilitation	Marana Regional Airport	Rehabilitate apron	Marana	$1,800
594.08	Avra Valley Rd Realignment	Marana Regional Airport	Design and environmental assessment	Marana	$1,500
127.08	Construct Auto Parking for Terminal	Marana Regional Airport	Auto parking for terminal	Marana	$1,200
135.08	Construct Runway 12R/30L	Marana Regional Airport	Construct runway 12R/30L	Marana	$5,000
114.08	Construct Taxiway H	Marana Regional Airport	Construct taxiway H	Marana	$3,600
74.08	Construct Taxiway K	Marana Regional Airport	Construct taxiway K, 50 feet x 1500 feet	Marana	$1,400
134.08	Construct Taxiways	Marana Regional Airport	Construct taxiways	Marana	$2,500
595.08	Design Airport Terminal Building	Marana Regional Airport	Design airport terminal building	Marana	$700
139.08	Design and Construct Runway 3-21 Shift	Marana Regional Airport	Extend Runway 3-21 and Taxiway B 500' to the northeast for displacement in 2005	Marana	$4,000
129.08	Design Runway 12R/30L	Marana Regional Airport	Design Runway 12R/30L 4700x75	Marana	$8,550
126.08	Environmental Assessment	Marana Regional Airport	Environmental assessment for new runway and other airport projects	Marana	$200
75.08	Extend Tiedown Apron (Fire)	Marana Regional Airport	Extend tiedown apron (Fire) by 400 x 400 feet	Marana	$12,000
632.08	Facility & Pavement Maintenance	Ajo Airport	Facility & pavement maintenance	Pima County	$300

2055 RMAP Aviation Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
125.08	Fire Protection	Marana Regional Airport	Fire protection water lines on 244 acres	Marana	$1,500
130.08	Fire Protection	Marana Regional Airport	9,000 LF of fire protection line	Marana	$3,000
137.08	Fire Protection	Marana Regional Airport	Install fire protection water line	Marana	$1,400
143.08	Fire Protection Lines Phase IV	Marana Regional Airport	Fire protection lines phase IV	Marana	$4,000
77.08	Fire Protection Water Line	Marana Regional Airport	Fire protection water line (to complete loop and Taxiway K)	Marana	$2,500
18.14	Fire Station	Marana Regional Airport	Fire station	Marana	$3,000
230.23	Fuel Tanks	Eric Marcus Municipal Airport	Design and construct fuel farm (AVGAS, JET A)	Pima County	$750
17.14	Hangar Development	Within Airport Master Plan Area	Hangar development	Marana	$3,800
88.14	Land Acquisition	Tucson International Airport	Acquire property for future expansion	TAA	$11,200
108.08	Land Acquisition	Ryan Airfield	Purchase land for runway approach protection	TAA	$675
596.08	Land Acquisition	Marana Regional Airport	Land acquisition for the Avra Valley Rd Alignment	Marana	$4,500
115.08	Land Acquisition 244 Acres	Marana Regional Airport	Acquire Land	Marana	$6,100
132.08	Land Acquisition 548 Acres	Marana Regional Airport	Land acquisition 548 acres	Marana	$13,700
231.23	Lighting and Electrical	Eric Marcus Municipal Airport	Solar electrical system for non-critical electrical capacity and support	Pima County	$275
38.14	Marana Airport Tie Down, Helicopter & Terminal Apron	Marana Regional Airport	Rehab apron transient (446,314 sf), tiedown (166,579 sf)	Marana	$2,895
131.08	Master Plan Update	Marana Regional Airport	Master plan update	Marana	$350
128.08	Part 150 Noise Study	Marana Regional Airport	Part 150 noise study	Marana	$300
124.08	Reconstruct Runway 3-21	Marana Regional Airport	Reconstruct Runway 3-21	Marana	$4,700
33.18	Reconstruct Taxiway A	Tucson International Airport	Reconstruct Taxiway A	TAA	$3,010

2055 RMAP Aviation Project List

Projects are listed alphabetically by name

RMAP ID	Name	Location	Description	Sponsor Jurisdiction	Estimated Project Cost (000s)
141.08	Reconstruct Taxiway C	Marana Regional Airport	Rehabilitate Taxiway C	Marana	$2,750
123.08	Rehabilitate Twy A, Twy B, Twy E	Marana Regional Airport	Rehabilitate taxiways	Marana	$1,900
226.23	Runway 15-33	Tucson International Airport	Runway construction	TAA	$8,000
224.23	Runway 15-33 Reconstruction	Tucson International Airport	Taxiway B hotspot correction design	TAA	$850
227.23	Runway Guidance	Eric Marcus Municipal Airport	Runway guidance and surveillance cameras	Pima County	$175
229.23	Runway Lighting	Eric Marcus Municipal Airport	Upgrade of electrical vault for lighting and surveillance	Pima County	$600
76.08	Security Fence	Marana Regional Airport	Construct security fence	Marana	$330
140.08	Security Fencing	Marana Regional Airport	Install security fence to protect the airside of the airport	Marana	$1,500
225.23	Taxiway B Hotspot	Tucson International Airport	Correction construction	TAA	$1,500
136.08	Taxiway Construction	Marana Regional Airport	Construct 6 (50x400) high-speed exits off RWY 12L/30R	Marana	$1,900
233.23	Terminal Development	Eric Marcus Municipal Airport	New modular building with restroom and pilot briefing area	Pima County	$500
222.23	Terminal Environmental Assessment	Tucson International Airport		TAA	$1,000
53.14	TIA Airside Service Road Reconstruction	Tucson International Airport	Reconstruct G Service Rd	TAA	$1,333
223.23	TUS Master Plan Update	Tucson International Airport		TAA	$1,500
232.23	Weather Reporting Equipment	Eric Marcus Municipal Airport	Design and construct AWOS weather reporting equipment	Pima County	$125

APPENDIX 4: PERFORMANCE MEASURES

TRACKING TO RMAP PERFORMANCE TARGETS

First adopted in 2016 as part of the 2045 RMAP, performance measures and associated targets by seven strategic goal areas are shown in the table below and are identified in the 2055 RMAP. PAG monitors the progress of performance measures over time to support the established 2055 targets. **Table A4.1** summarizes the region's current progress toward target achievement. Among 39 RMAP performance measures, 23 are on track to meet 2055 targets, and 16 performance measures are not on track to meet 2055 targets.

Table A4.1 Current Status Overview of RMAP Performance Measures

Goal Area	Performance Measure	2055 Target	Current Status
System Maintenance	Federal-Aid Pavement in Poor Condition	Reduce to below 20%	Behind pace
	Public Bridges in Poor Condition	Maintain below 10%	On pace
	Average Age of Public Buses	Maintain under 7-year average age	On pace
Safety	Total Fatalities	Reduce by 25%	Trending away
	Fatality Rate	Reduce by 45%	Trending away
	Total Serious Injuries	Reduce by 25%	On pace
	Serious Injury Rate	Reduce by 45%	On pace
	Total Pedestrian Fatalities	Reduce by 33%	Trending away
	Pedestrian Fatality Rate	Reduce by 70%	Trending away
	Total Pedestrian Serious Injuries	Reduce by 33%	Trending away
	Pedestrian Serious Injury Rate	Reduce by 70%	Trending away
	Total Bicycle Fatalities	Reduce by 33%	Trending away
	Bicycle Fatality Rate	Reduce by 70%	Trending away
	Total Bicycle Serious Injuries	Reduce by 33%	On pace
	Bicycle Serious Injury Rate	Reduce by 70%	Trending away
	Transit Crash Rate	Reduce by 10%	On pace
Multimodal Choices	Walk, Bike, or Transit to Work Rate	Increase to over 10%	Behind pace
	Walk, Bike, and Transit Mode Share, All Trips	Increase to over 20%	Trending away
	Total Transit Trips	Increase by 75%	Behind pace
	Average Transit Travel Time	Reduce to under 50 minutes	On pace
	Average Transit Speed	Increase to over 15 mph	Trending away
	Total Miles of Pedestrian Facilities	Increase to 1,500 miles	On pace
	Total Miles of Bicycle Facilities	Increase to 2,000 miles	On pace
System Performance	Daily Vehicle Miles Traveled (VMT) per Capita	Reduce by 10%	On pace
	Daily Vehicle Hours Traveled per Capita	Reduce by 5%	On pace
	Travel Time Index, PM Peak	Minimize increase to below 10%	On pace
	VMT in severe congestion (peak hour)	1.8%	On pace
Environmental Stewardship	On-Road Greenhouse Gas Emissions	Reduce by at least 30%	Behind Pace
	Weekday Metric Tons of NOx Emissions	Reduce by 80%	On pace
	Weekday Metric Tons of VOC Emissions	Reduce by 75%	On pace
	Weekday Metric Tons of CO Emissions	Reduce by 70%	Behind pace
	Weekday Metric Tons of PM 2.5 Emissions	Maintain less than 0.5 metric tons/weekday	On pace
	Weekday Metric Tons of PM 10 Emissions	Maintain less than 1.3 metric tons/weekday	On pace
Land Use and Transportation	Job Accessibility Index for All Modes	Increase by 15%	On pace
	Regional Jobs Reachable by Auto in 30 min	Increase by 45%	On pace
	Regional Jobs Reachable by Transit in 45 min	Increase by 50%	On pace
	Jobs within Quarter Mile of Transit Stop	Increase to more than 60%	On pace
	Population within Quarter Mile of Transit Stop	Increases to more than 45%	On pace
Freight and Economic Growth	Freight Travel-Time Reliability	Maintain under 1.5	On pace

** A next-generation Activity-Based Model (ABM) of the PAG Travel Demand Model was adopted to determine current performance measure status, which may impact the historical trend.*

Table A4.2 presents the full progress report for 2055 RMAP performance measures. The 2025 benchmark and 2055 target are established based on historical data, including a base year of 2015 and long-term aspirational goals. The benchmark is a refence point for evaluating progress toward the 2055 target and is estimated by a data-driven quantitative method. The trend refers to the desired direction based on the baseline, benchmark and 2055 target. The current status illustrates how the performance trend is advancing toward achieving the 2055 RMAP target. A status of "on pace" indicates that the current performance trend is progressing at a sufficient rate to meet the target; "behind pace" signifies that progress is occurring but not at a pace to achieve the target, and "trending away" signals that the performance condition is getting worse.

For system maintenance performance measures, both public bridges in poor condition and average age of public buses are on track, while federal-aid pavement in poor condition is slightly behind pace. There are 13 safety performance measures, with roughly 30% on track. These include total serious injuries, serious injury rate, total bicycle serious injuries and transit crash rate. However, total fatalities and fatality rate are not on track. Most safety performance measures for vulnerable users, both pedestrians and cyclists, are trending away from 2055 target. All performance measures related to pedestrian safety are trending away, and those related to bicycles, excluding total bicycle serious injuries, are also trending away.

Regarding multimodal choices, the average transit travel time, total miles of pedestrian facilities, and total miles of bicycle facilities are on pace. The remaining four performance measures are either trending away (walk, bike and transit mode share for all trips and average transit speed) or behind pace (walk, bike or transit to work rate, and total transit trips).

All performance measures for environmental stewardship are on pace to meet the 2055 targets except for weekday metric tons of CO emissions and on-road greenhouse gas emissions per capita, which are both currently behind pace to achieve the 2055 targets.

All performance measures for system performance, land use & transportation, and freight & economic growth are on pace.

Table A4.2 RMAP Performance Measure Progress Report

Performance Measure	Notes	2019	2020	2021	2022	2023	2024	5yr Avg	2025 Benchmark	2055 Target	Desired Trend	Status
Goal Area: System Maintenance												
Federal-Aid Pavement in Poor Condition	A	24.6%	28.0%	0.0%	29.6%	30.3%		28.1%	23.8%	20.0%	decrease	behind pace
Public Bridges in Poor Condition	B	4.5%	3.8%	2.4%	2.3%	2.3%	2.4%	2.6%	5.4%	10.0%	maintain	on pace
Average Age of Public Buses	C	7.4	7.7	7.0	6.7	7.1	7.0	7.1	7.3	7.0	maintain	on pace
Goal Area: Transportation Safety												
Total Fatalities (Five-Year Average)	D	116.4	130.6	140.8	152.4	164.6		141.0	109.0	71.9	decrease	trending away
Fatality Rate (Five-Year Average)	E	1.5	1.6	1.7	1.8	1.9		1.7	1.3	0.7	decrease	trending away
Total Serious Injuries (Five-Year Average)	D	458.2	446.0	420.2	421.4	413.0		431.8	454.5	436.1	decrease	on pace
Serious Injury Rate (Five-Year Average)	E	5.8	5.5	5.2	5.0	4.9		5.3	5.5	4.2	decrease	on pace
Total Pedestrian Fatalities (Five-Year Average)	D	30.4	36.0	41.0	46.4	49.2		40.6	27.7	14.2	decrease	trending away
Pedestrian Fatality Rate (Five-Year Average)	F	30.3	36.1	41.4	46.3	48.4		40.5	26.3	6.2	decrease	trending away
Total Pedestrian Serious Injuries (Five-Year Average)	D	55.2	55.6	54.0	56.8	57.6		55.8	52.0	35.8	decrease	trending away
Pedestrian Serious Injury Rate (Five-Year Average)	F	55.0	69.7	68.1	70.9	75.3		67.8	48.4	15.6	decrease	trending away
Total Bicycle Fatalities (Five-Year Average)	D	5.6	6.0	6.4	7.6	7.8		6.7	5.2	2.9	decrease	trending away
Bicycle Fatality Rate (Five-Year Average)	G	8.4	9.0	11.3	14.8	17.0		12.1	7.3	2.0	decrease	trending away
Total Bicycle Serious Injuries (Five-Year Average)	D	28.4	26.2	22.4	22.8	20.0		24.0	27.1	20.8	decrease	on pace
Bicycle Serious Injury Rate (Five-Year Average)	G	42.4	49.1	49.3	55.5	56.3		50.5	37.7	13.8	decrease	trending away
Transit Crash Rate	H	1.9	1.6	0.6	0.6	0.5		1.0	1.9	1.7	decrease	on pace
Goal Area: Multimodal Choices												
Walk, Bike, or Transit to Work Rate	I	n/a	n/a	3.7%	4.3%	4.4%		3.6%	6.8%	10.1%	increase	behind pace
Walk, Bike, and Transit Mode Share, All Trips	I	16.4%	18.3%	18.3%	18.0%	18.1%	14.9%	17.5%	17.0%	20.1%	increase	trending away
Total Transit Trips	J	15.7	13.5	11.6	14.7	16.8	18.0	14.9	19.3	37.3	increase	behind pace
Average Transit Travel Time	K	55.1	54.7	54.7	54.3	54.7	45.8	52.8	54.3	50.0	decrease	on pace
Average Transit Speed	L	14.2	14.0	14.0	14.0	14.1	12.5	13.7	14.3	15.0	increase	trending away
Total Miles of Pedestrian Facilities	M	582	582	582	582	582	1027	671	735	1500	increase	on pace
Total Miles of Bicycle Facilities	M	1111	1195	1195	1195	1340	1340	1253	1259	2000	increase	on pace
Goal Area: System Performance												
Daily Vehicle Miles Traveled (VMT) per Capita	M	20.8	21.1	21.1	21.3	21.3	20.3	21.0	20.5	18.5	decrease	on pace
Daily Vehicle Hours Traveled per Capita	K	32.2	32.8	32.7	33.2	33.2	30.3	32.8	32.0	30.6	decrease	on pace
Travel Time Index, PM Peak		1.43	1.45	1.45	1.45	1.46	1.42	1.45	1.45	1.58	maintain	on pace
Percent of Peak-Hour VMT under Severe Congestion	N	n/a	n/a	0.047	n/a	0.054	0.024	0.042	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	3.7	3.1	2.3	decrease	behind pace
Weekday Metric Tons of NOx Emissions		13.0	13.1	19.5	11.8	10.2	10.2	13.0	11.6	4.6	decrease	on pace
Weekday Metric Tons of VOC Emissions		14.0	12.6	11.2	9.4	11.0	11.0	11.0	12.5	4.6	decrease	on pace
Weekday Metric Tons of CO Emissions		123.6	146.5	116.5	113.1	115.6	126.9	123.7	111.2	49.2	decrease	behind pace
Weekday Metric Tons of PM 2.5 Emissions		0.22	0.21	0.20	0.39	0.35	0.35	0.30	0.27	0.50	maintain	on pace
Weekday Metric Tons of PM 10 Emissions		0.94	0.94	1.30	1.23	1.17	1.10	1.15	1.00	1.30	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	211,337	251,339	218,703	248,523	348,351	increase	on pace
Job Accessibility Index for All Modes		52.4	47.8	47.7	46.7	47.4	53.1	48.5	55.5	65.7	increase	on pace
Regional Jobs Reachable by Transit in 45 min		25,157	24,163	24,139	23,908	24,801	39,144	27	28	39	increase	on pace
Jobs within Quarter Mile of Transit Stop	P	57.7%	58.4%	58.4%	57.8%	58.5%	67.5%	60.1%	58.1%	60.0%	increase	on pace
Population within Quarter Mile of Transit Stop	I	40.6%	40.8%	40.8%	40.1%	41.2%	42.9%	41.2%	41.4%	45.0%	increase	on pace
Goal Area: Freight & Economic Growth												
Freight Travel Time Reliability		1.29	1.20	1.25	1.24	1.35		1.27	1.23	1.50	maintain	on pace

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

Table A4.3 shows a consolidated summary of current performance measure status and presents mixed results towards achieving 2055 targets. While the system is largely on track, multimodal choices and safety performance measures – especially those related to vulnerable users – are trending away from 2055 targets. However, system performance, land use and transportation, and freight and economic growth are progressing well toward achieving 2055 targets. System maintenance and environmental stewardship are on pace overall but are behind pace for some performance measures.

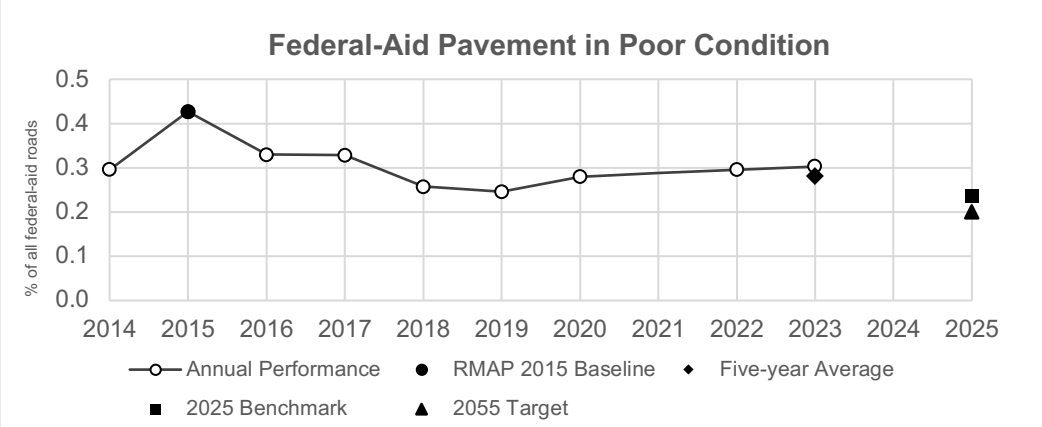
Table A4.3 Overall Statistics of Current Status

Goal Area	# of PMs	On Pace	Behind Pace	Trending Away	On Pace (%)	Behind Pace (%)	Trending Away (%)
System Maintenance	3	2	1	0	67%	33%	0%
Safety	13	4	0	9	31%	0%	69%
Multimodal Choices	7	3	2	2	43%	29%	29%
System Performance	4	4	0	0	100%	0%	0%
Environmental Stewardship	6	4	2	0	67%	33%	0%
Land Use and Transportation	5	5	0	0	100%	0%	0%
Freight and Economic growth	1	1	0	0	100%	0%	0%
Total	**39**	**23**	**5**	**11**	**59%**	**13%**	**28%**

Grouped by RMAP goal area, regional performance trends are shown below. The graphs illustrate performance measure data and the current status toward target achievement.

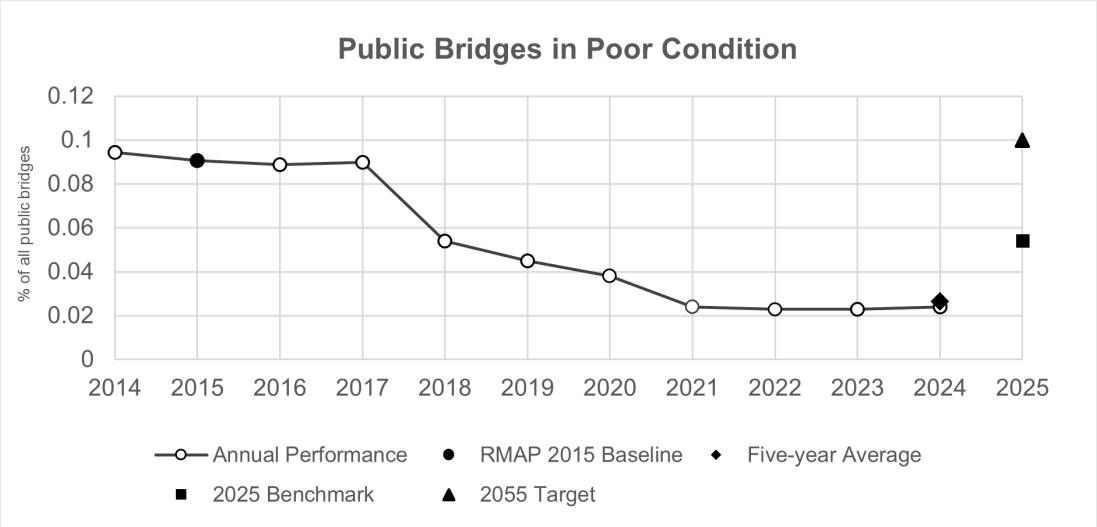
Performance Measures for System Maintenance

Figure A4.1 Federal-Aid Pavement in Poor Condition



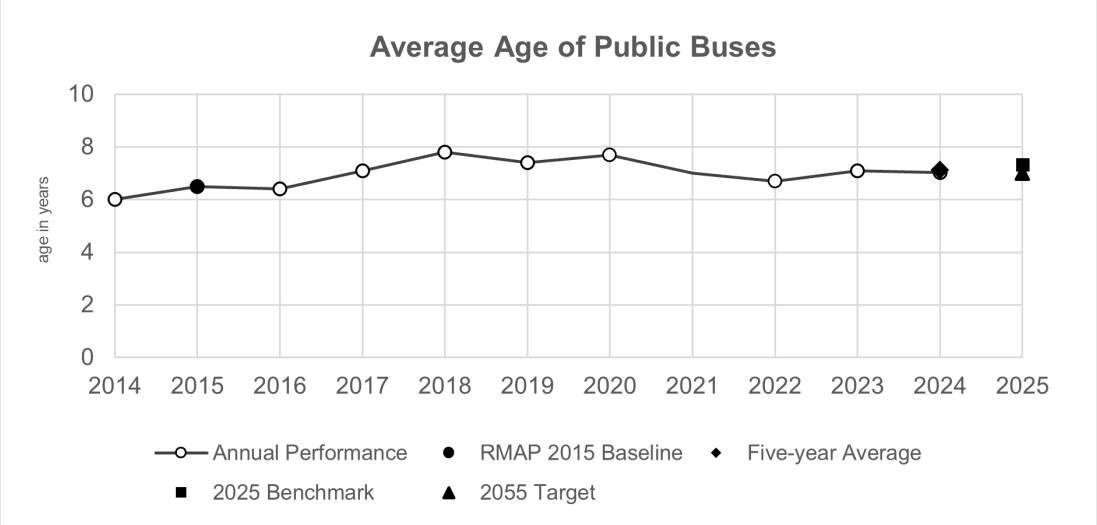
- Desired Trend: Decrease
- Current Status: Behind pace to meet 2055 target
- Data Source: The International Roughness Index (IRI) from the FHWA Highway Statistics website (www.fhwa.dot.gov/policyinformation/statistics.cfm)

Figure A4.2 Public Bridges in Poor Condition



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: FHWA National Bridge Inventory website (www.fhwa.dot.gov/bridge/nbi/ascii.cfm)

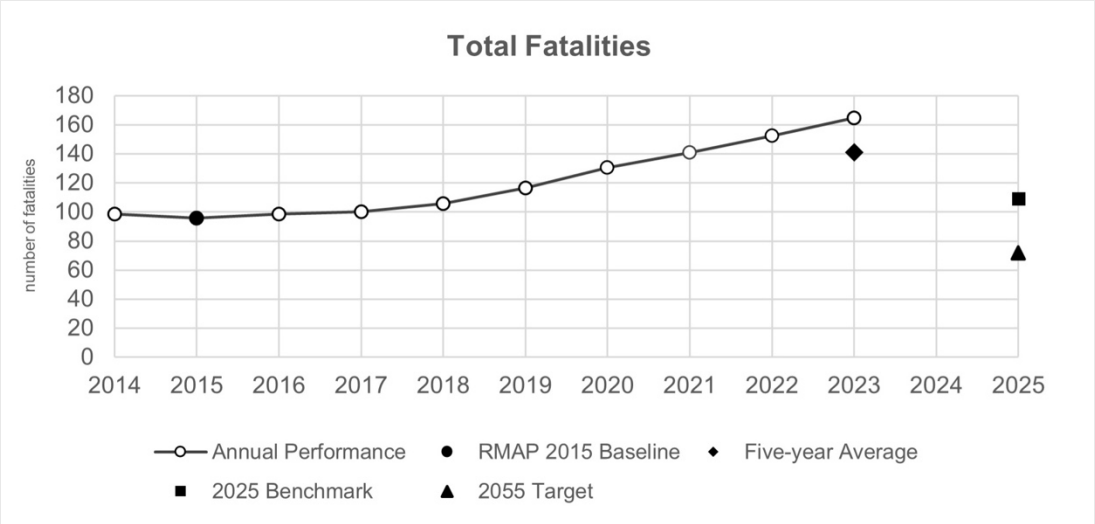
Figure A4.3 Average Age of Public Buses



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: Fleet report provided by Sun Tran website (www.suntran.com/conteact-us/contact-directory-office-information/)

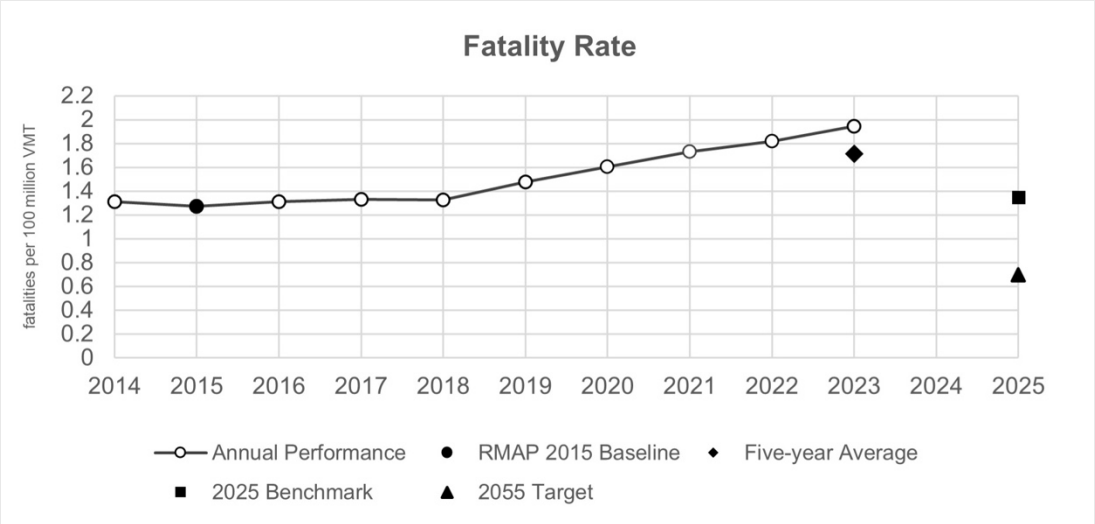
Performance Measures for Safety

Figure A4.4 Total Fatalities



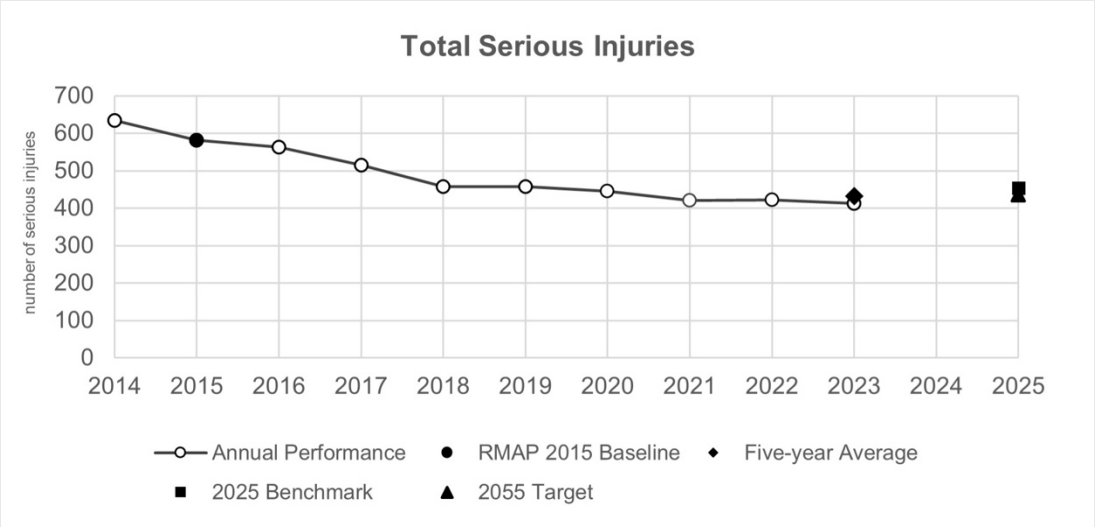
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.5 Fatality Rate



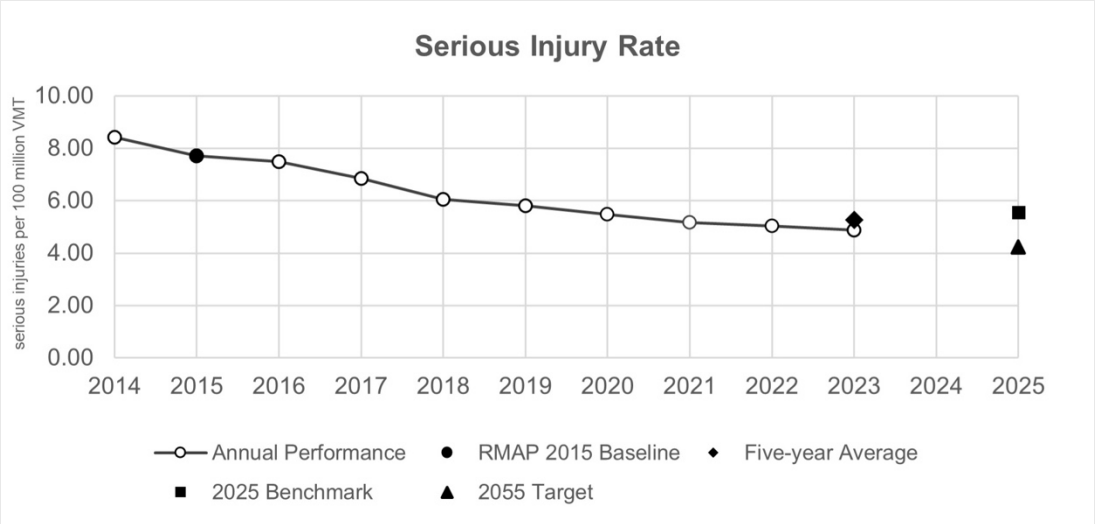
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.6 Total Serious Injuries



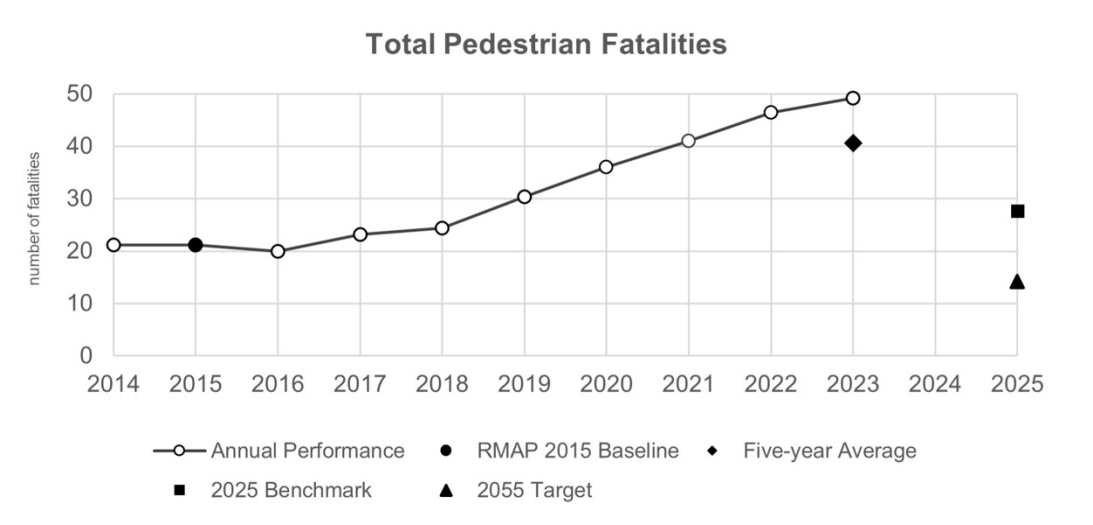
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.7 Serious Injury Rate



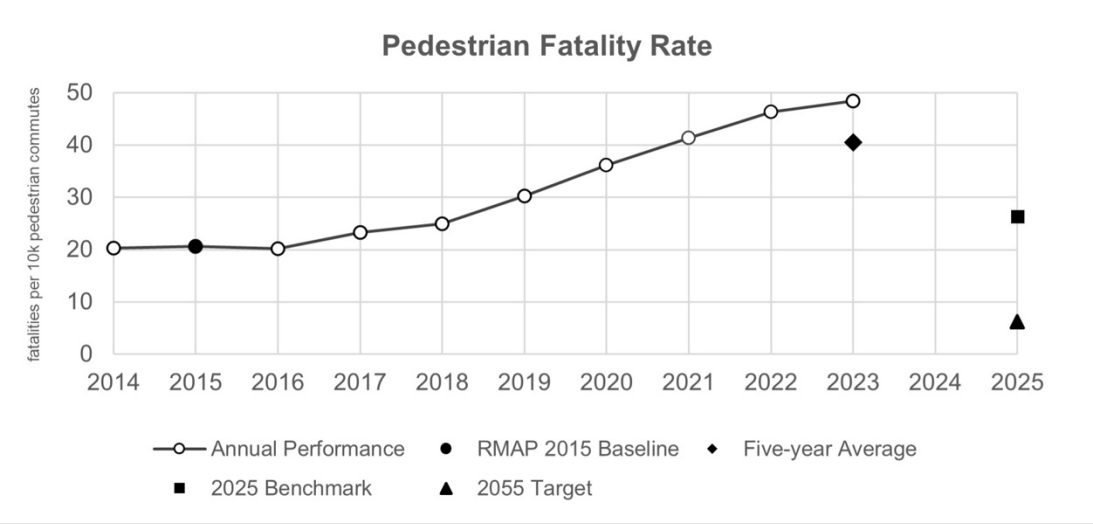
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.8 Total Pedestrian Fatalities



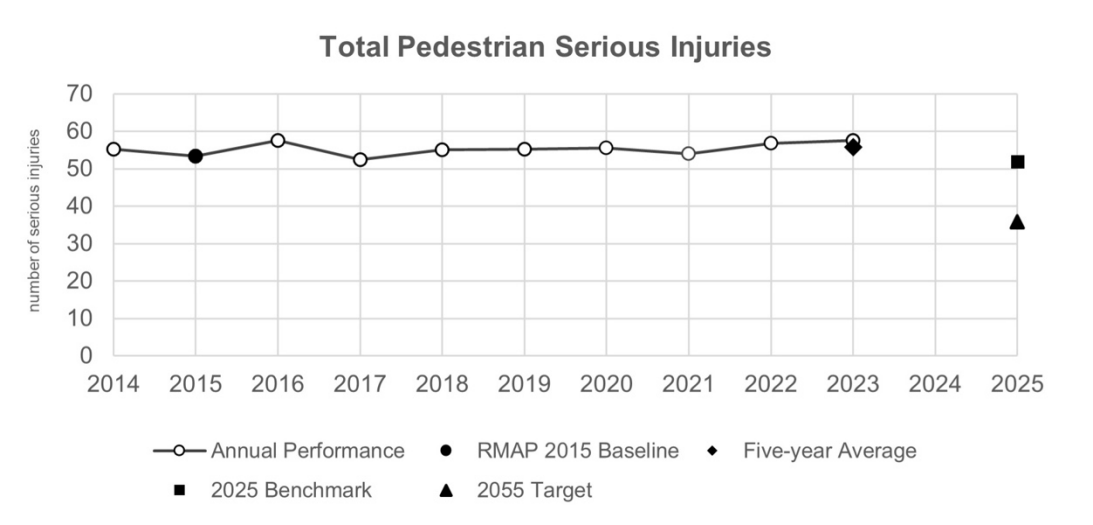
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.9 Pedestrian Fatality Rate



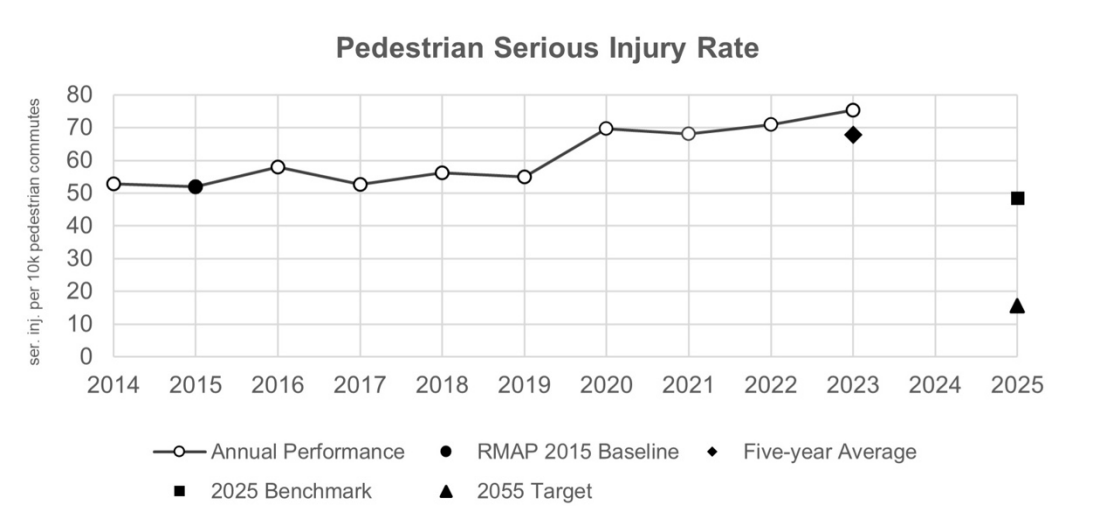
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.10 Total Pedestrian Serious Injuries



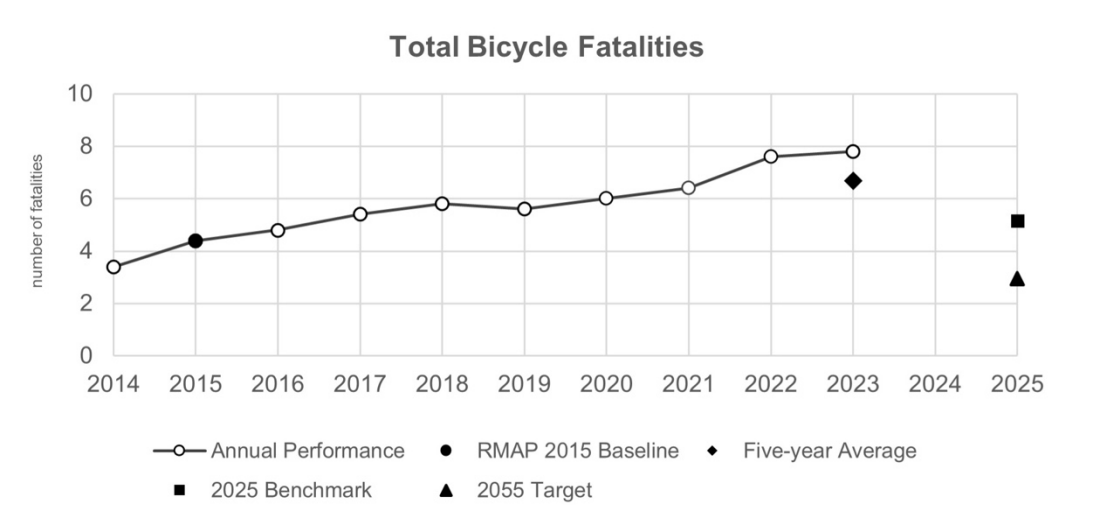
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.11 Pedestrian Serious Injury Rate



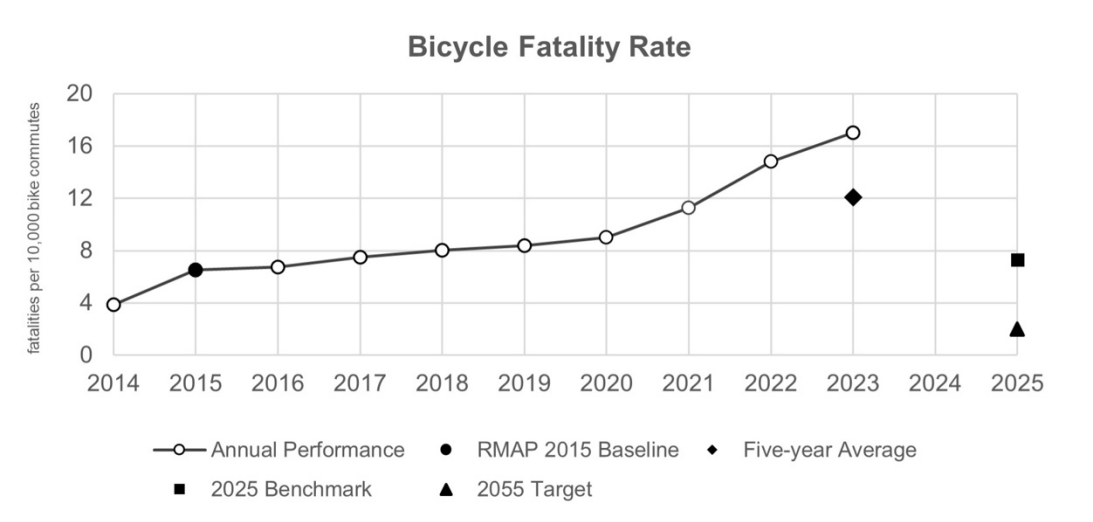
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.12 Total Bicycle Fatalities



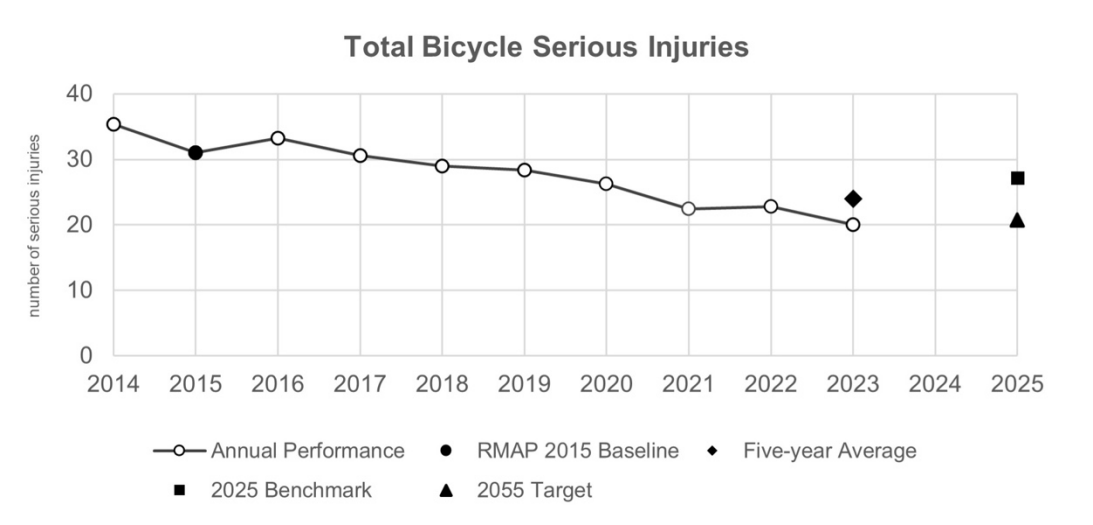
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.13 Bicycle Fatality Rate



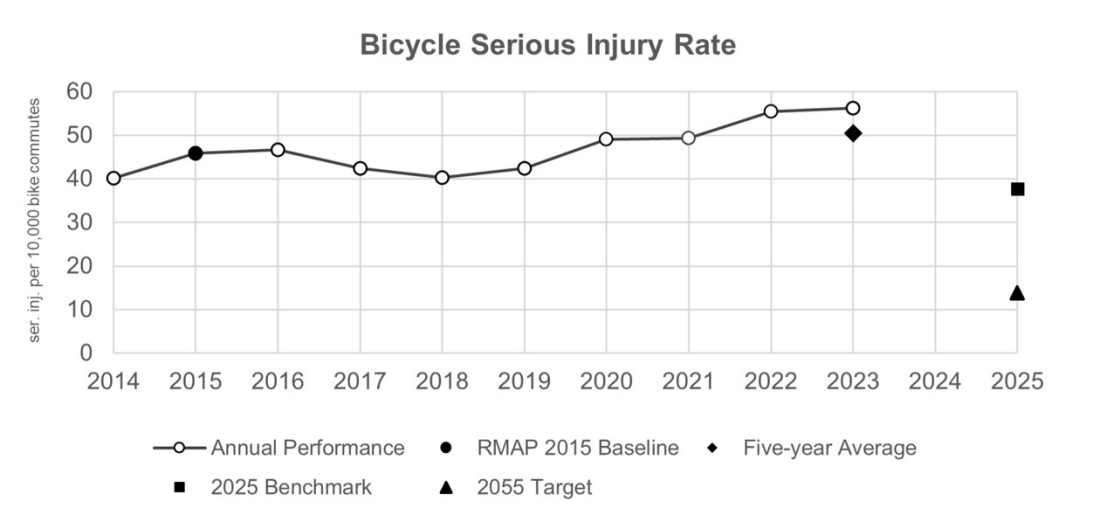
- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.14 Total Bicycle Serious Injuries



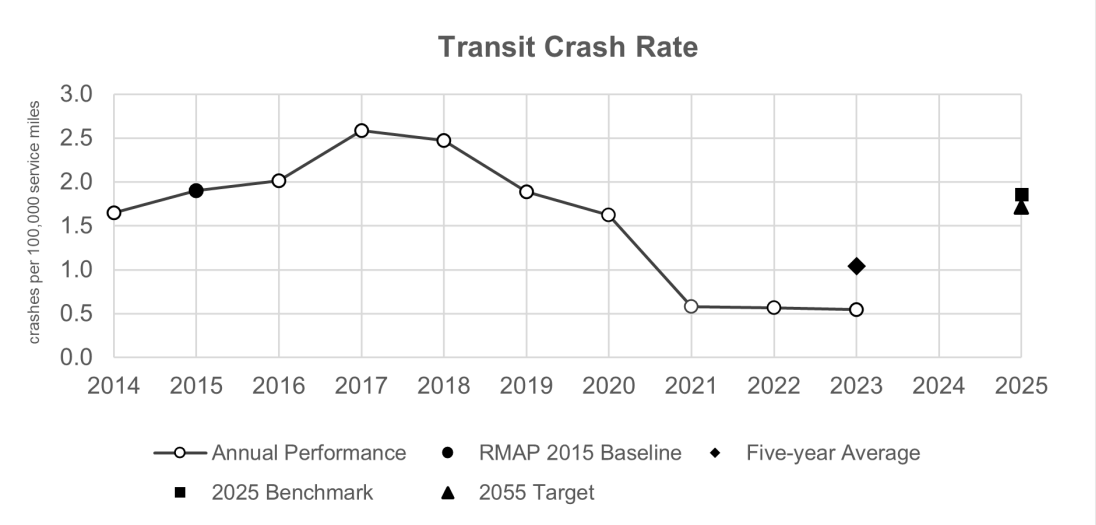
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Arizona Crash Information System (ACIS)

Figure A4.15 Bicycle Serious Injury Rate



- Desired Trend: Decrease
- Current Status: Trending away from 2055 target
- Data Source: Arizona Crash Information System (ACIS)

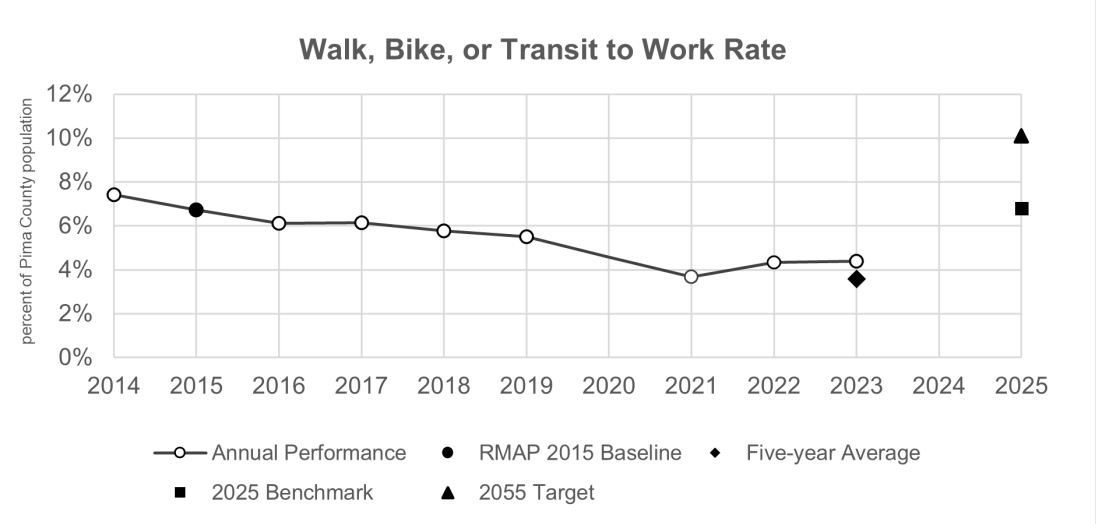
Figure A4.16 Transit Crash Rate



- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Arizona Crash Information System (ACIS)

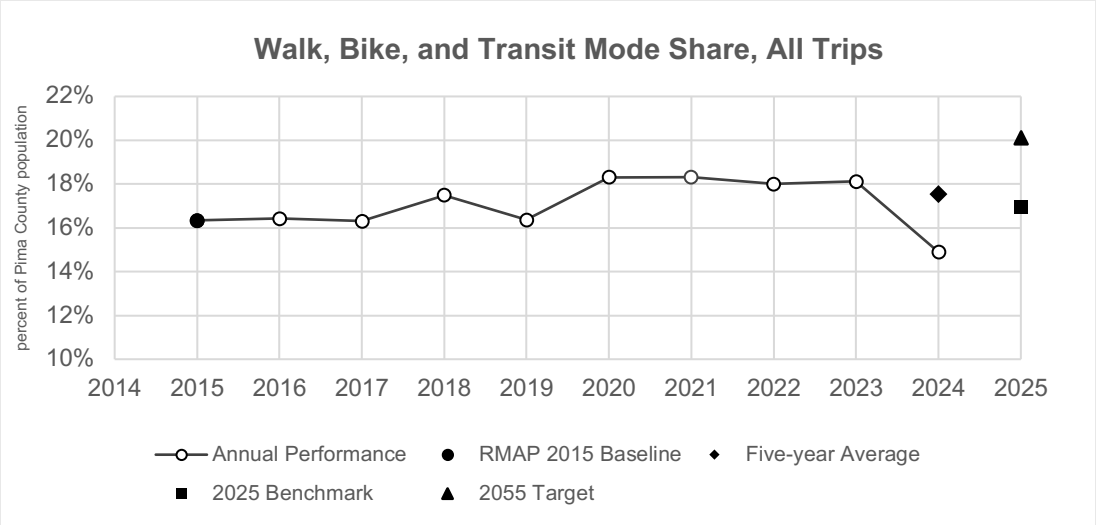
Performance Measures for Multimodal Choices

Figure A4.17 Walk, Bike, or Transit to Work Rate



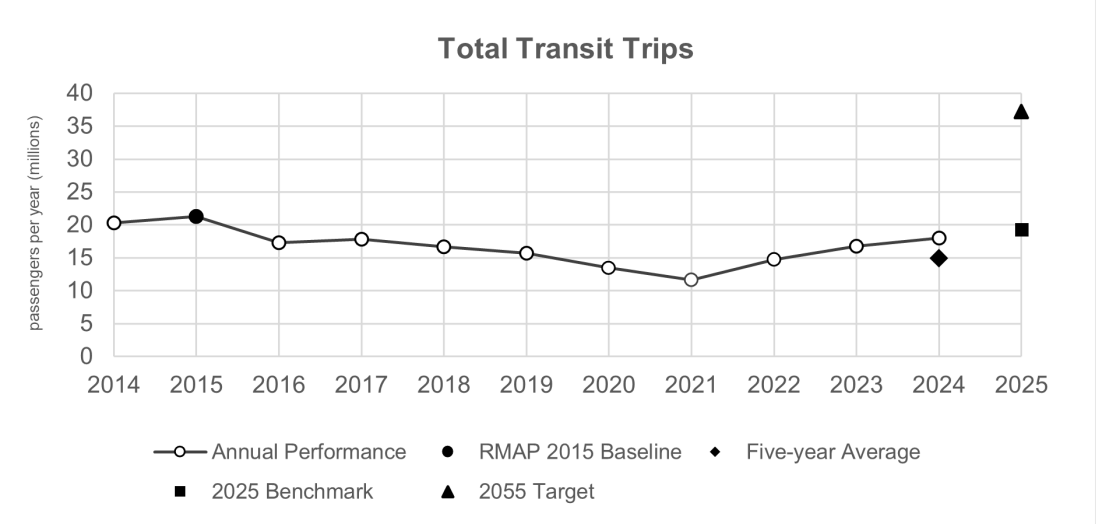
- Desired Trend: Increase
- Current Status: Behind pace to meet 2055 target
- Data Source: American Community Survey (data.census.gov/table/ACSDT1Y2023.B08301)

Figure A4.18 Walk, Bike, and Transit Mode Share, All Trips



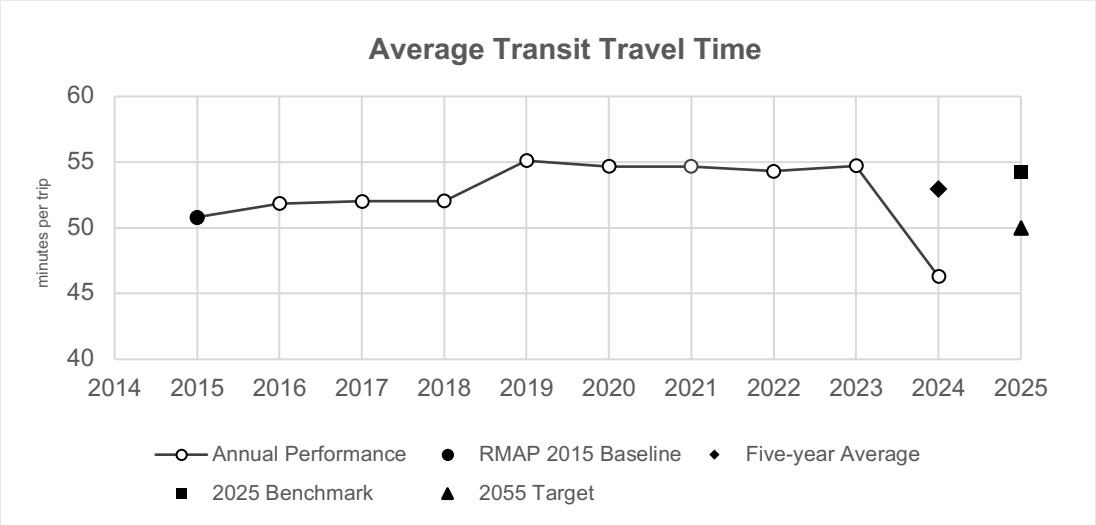
- Desired Trend: Increase
- Current Status: Trending away from 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.19 Total Transit Trips



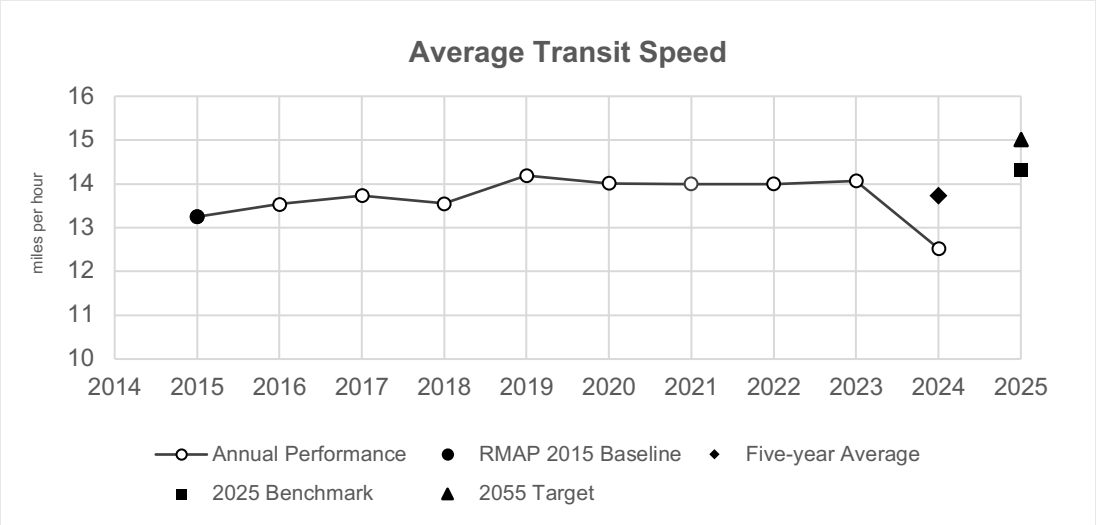
- Desired Trend: Increase
- Current Status: Behind pace to meet 2055 target
- Data Source: Sun Tran Monthly Operational Reports (www.suntran.com/contact-us/contact-directory-office-information)

Figure A4.20 Average Transit Travel Time



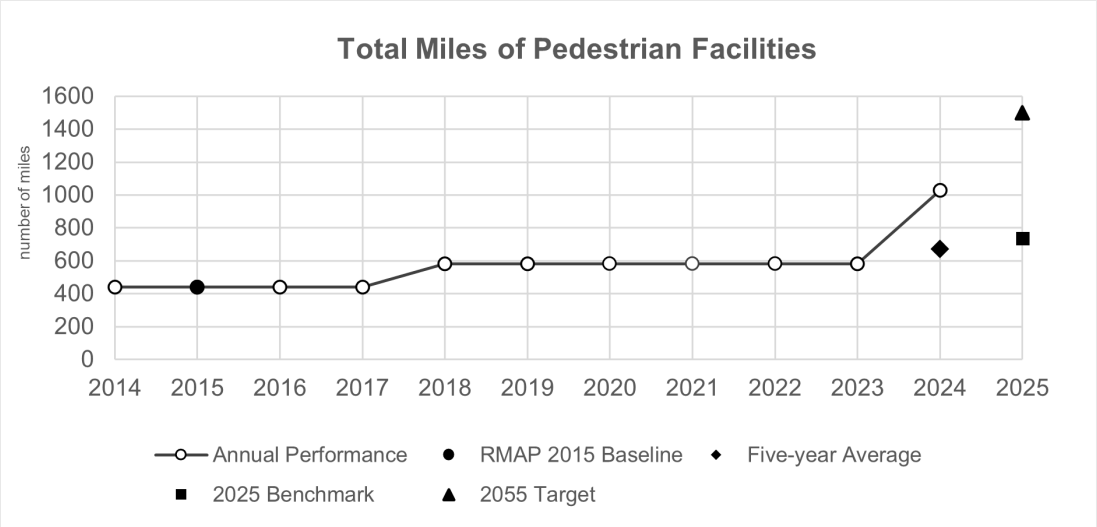
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024 with micro-analysis zone layer)

Figure A4.21 Average Transit Speed



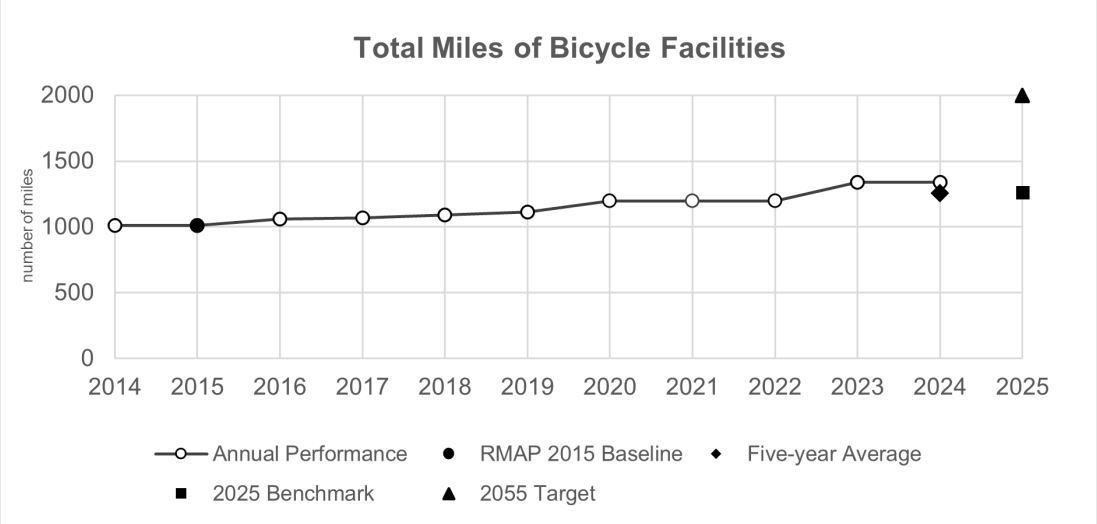
- Desired Trend: Increase
- Current Status: Trending away from 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.22 Total Miles of Pedestrian Facilities



- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG GIS data

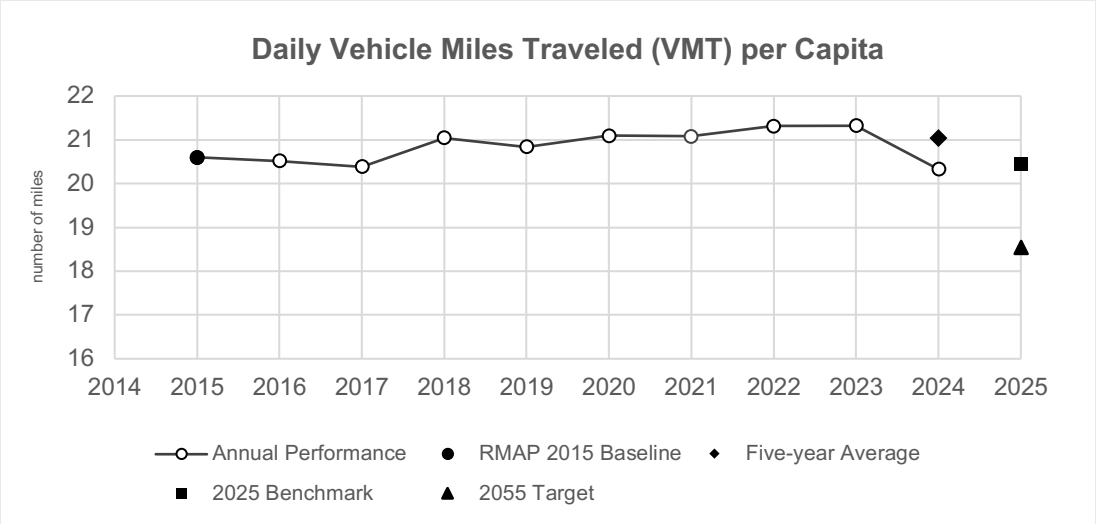
Figure A4.23 Total Miles of Bicycle Facilities



- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG GIS data

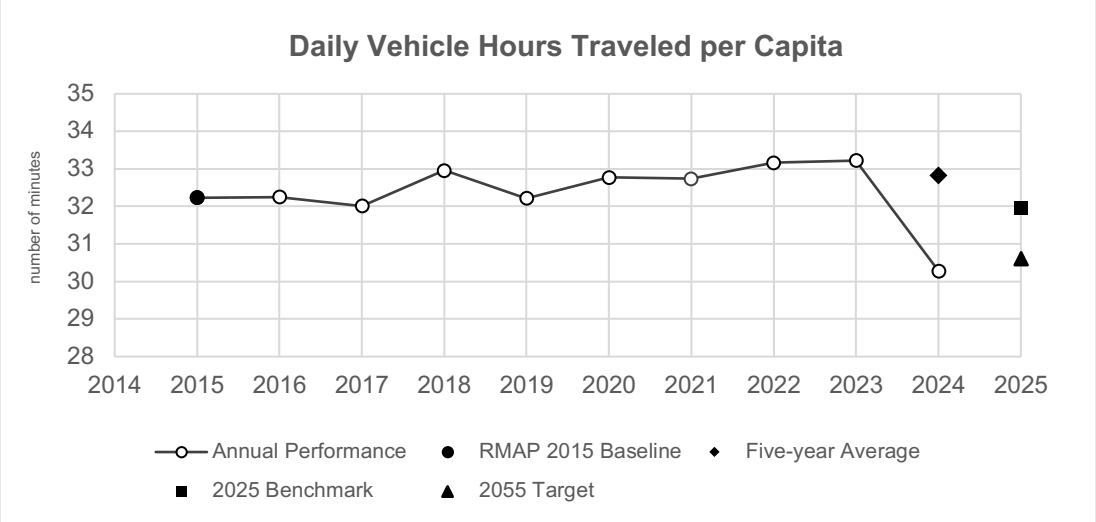
Performance Measures for System Performance

Figure A4.24 Daily Vehicle Miles Traveled (VMT) per Capita



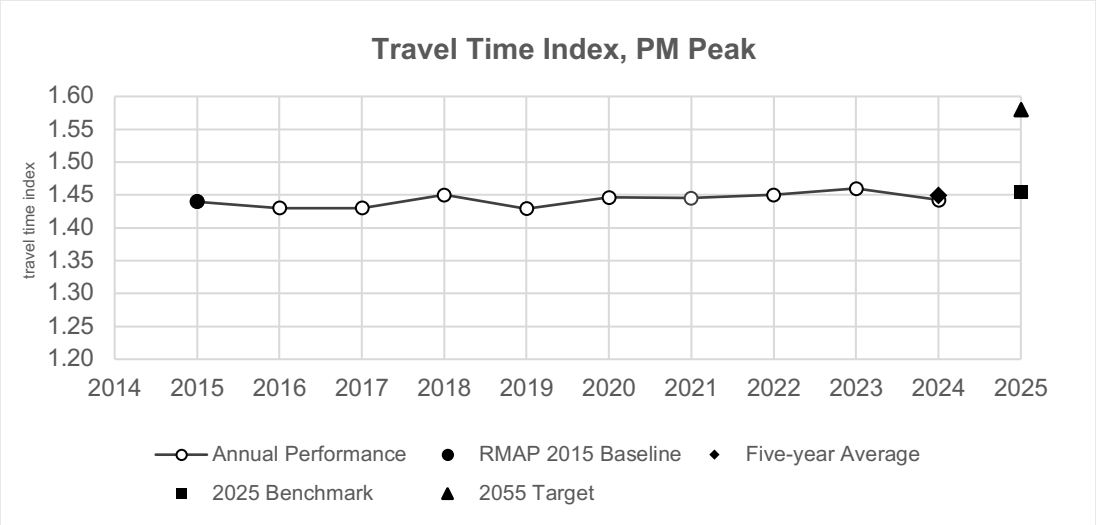
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.25 Daily Vehicle Hours Traveled per Capita



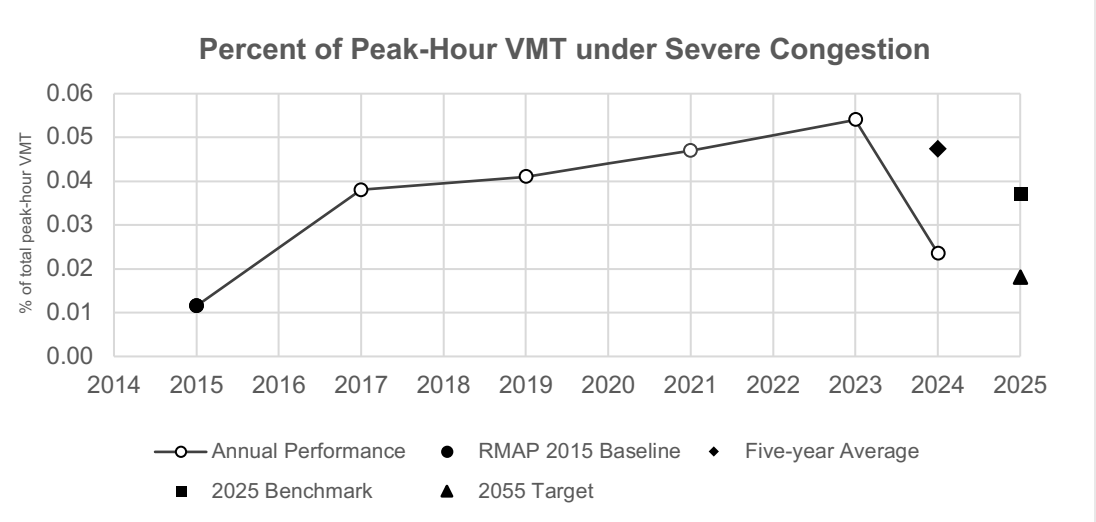
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.26 Travel Time Index, PM Peak



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

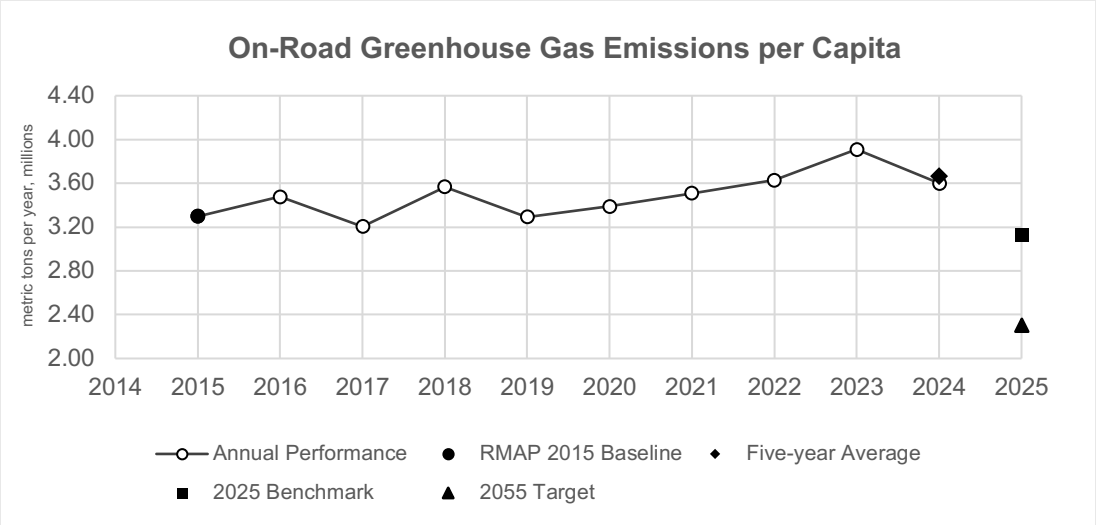
Figure A4.27 Percent of Peak-Hour VMT under Severe Congestion



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

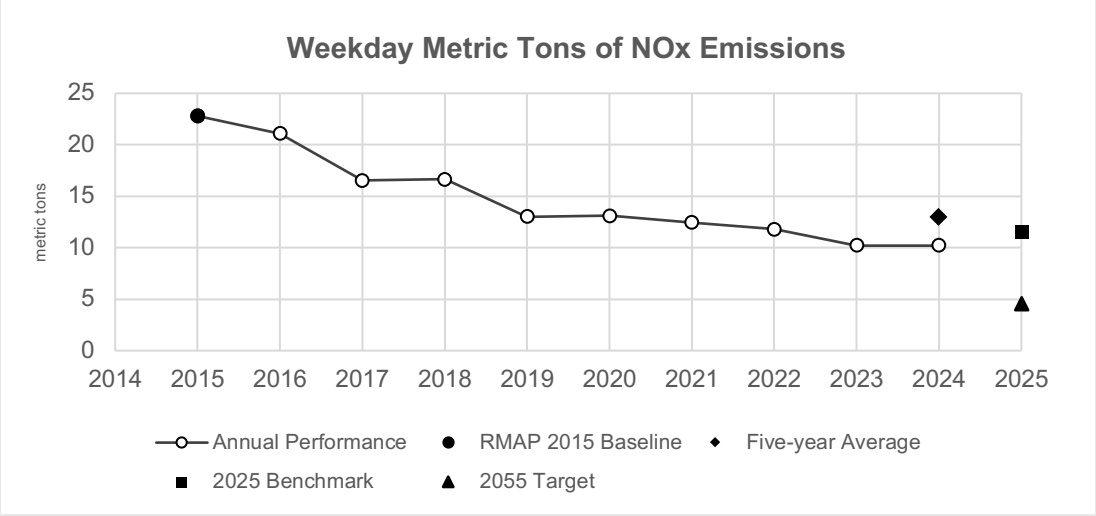
Performance Measures for Environmental Stewardship

Figure A4.28 On-Road Greenhouse Gas Emissions per Capita



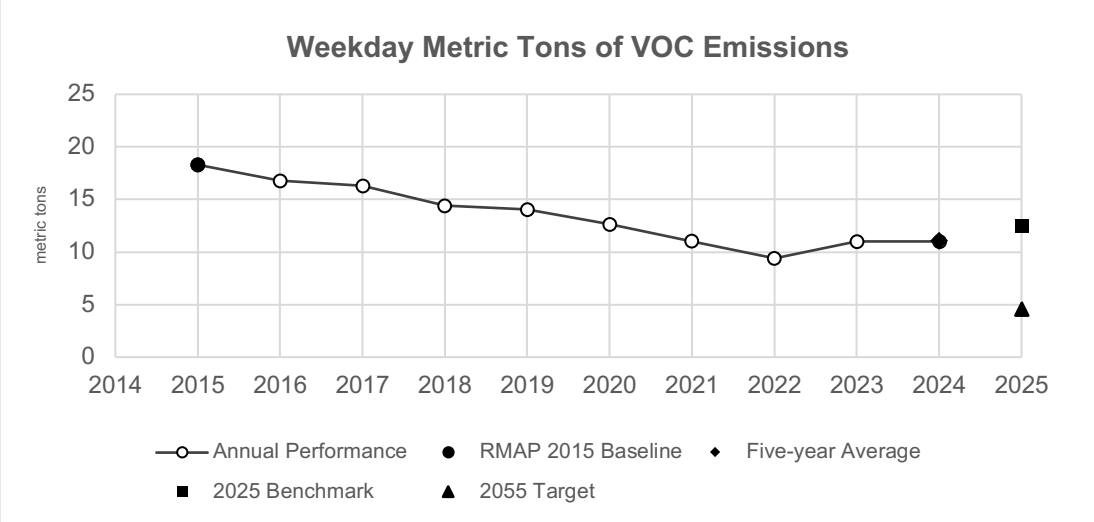
- Desired Trend: Decrease
- Current Status: Behind pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

Figure A4.29 Weekday Metric Tons of NOx Emissions



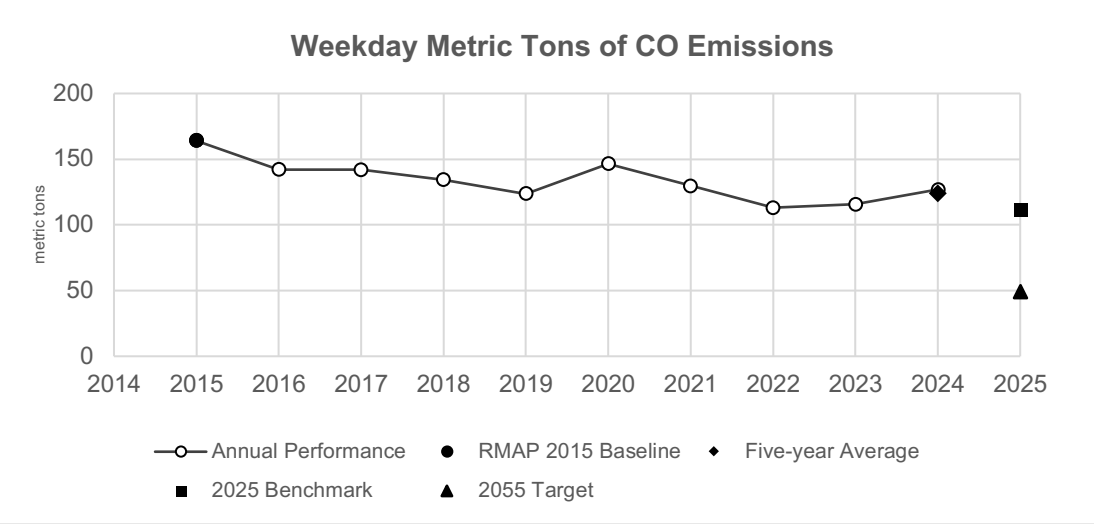
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

Figure A4.30 Weekday Metric Tons of VOC Emissions



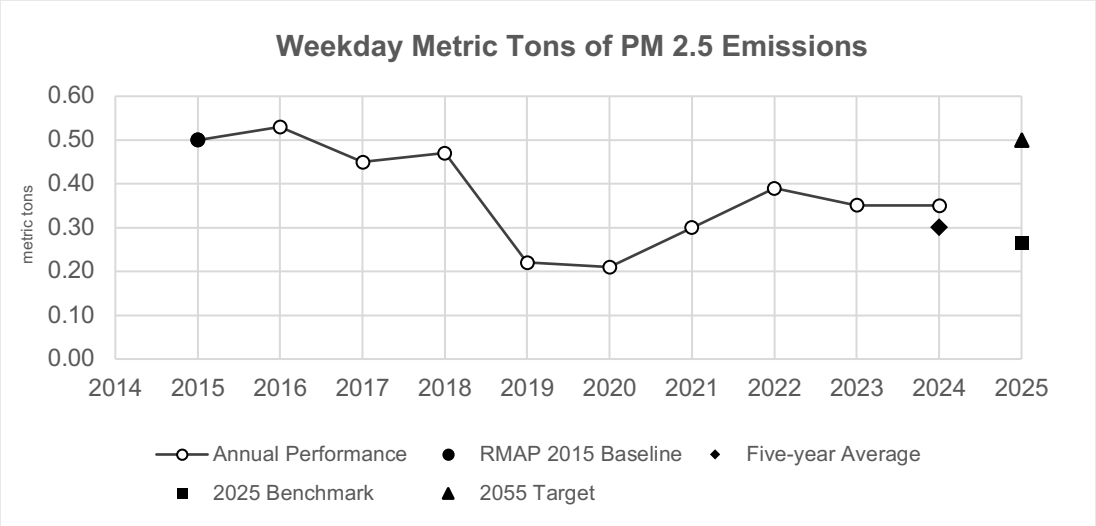
- Desired Trend: Decrease
- Current Status: On pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

Figure A4.31 Weekday Metric Tons of CO Emissions



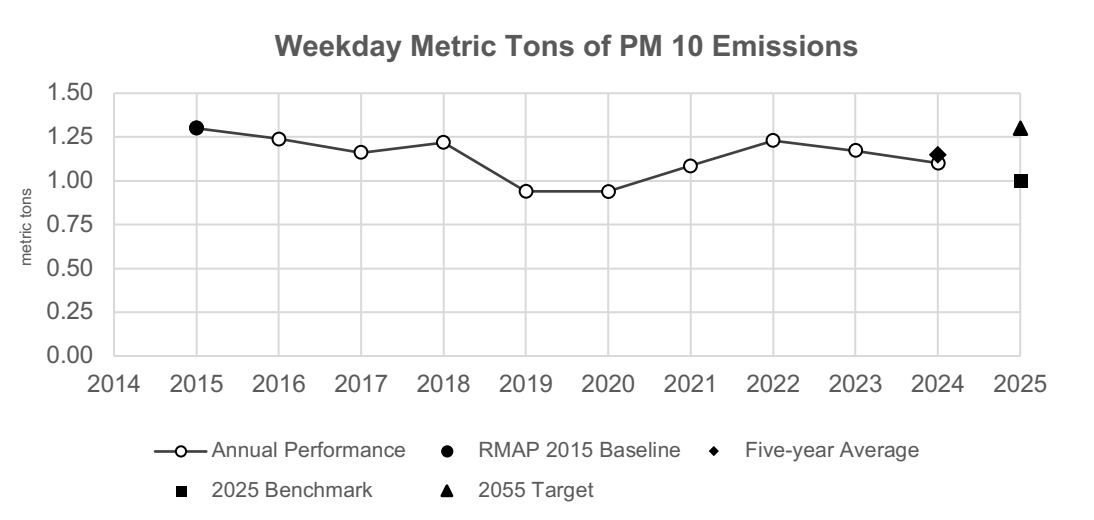
- Desired Trend: Decrease
- Current Status: Behind pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

Figure A4.32 Weekday Metric Tons of PM 2.5 Emissions



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

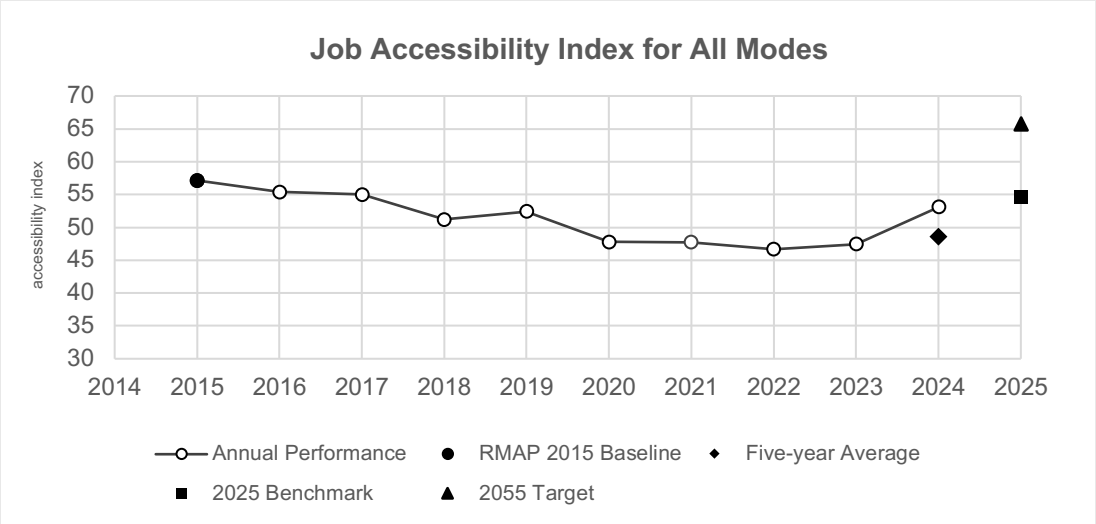
Figure A4.33 Weekday Metric Tons of PM 10 Emissions



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: Air quality estimates from Environmental Protection Agency's (EPA) Motor Vehicle Emissions Simulator (MOVES) (https://www.epa.gov/moves)

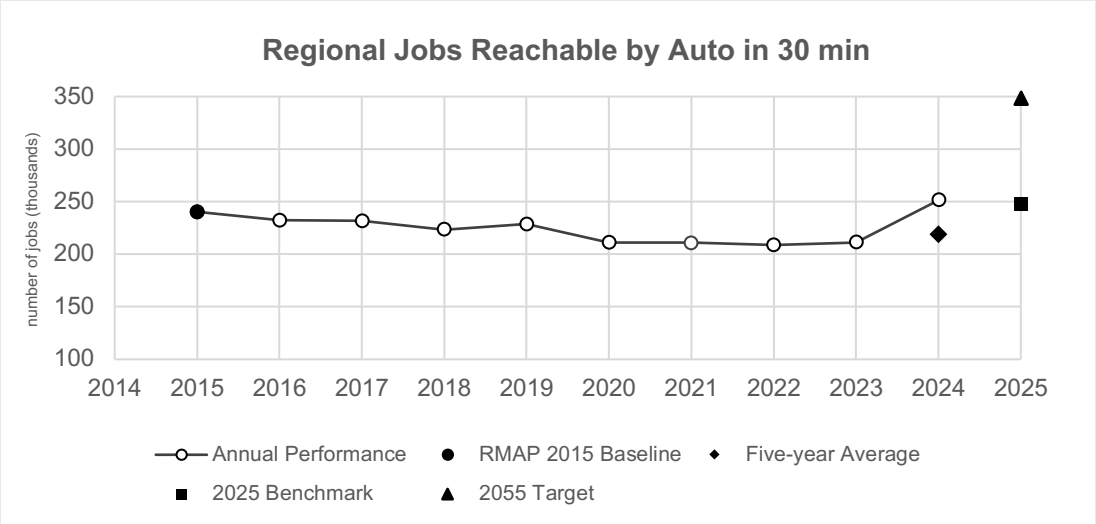
Performance Measures for Land Use and Transportation

Figure A4.34 Job Accessibility Index for All Modes



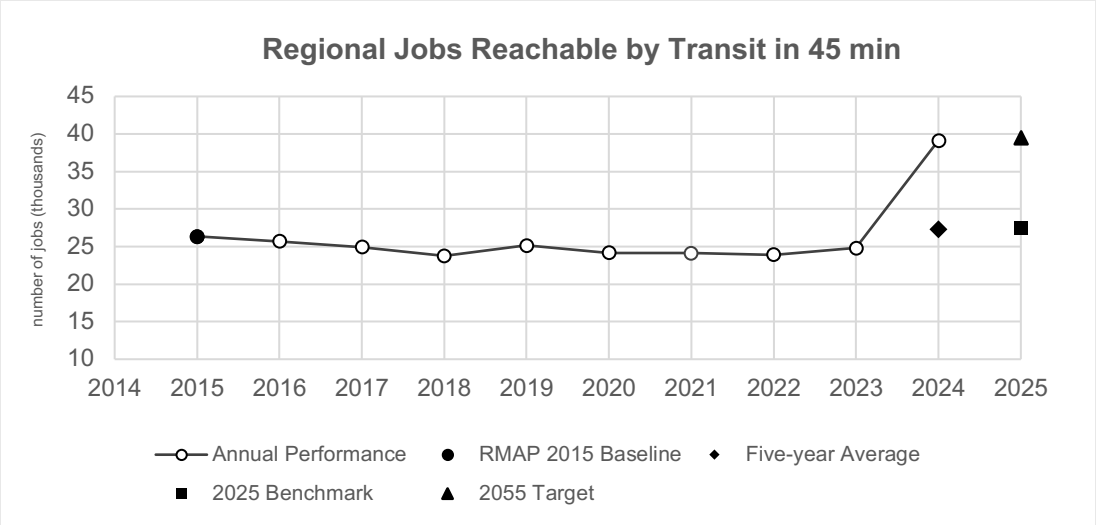
- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.35 Regional Jobs Reachable by Auto in 30 minutes



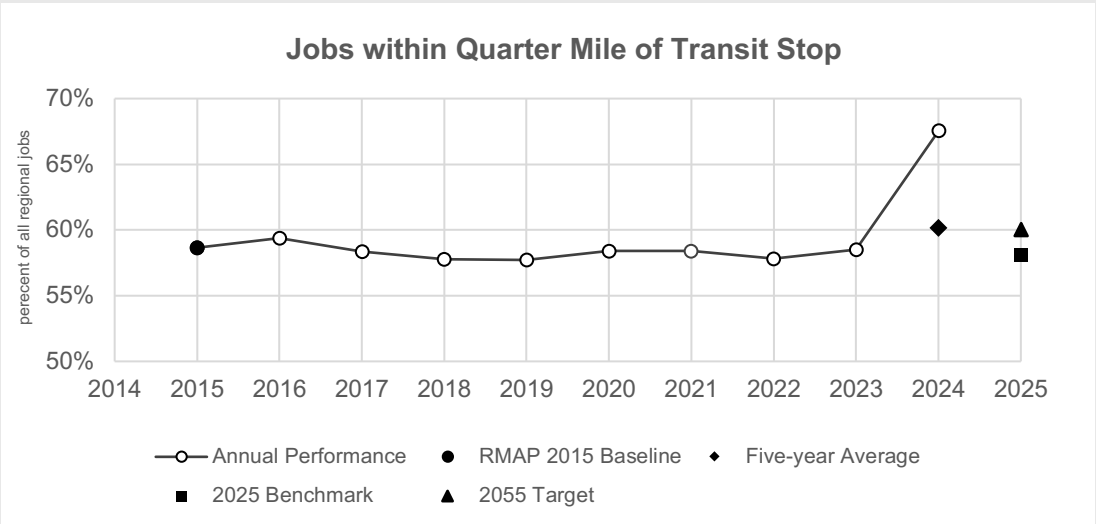
- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.36 Regional Jobs Reachable by Transit in 45 minutes



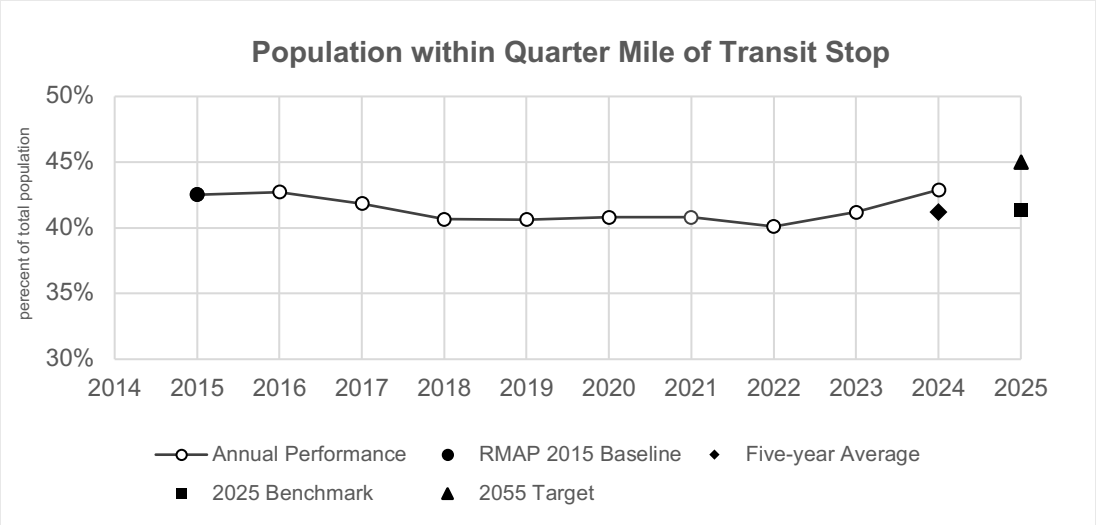
- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Figure A4.37 Jobs within Quarter Mile of Transit Stop



- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

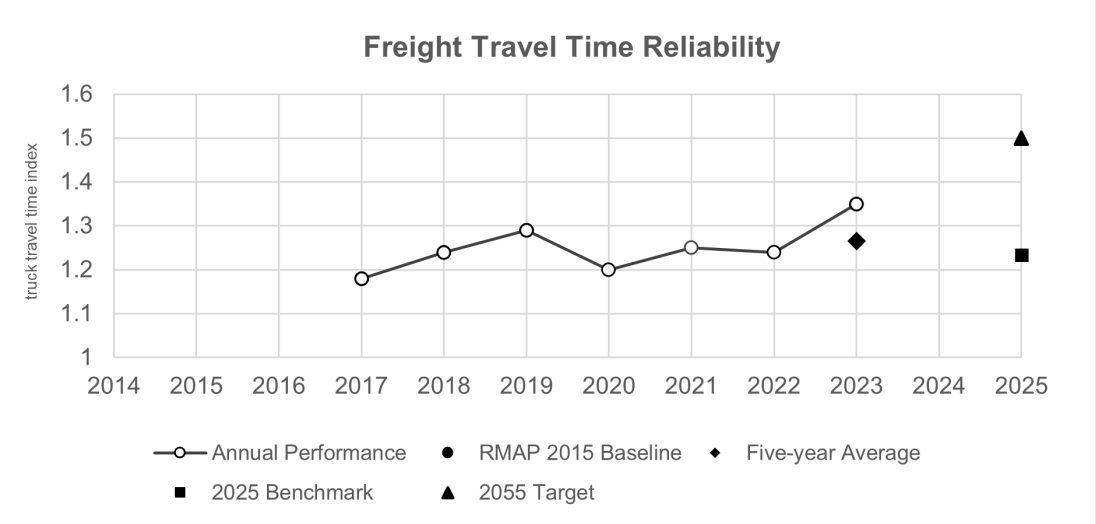
Figure A4.38 Population within Quarter Mile of Transit Stop



- Desired Trend: Increase
- Current Status: On pace to meet 2055 target
- Data Source: PAG's travel demand model (applied new ABM for 2024)

Performance Measures for Freight and Economic Growth

Figure A4.39 Freight Travel Time Reliability



- Desired Trend: Maintain
- Current Status: On pace to meet 2055 target
- Data Source: INRIX travel time data from National Performance Management Research Data Set (NPMRDS) website (https://auth.ritis.org/npmrds?redirect=https://npmrds.ritis.org/analytics/)

FAST ACT PERFORMANCE MEASURES

Since 2018, the Arizona Department of Transportation (ADOT) routinely establishes performance projections to comply with FAST Act requirements. These measures track progress toward national goals originally established in MAP-21[6]. These projections (defined in the FAST Act as "targets") differ from RMAP targets in that FAST Act requirements represent statewide projections of anticipated performance for a near-term time period, while RMAP targets are long-term and aspirational regional goals.

PAG supports ADOT's performance target requirements of the FAST Act instead of developing separate PAG targets, and tracks trends of 14 FAST Act performance measures. FAST ACT targets are used by the state to track state performance against national targets. The ADOT Fast Act projections are based on data-driven quantitative analysis of historical data, projected trends, and the effect of planned projects.

The ADOT performance measures align with federal performance measures in the framework of the FHWA Transportation Performance Management. The goal areas of federal performance measures are safety, infrastructure conditions, congestion reduction, system reliability, freight movement & economic vitality and environmental sustainability. The FAST Act performance measures are reported to the FHWA to make progress toward national goals under the federal transportation system goal areas.

Table A4.4 shows a list of the FAST Act performance measures by the MAP-21 performance goal area and how each compare to RMAP performance measures.

[6] Moving Ahead for Progress in the 21st Century Act (MAP-21) of 2012 created a stream-lined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system. Fixing America's Surface Transportation (FAST) Act of 2015 outlined the framework for performance management including establishing performance measures and target-setting requirements.

Table A4.4 Overview of FAST Act Performance Measures

MAP-21 National Performance Goal Areas	FAST Act Performance Measures	Comparison to RMAP 2055 Performance Measures
Safety	Number of Fatalities	Identical to Total Fatalities
	Fatality Rate	Identical to Fatality Rate
	Number of Serious Injuries	Identical to Total Serious Injuries
	Rate of Serious Injuries	Identical to Serious Injury Rate
	Number of Non-motorized Fatalities and Serious Injuries	Identical to Vulnerable User Fatalities and Serious Injuries
Infrastructure Conditions	Percent of NHS Bridges in Good Condition	All public bridges for RMAP 2055
	Percent of NHS Bridges in Poor Condition	All public bridges for RMAP 2055
	Percent of Interstate Pavements in Good Condition	Federal-Aid Pavement for RMAP 2055
	Percent of Interstate Pavement in Poor Condition	Federal-Aid Pavement for RMAP 2055
	Percent of Non-Interstate NHS Pavements in Good Condition	Federal-Aid Pavement for RMAP 2055
	Percent of Non-Interstate NHS Pavements in Poor Condition	Federal-Aid Pavement for RMAP 2055
Freight Movement and Economic Vitality	Freight Reliability on the Interstate	Identical to Freight Travel-Time Reliability
System Reliability	Interstate Travel-Time Reliability	Similar to Travel-Time Index
	Non-Interstate Travel-Time Reliability	Similar to Travel-Time Index
Congestion Reduction and Environmental Sustainability	CMAQ Emissions Reductions	Similar to On-Road Vehicle Emissions but applicable to CMAQ project areas, of which the PAG region has none

**NHS: National Highway System; CMAQ: Congestion Mitigation and Air Quality Improvement*

FAST ACT SAFETY PROJECTIONS

Five FAST Act safety targets are required by the FHWA Safety Performance Management: number of fatalities, number of serious injuries, fatality rate, serious injury rate, and number of non-motorized fatalities and serious injuries.

The 2025 Arizona Safety Performance Projections (targets) were established based on five-year rolling averages to reduce the number of fatalities and serious injury crashes for the Strategic Regional Transportation Safety Plan (SRTSP) and the State Strategic Highway Safety Plan (AZ-SHSP).

On August 31, 2024, ADOT established Safety Projections for 2025 as follows.

Table A4.5 ADOT Safety Projections for 2025

Safety Performance Measures	Projections for 2025
Number of Fatalities	1,263.8
Rate of Fatalities per 100 million VMT	1.665
Number of Serious Injuries	3,729.6
Rate of Serious Injuries per 100 million VMT	4.914
Number of Non-Motorized Fatalities & Serious Injuries	846.6

Table A4.6 presents historical trends in FAST Act safety performance for the greater Tucson area, compared to statewide projections established by ADOT.

It is challenging to make a direct comparison between the number of fatalities, serious injuries, and non-motorized fatalities & serious injuries for PAG performance measures and the 2025 ADOT targets due to differences in the spatial area. However, ADOT's annual safety targets are designed to achieve a 20% reduction by 2030, meaning the desired trend for these measures should show a decrease over time.

In the greater Tucson region, the number of total fatalities and non-motorized fatalities & serious injuries has increased, which is not favorable to the 2025 ADOT target. In contrast, the number of total serious injuries is trending downward, aligning with the 2025 ADOT target.

The fatality rate and serious injury rates are more directly comparable to ADOT targets. The fatality rate has risen since the 2015 baseline year and currently exceeds the 2025 ADOT target. The rate of serious injuries has decreased and is currently below the 2025 ADOT target.

Table A4.6 Historical Trends of FAST Act Safety Performance for the Greater Tucson Area

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2025 ADOT Target
Number of Fatalities	95.8	98.4	100.0	105.8	116.4	130.6	140.8	152.4	164.6	1,263.8
Fatality Rate	1.27	1.31	1.33	1.33	1.48	1.60	1.73	1.82	1.95	1.665
Number of Serious Injuries	581.4	562.8	515.2	458.2	458.2	446.0	420.2	421.4	413.0	3,729.6
Rate of Serious Injuries	7.72	7.49	6.86	6.04	5.81	5.48	5.16	5.03	4.89	4.914
Number of Non-Motorized Fatalities & Serious Injuries	110.0	115.6	111.6	114.2	119.6	123.8	123.8	133.6	134.6	846.6

**Data Source: Arizona Crash Information System (ACIS)*

FAST Act Performance Measures for Safety

Figure A4.40 FAST Act - Number of Fatalities

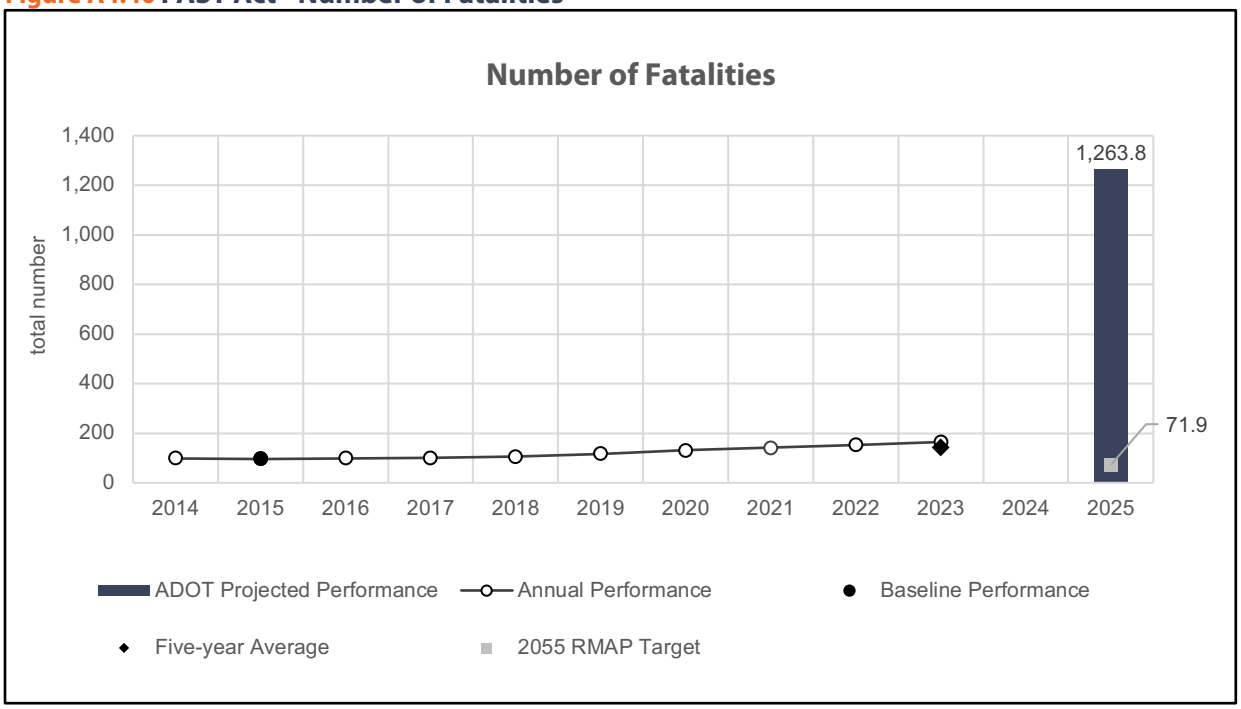


Figure A4.41 FAST Act – Fatality Rate

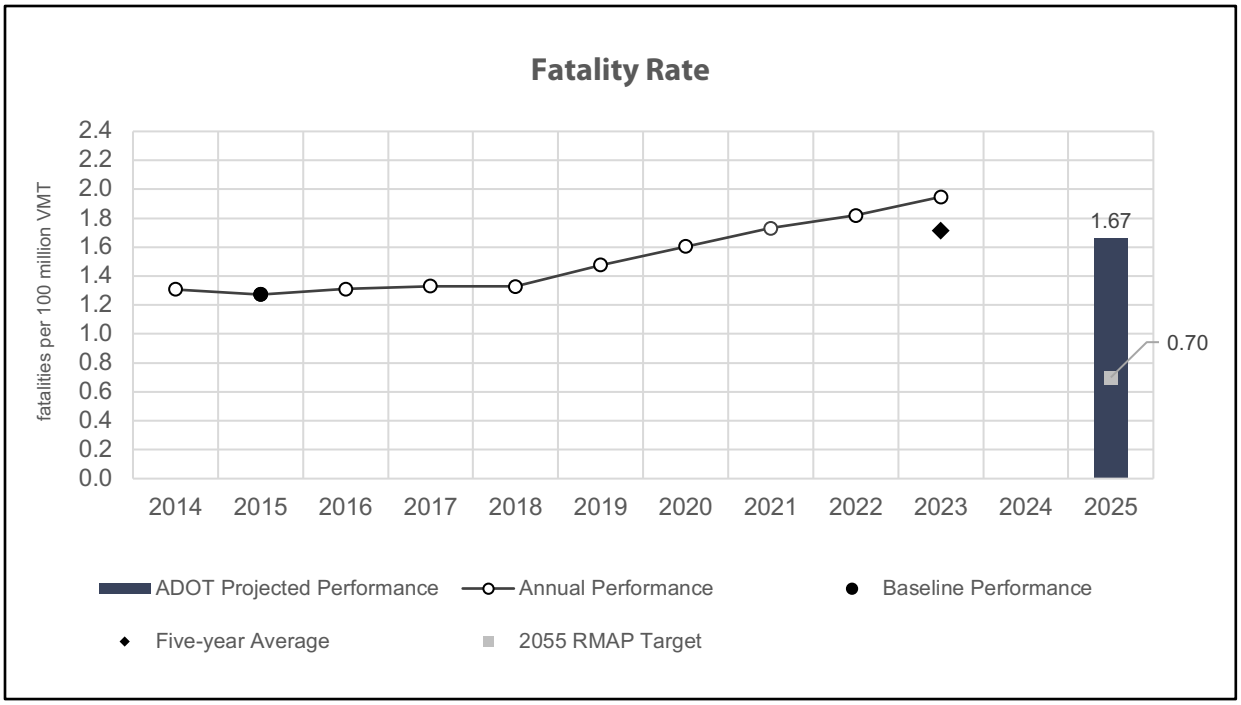


Figure A4.42 FAST Act – Number of Serious Injuries

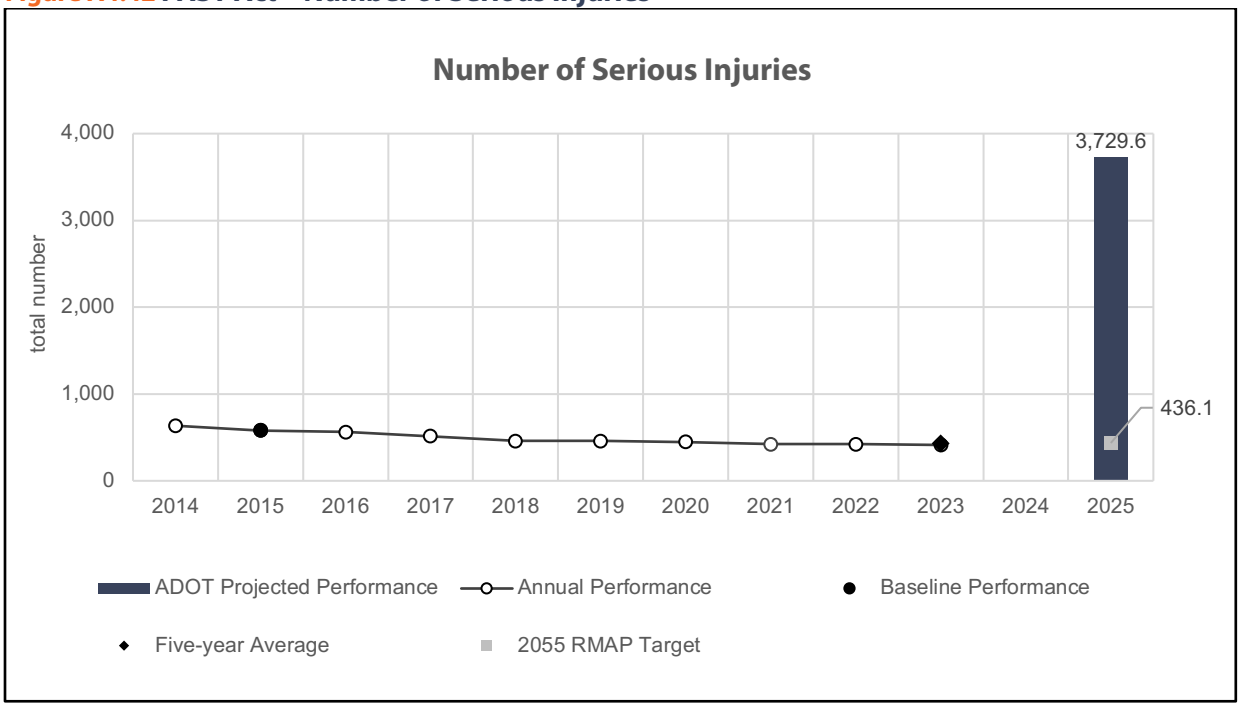


Figure A4.43 FAST Act – Rate of Serious Injuries

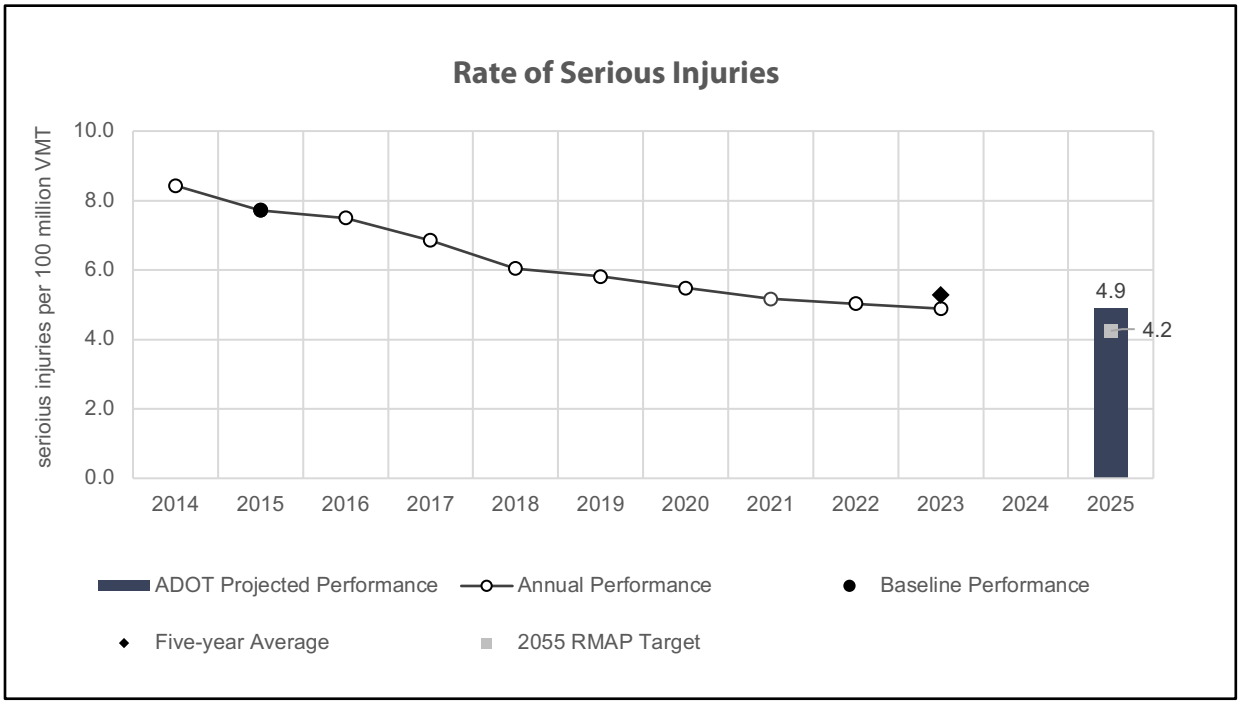
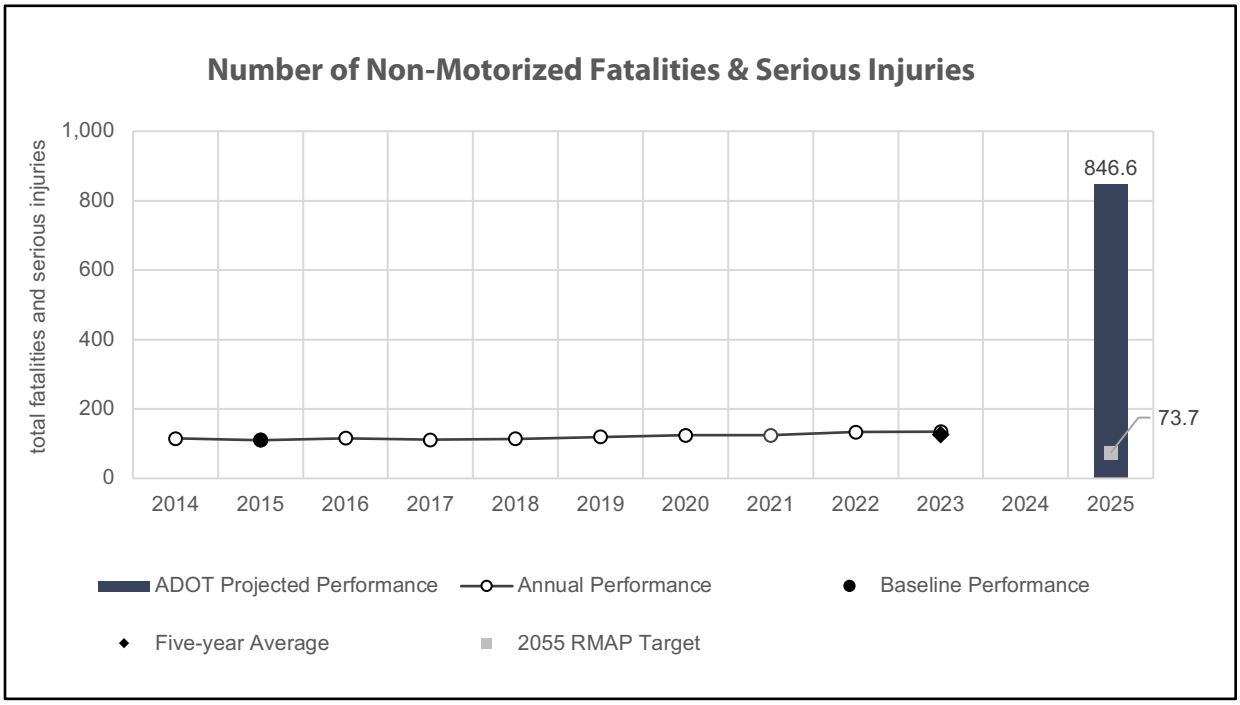


Figure A4.44 **FAST Act – Number of Non-Motorized Fatalities & Serious Injuries**



FAST ACT INFRASTRUCTURE CONDITION PROJECTIONS

Six FAST Act infrastructure condition targets are required by the FHWA Transportation Performance Management. These include the percent of National Highway System (NHS) bridges in good condition, percent of NHS bridges in poor condition, percent of interstate pavement in good condition, percent of interstate pavement in poor condition, percent of non-interstate NHS pavements in good condition, and percent of non-interstate pavement in poor condition.

In 2022, ADOT established infrastructure condition performance targets for the 2022-2025 performance period as shown in **Table A4.7.**

Table A4.7 ADOT Infrastructure Condition Targets

Infrastructure Condition Performance Measures	Performance Targets
% NHS Bridges in good condition	52%
% NHS Bridges in poor condition	4%
% Interstate Pavement in good condition	44%
% Interstate Pavement in poor condition	4.5%
% Non-Interstate NHS Pavement in good condition	28%
% Non-Interstate NHS Pavement in poor condition	10%

Table A4.8 shows historical trends in FAST Act infrastructure condition performance for the greater Tucson area, compared to the statewide projections established by ADOT.

Most of the FAST Act infrastructure condition performances have been meeting the 2025 ADOT target except for two performance measures: NHS bridges in good condition and non-interstate NHS pavements in poor condition. The percentage of NHS bridges in good condition has been increasing since 2020 but still falls short of the 2025 ADOT target. Similarly, the percentage of non-interstate NHS pavement in poor condition has remained above the 2025 ADOT target since 2015.

Table A4.8 Historical Trends of FAST Act Infrastructure Condition Performance

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025 ADOT Target
NHS Bridges in Good Condition	42%	40%	40%	47%	36%	35%	36%	41%	40%	43%	52%
NHS Bridges in Poor Condition	12%	11%	11%	13%	2%	3%	0%	0%	0%	0%	4%
Interstate Pavement Good	83%	83%	81%	78%	76%	74%	n/a	69%	75%	-	44%
Interstate Pavement Poor	0%	0%	0%	0.9%	0.5%	0.1%	n/a	1.2%	1.6%	-	4.5%
Non-Int. NHS Pavement Good	23%	27%	26%	27%	28%	27%	n/a	30%	30%	-	28%
Non-Int. NHS Pavement Poor	34%	25%	19%	16%	19%	23%	n/a	23%	23%	-	10%

**Data Source: FHWA Highway Statistics, and National Bridge Index (NBI)*

FAST Act Performance Measures for Infrastructure Condition

Figure A4.45 FAST Act – NHS Bridges in Good Condition

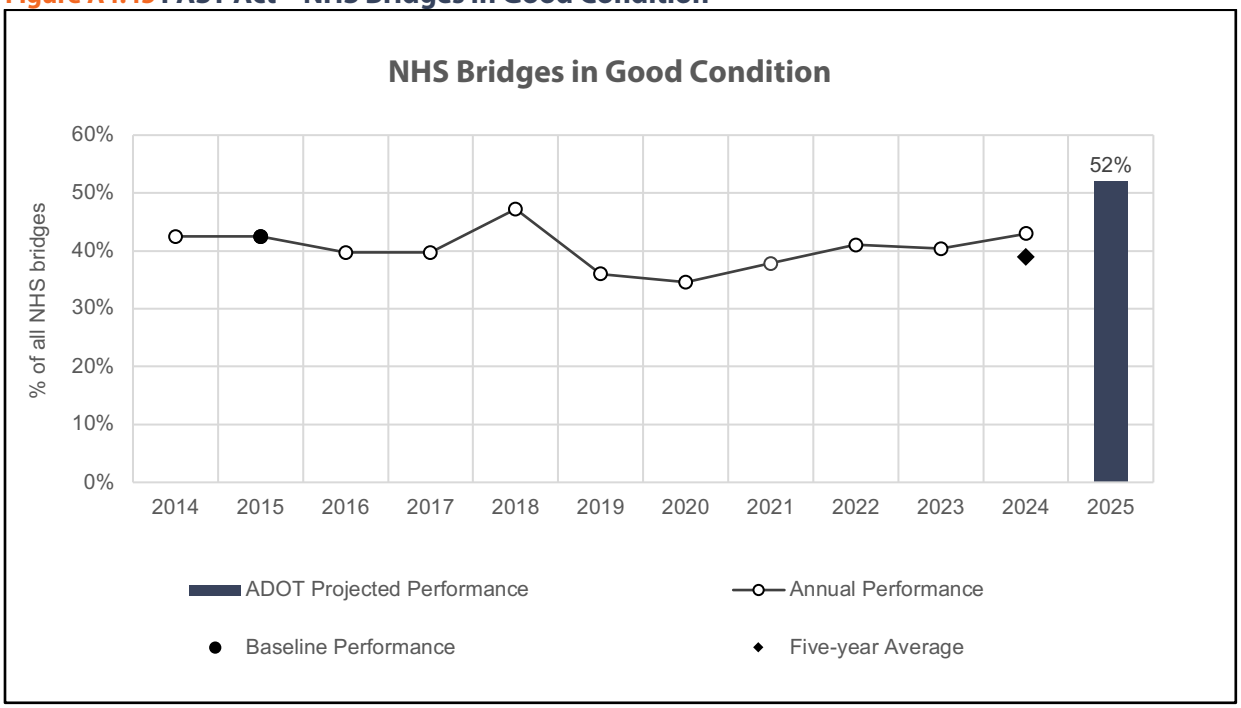


Figure A4.46 FAST Act – NHS Bridges in Poor Condition

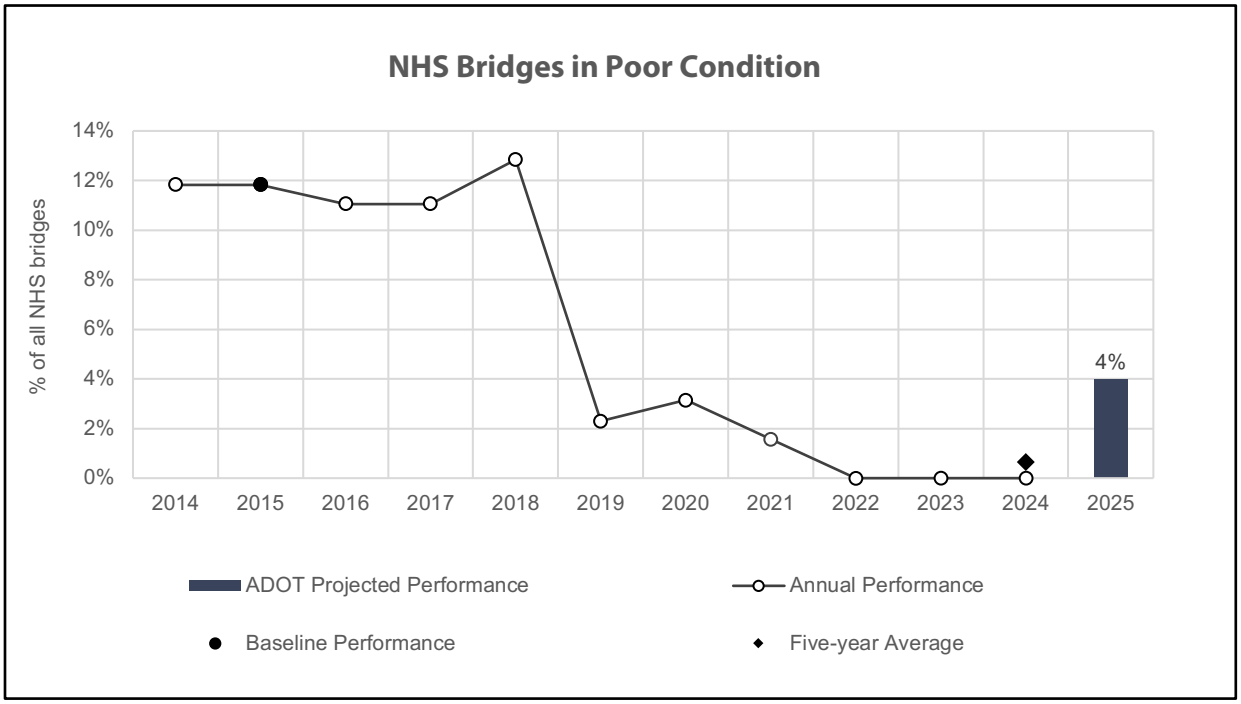


Figure A4.47 FAST Act – Interstate Pavement in Good Condition

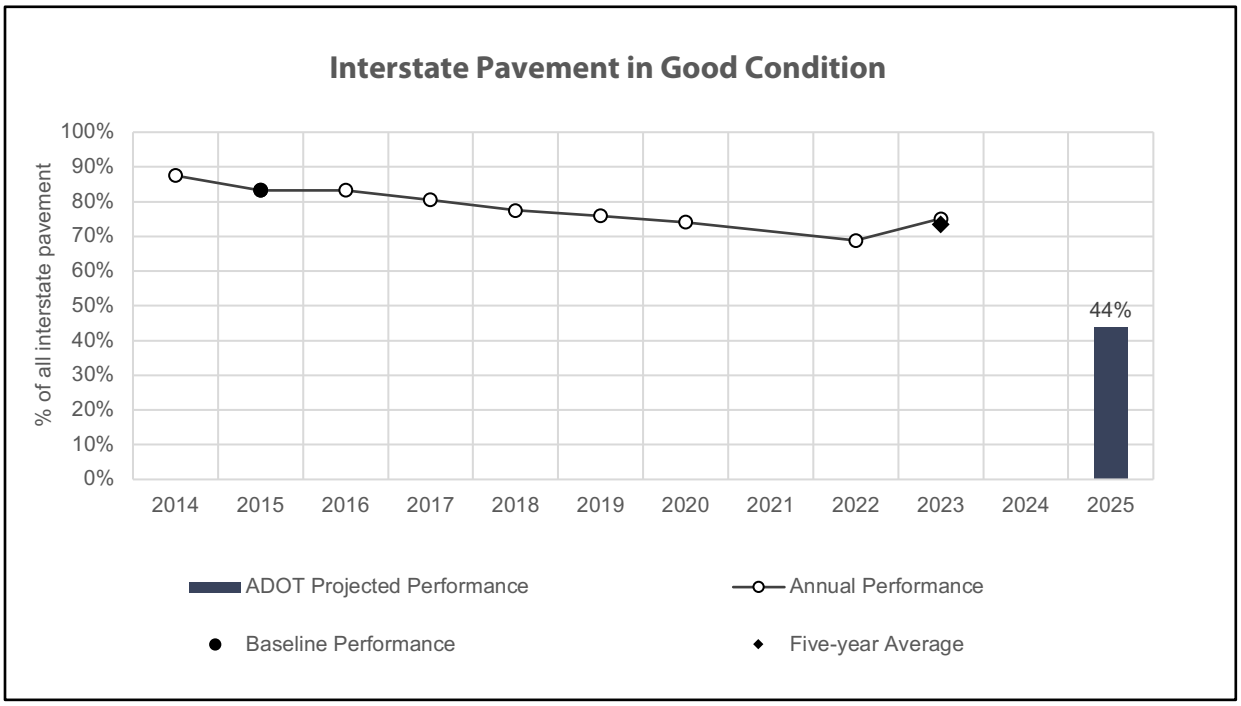


Figure A4.48 FAST Act – Interstate Pavement in Poor Condition

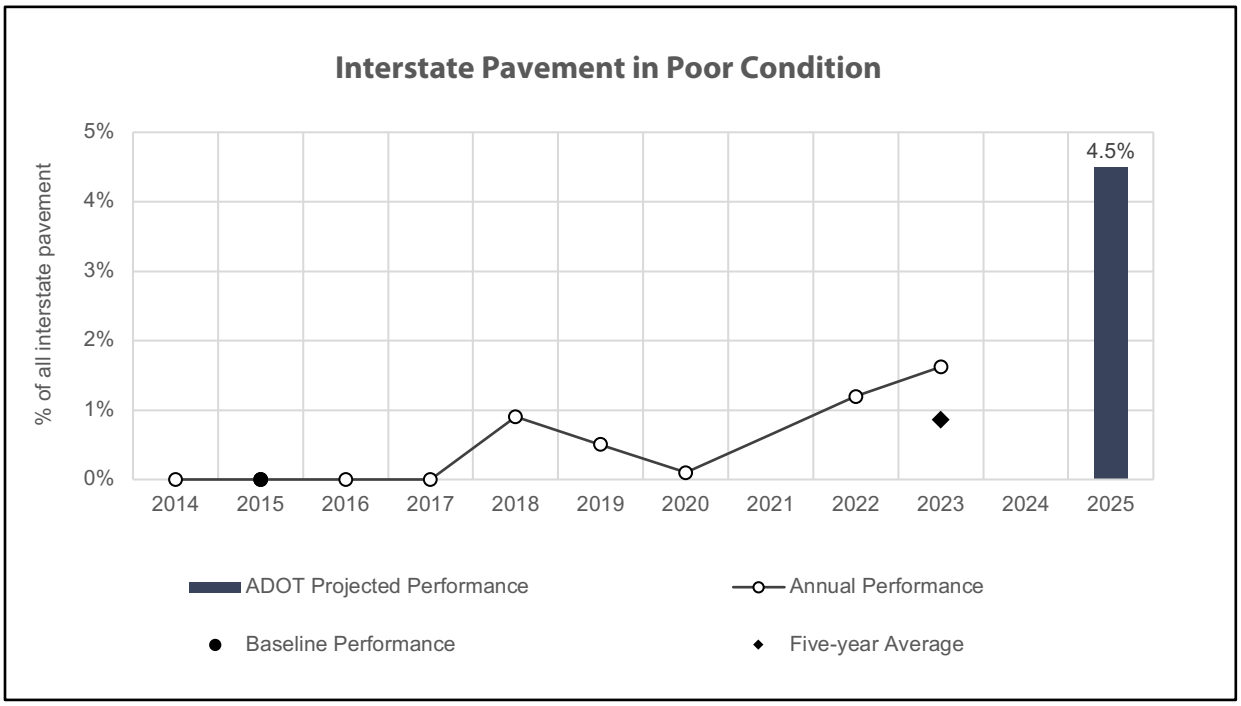


Figure A4.49 FAST Act – Non-Interstate NHS Pavement in Good Condition

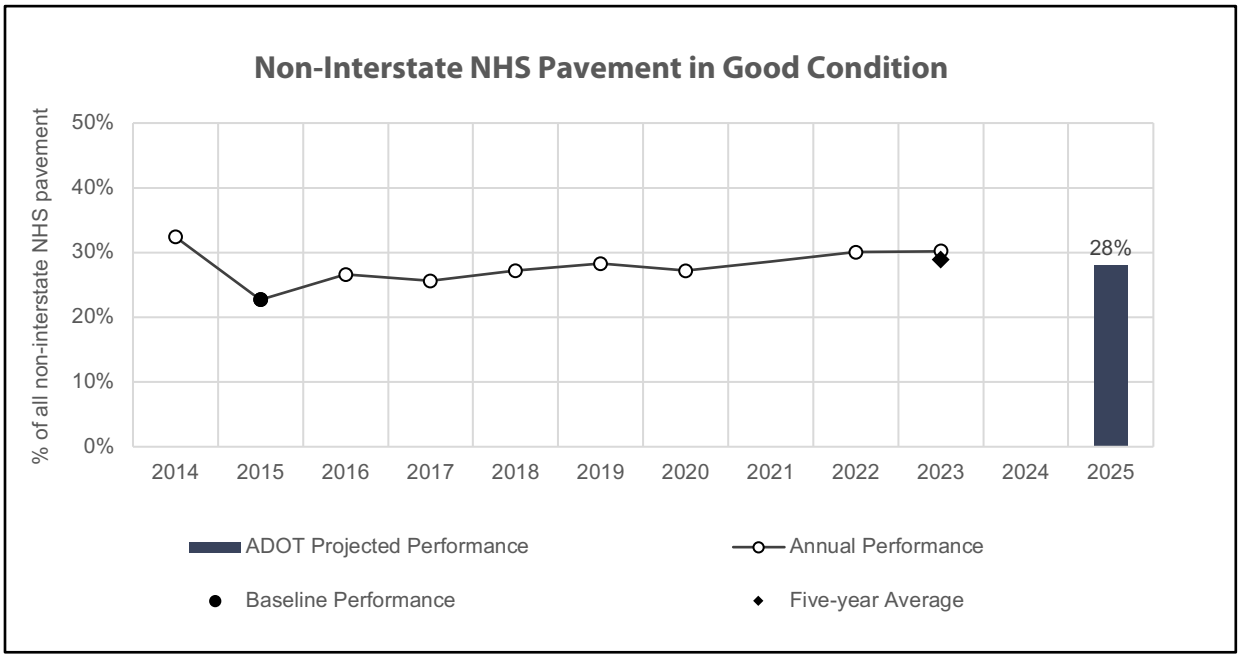
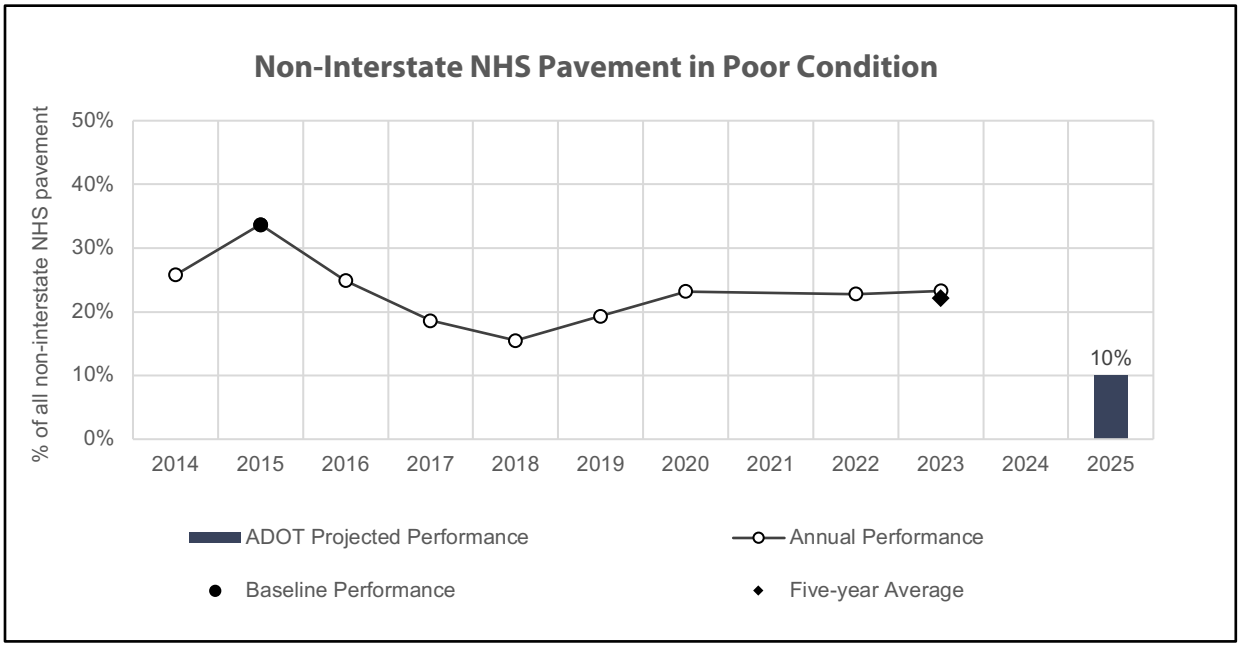


Figure A4.50 FAST Act – Non-Interstate NHS Pavement in Poor Condition



FAST ACT SYSTEM AND FREIGHT RELIABILITY AND CONGESTION REDUCTION AND ENVIRONMENTAL SUSTAINABILITY PROJECTIONS

For FAST Act system and freight reliability targets required by the FHWA Transportation Performance Management, PAG monitors trends in interstate travel-time reliability, non-interstate travel time reliability and freight travel-time reliability.

For the congestion reduction and environmental sustainability goal area, tracking Congestion Mitigation and Air Quality (CMAQ)-related emissions reductions is not necessary because the greater Tucson region does not have any projects funded by the CMAQ program.

In 2022, ADOT established targets of system reliability, freight reliability and CMAQ emissions reductions for the 2022-2025 performance period as follows.

Table A4.9 ADOT Performance Measures Targets

FAST Act Performance Measures	2-Year Target	4-Year Target
Interstate Travel-Time Reliability	81%	71%
Non-Interstate Travel-Time Reliability	84%	77%
Freight Reliability on the Interstate	1.37	1.48
CMAQ Emissions Reductions (kg per day)		
• Volatile organic compounds	222.950	343.669
• Carbon monoxide	5,027.922	8,120.895
• Nitrogen oxides	393.892	572.136
• Particular matter (≤10 microns)	965.365	1,817.637
• Particular matter (≤2.5 microns)	0.000	3.467

Table A4.10 illustrates historical trends in FAST Act system reliability performance in the greater Tucson area, compared to statewide projections established by ADOT.

FAST Act system reliability performance measures in the PAG planning area are on track. Both interstate and non-interstate travel-time reliability are satisfied with the 2025 ADOT target, indicating that reliability has remained stable over time. Additionally, freight reliability is lower than the ADOT target, signifying that the PAG region meets the 2025 ADOT target for freight reliability.

Table A4.10 Historical Trends of FAST Act System Reliability Performance

	2017	2018	2019	2020	2021	2022	2023	2025 ADOT Target
% Reliable Travel Times on Interstate	98%	97%	97%	100%	96%	100%	95%	81%
% Reliable Travel Time on Non-Interstate NHS	91%	90%	91%	94%	96%	98%	97%	84%
Freight Reliability on Interstate System	1.18	1.24	1.29	1.2	1.25	1.24	1.35	1.37

**Data Source: National Performance Management Research Data Set (NPMRDS)*

System Reliability Trends for FAST Act Performance Measures

Figure A4.51 FAST Act – Travel Time Reliability on Interstate System

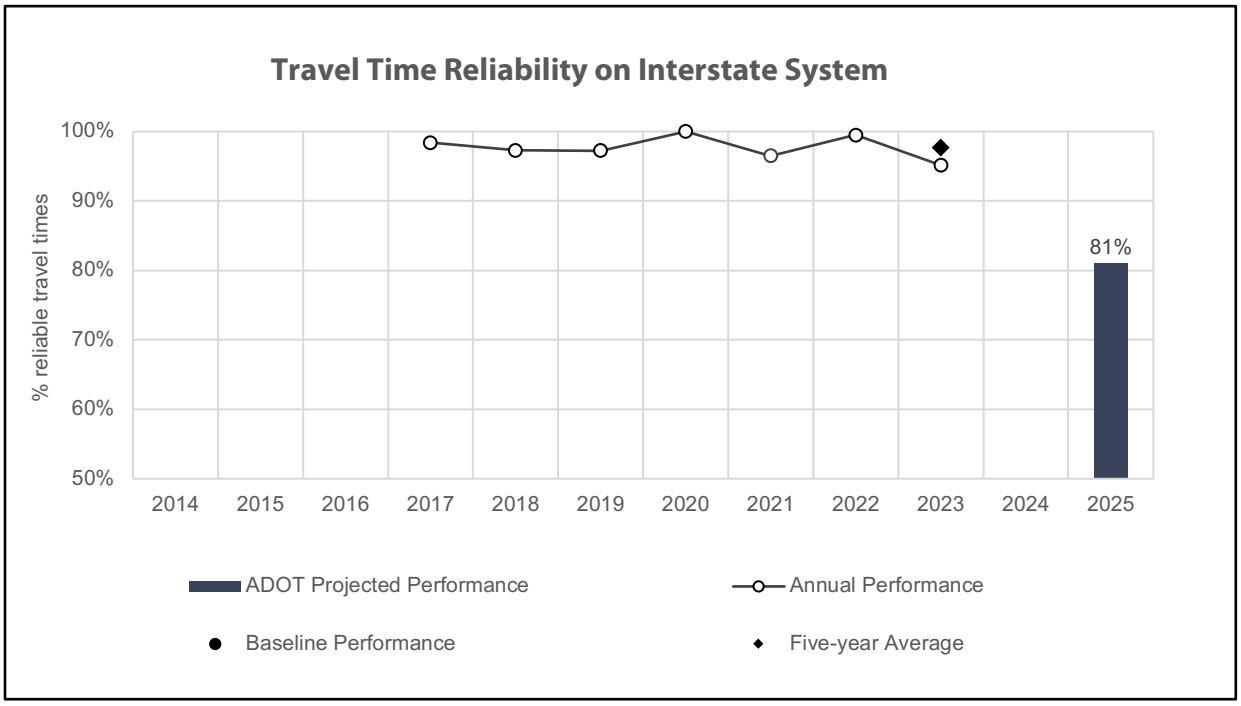


Figure A4.52 FAST Act – Travel Time Reliability on Non-Interstate NHS

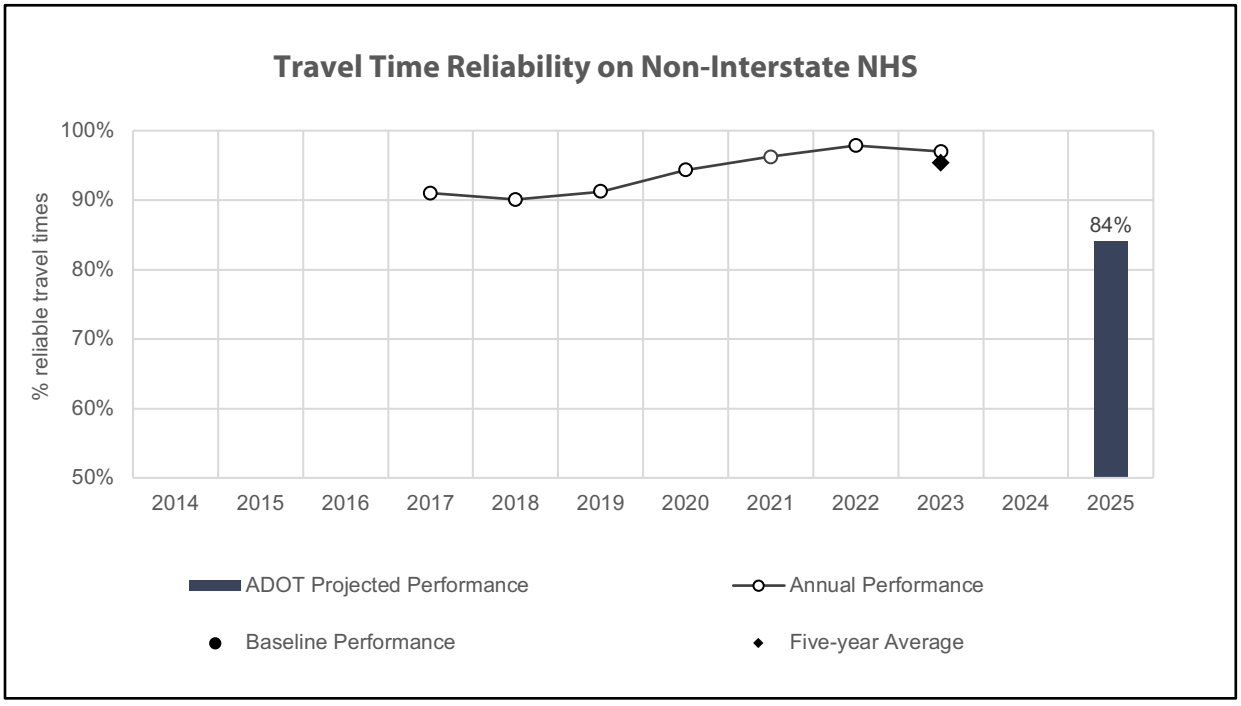
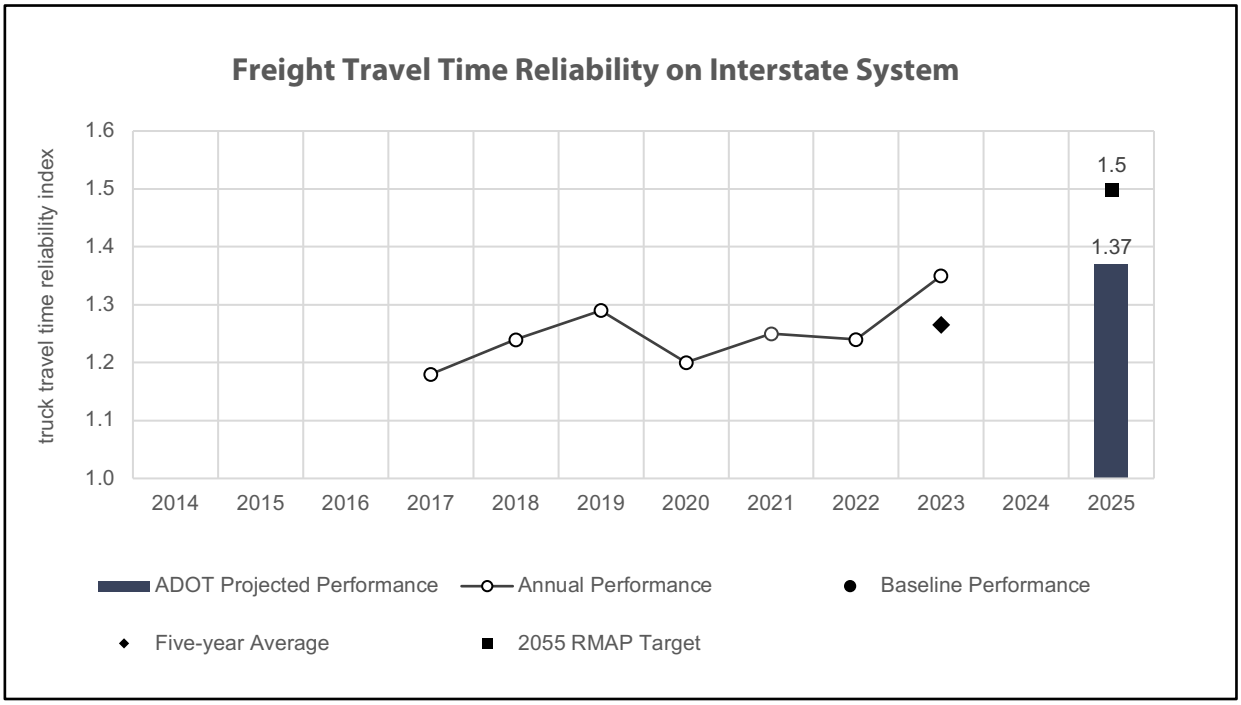


Figure A4.53 FAST Act – Freight Travel-Time Reliability on Interstate System



PERFORMANCE MEASURES FOR PROTECTED POPULATIONS AND DISADVANTAGED COMMUNITIES

As discussed in **Chapter 2**, **Tables A4.11**-**A4.19** provide baseline data for new performance measures specific to protected populations and disadvantaged communities. Socioeconomic baseline data is from 2023 and transportation baseline data is from 2024. During the next RMAP development cycle, targets may be established and approved, and PAG staff will continually collect applicable data to track these performance measures.

Table A4.11 Accessibility to Basic Services by Mode

Number of Basic Services Available by Mode	Peak		Off Peak	
	Vulnerable	**Non-Vulnerable**	**Vulnerable**	**Non-Vulnerable**
Auto Accessibility within 30 Minutes	111,781.80	92,513.45	124,210.90	103,469.99
Transit Accessibility within 45 Minutes	27,246.83	14,226.49	23,277.31	12,255.87
Transit Accessibility within 60 Minutes	54,281.26	26,683.09	23,277.31	24,452.64
Transit Accessibility within 90 Minutes	96,302.25	45,823.12	93,353.04	43,150.99

**Basic services include healthcare, educational facilities, essential services, etc.*

Figure A4.54 Accessibility to Basic Services by Mode

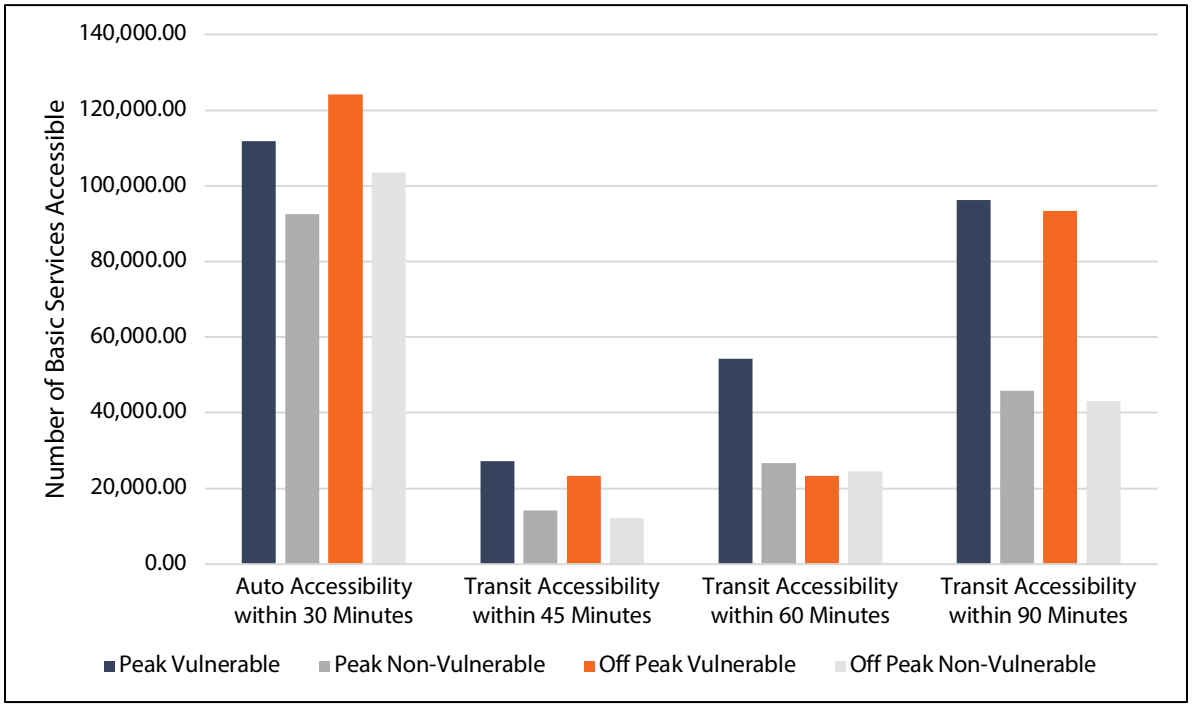


Table A4.12 Job Accessibility by Mode

Number of Jobs Available by Mode	Peak		Off Peak	
	Vulnerable	Non-Vulnerable	Vulnerable	Non-Vulnerable
Auto Accessibility within 30 Minutes	286,305.76	261,951.58	317,236.39	261,951.58
Transit Accessibility within 45 Minutes	52,286.57	28,324.55	52,286.57	24,468.26
Transit Accessibility within 60 Minutes	120,865.40	56,527.56	113,772.32	52,114.04
Transit Accessibility within 90 Minutes	218,827.71	102,292.84	209,376.24	95,702.28

Figure A4.55 Job Accessibility by Mode

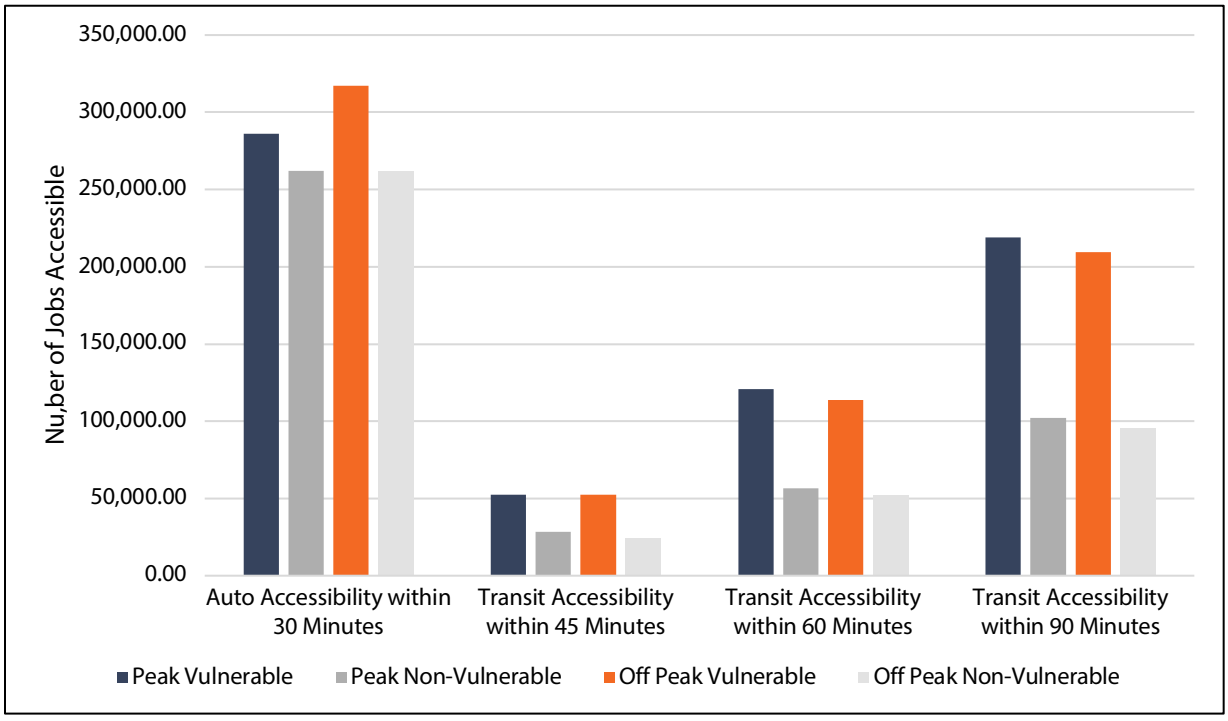


Table A4.13 Average Commute Time by Mode

Mode	Average Home-to-Work Commute Time (minutes)		Average Work-to-Home Commute Time (minutes)	
	Vulnerable	**Non-Vulnerable**	**Vulnerable**	**Non-Vulnerable**
Auto	18.79	22.03	19.31	22.63
Bike	25.86	27.38	26.82	27.68
Taxi	6.90	7.17	5.84	4.91
Transit	61.87	62.19	60.89	63.18
Walk	22.58	20.12	21.78	19.56

Figure A4.56 Average Commute Time by Mode

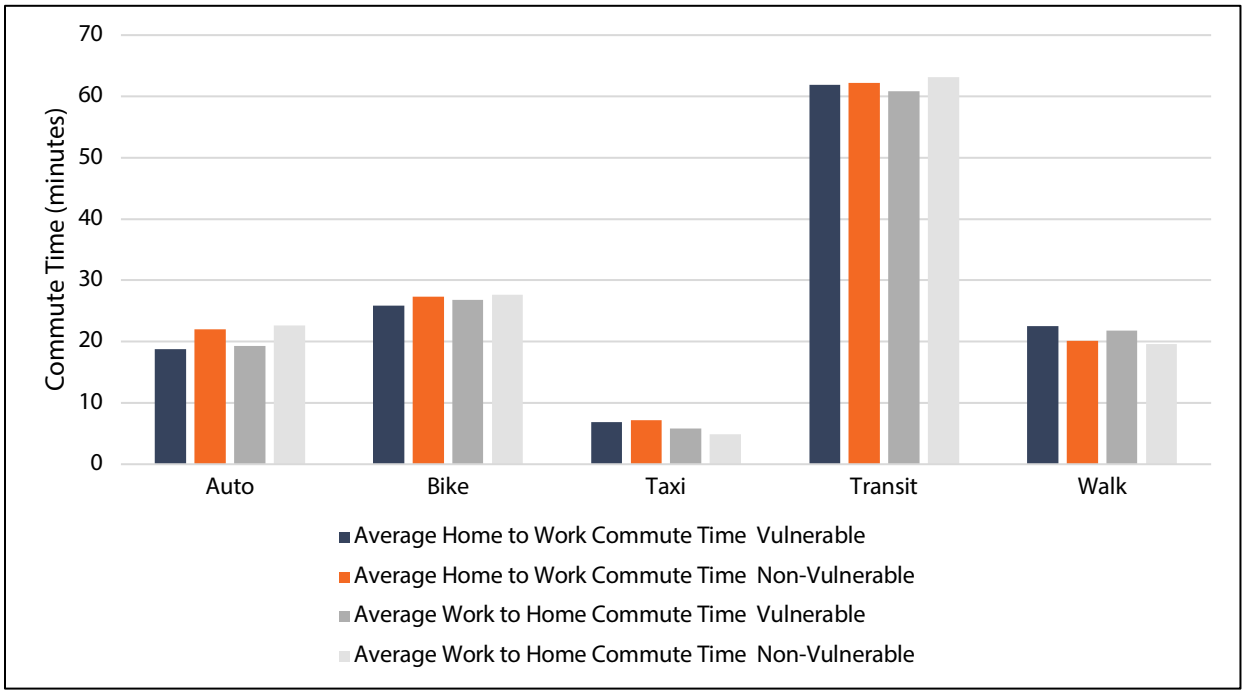


Table A4.14 Time Traveled per Household by Mode

Mode	Time Traveled per Household (minutes)	
	Vulnerable	**Non-Vulnerable**
Auto	79.67	86.06
Bike	1.82	2.5
School Bus	7.28	4.98
Taxi	0.18	0.24
Transit	5.08	2.66
Walk	20.74	16.93

**Calculated based on the daily total travel time of each mode divided by the total number of households in the greater Tucson region for vulnerable and non-vulnerable populations.*

Figure A4.57 Time Traveled per Household by Mode

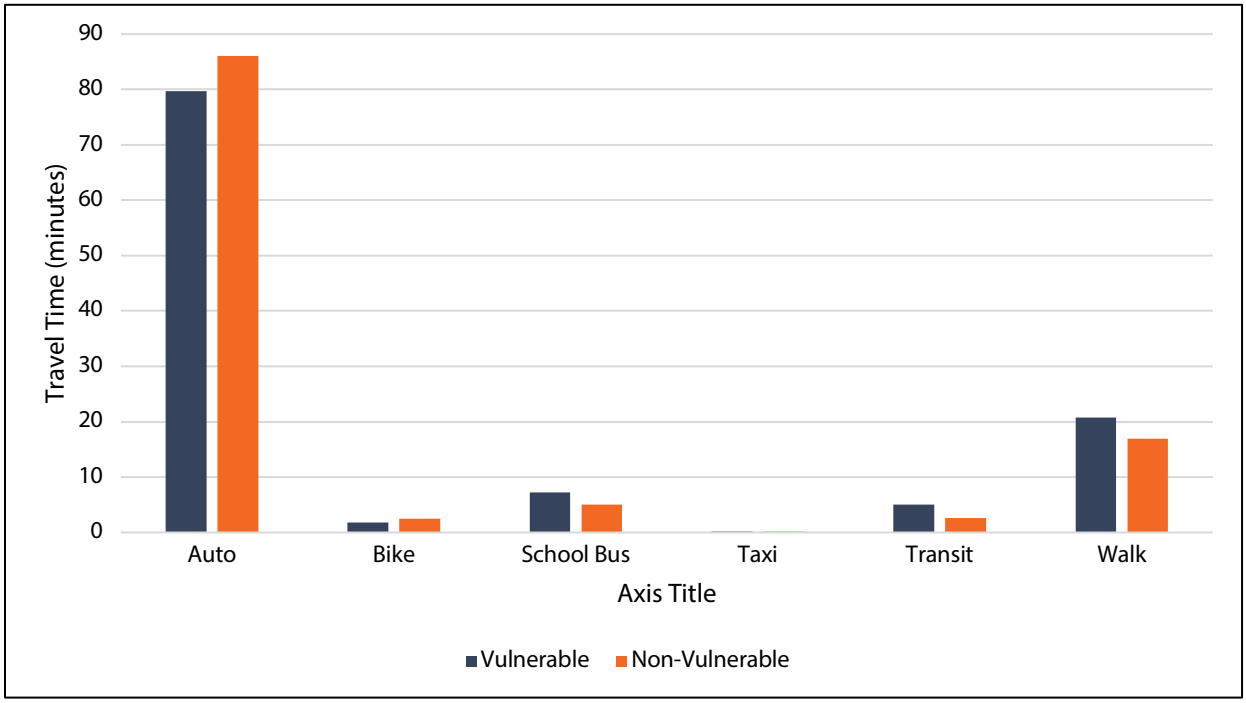


Table A4.15 Time Traveled per Person by Mode

Mode	Time Traveled per Person (minutes)	
	Vulnerable	**Non-Vulnerable**
Auto	32.38	36.95
Bike	1.02	0.78
School Bus	2.96	2.14
Taxi	0.07	0.10
Transit	2.07	1.14
Walk	8.43	7.27

**Calculated based on the daily total travel time of each mode divided by the total population of the greater Tucson region for vulnerable and non-vulnerable populations.*

Figure A4.58 Time Traveled per Person by Mode

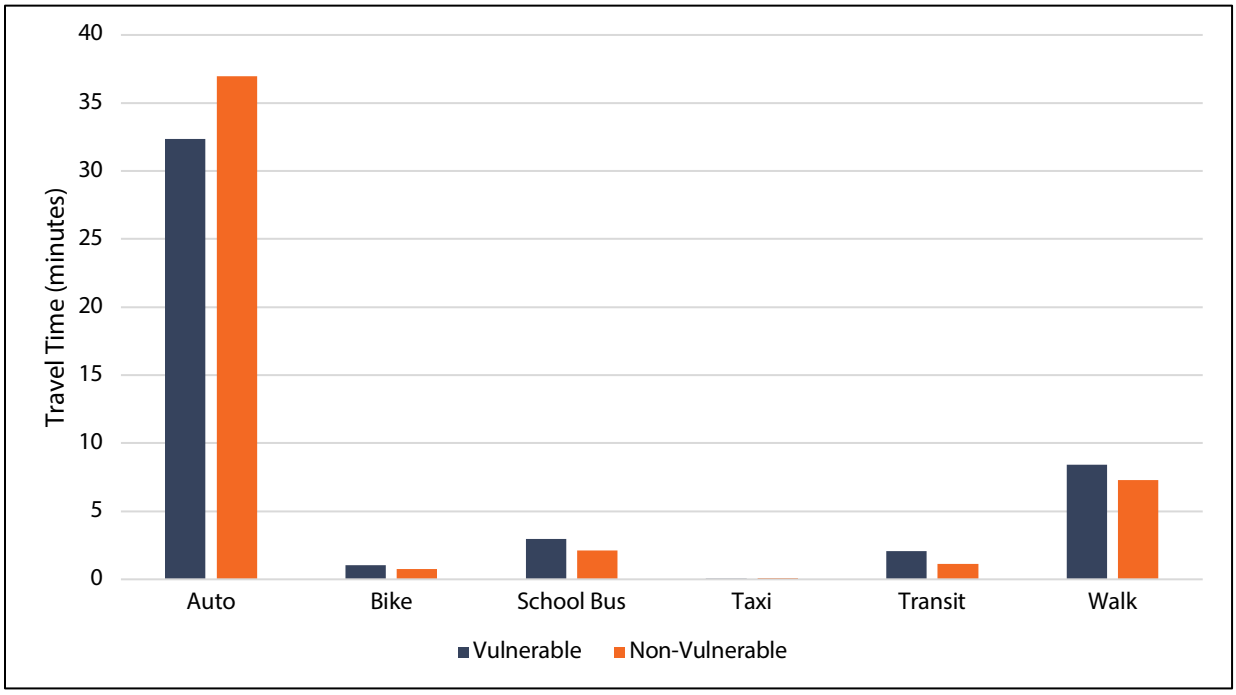


Table A4.16 Travel Distance Per Household by Mode

Mode	Travel Distance Per Household (miles)	
	Vulnerable	**Non-Vulnerable**
Auto	37.78	43.17
Bike	0.49	0.36
School Bus	1.21	0.83
Taxi	0.80	0.10
Transit	0.62	0.35
Walk	1.03	0.84

**Calculated based on the daily total travel distance of each mode divided by the total number of households in the greater Tucson region for vulnerable and non-vulnerable populations.*

Figure A4.58 Travel Distance Per Household by Mode

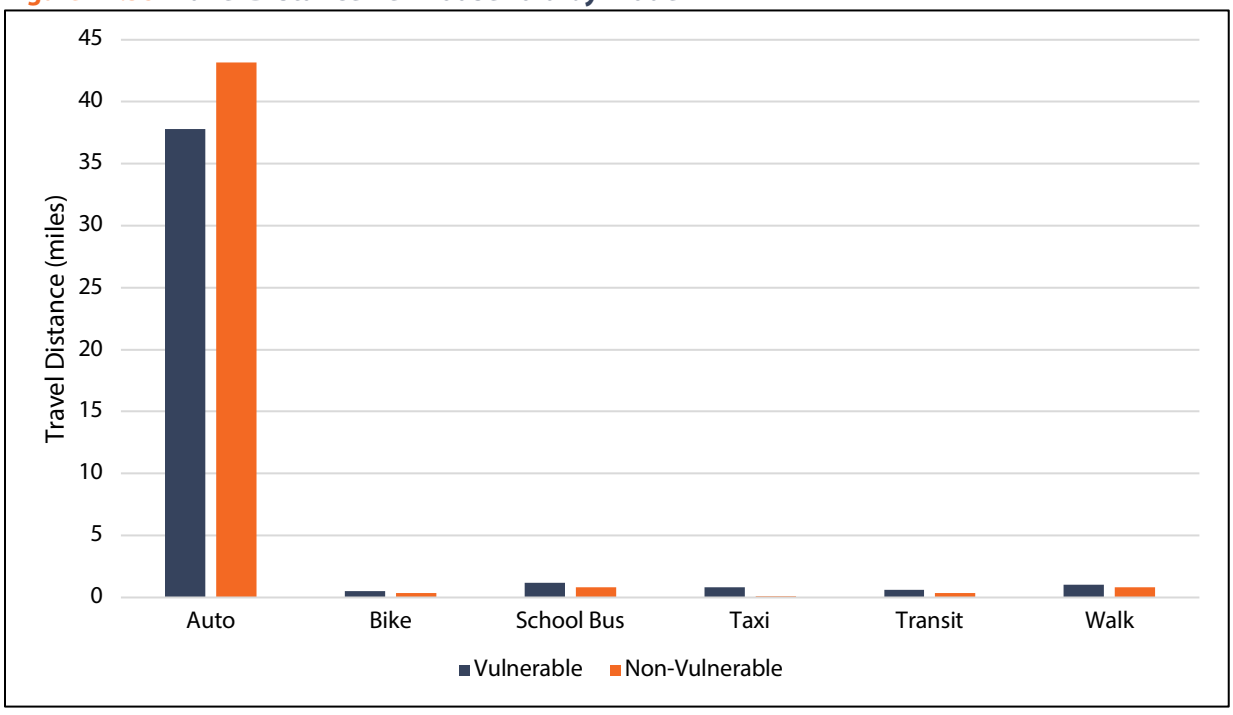


Table A4.17 Travel Distance Per Person by Mode

Mode	Travel Distance Per Person (miles)	
	Vulnerable	**Non-Vulnerable**
Auto	15.35	18.54
Bike	0.20	0.16
School Bus	0.49	0.36
Taxi	0.03	0.04
Transit	0.25	0.15
Walk	0.42	0.36

**Calculated based on the daily total travel distance of each mode divided by the total population of the greater Tucson region for vulnerable and non-vulnerable populations.*

Figure A4.59 Travel Distance Per Person by Mode

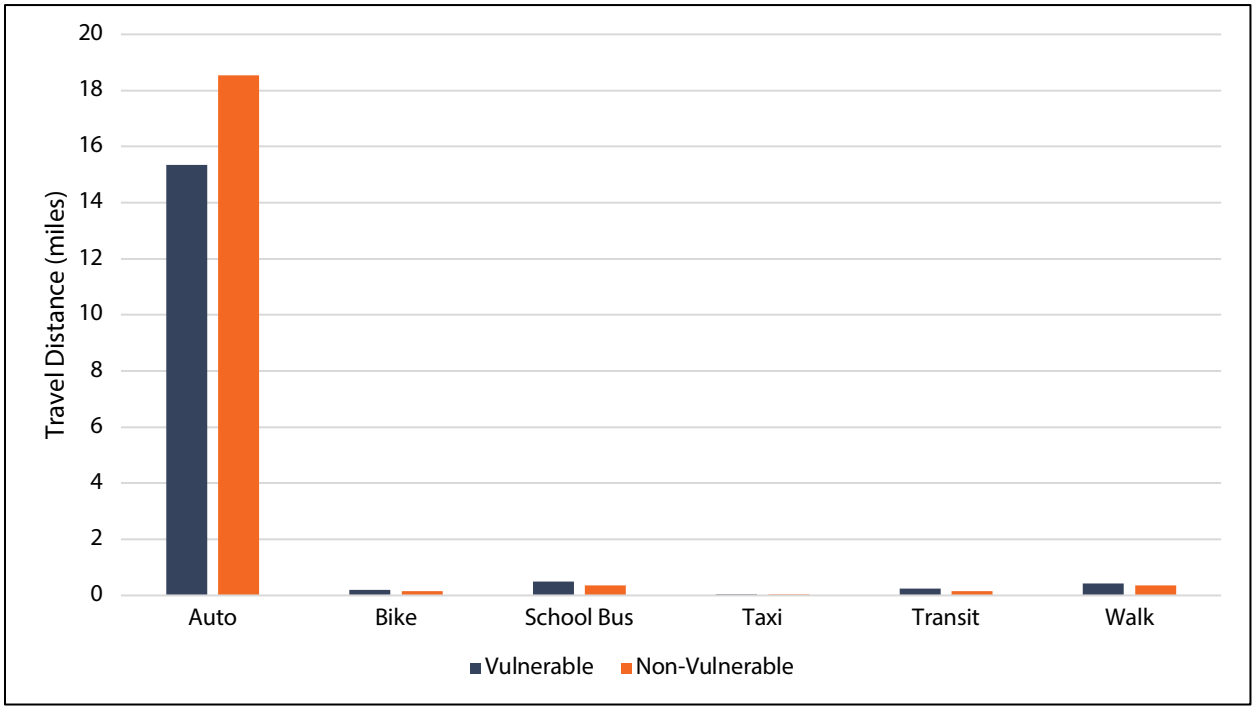


Table A4.18 Average Commute Time in Minutes by Income Quartile

	Income Quartile			
Mode	**Quartile 1**	**Quartile 2**	**Quartile 3**	**Quartile 4**
Auto	17.66	20.06	21.33	22.92
Bike	26.89	27.09	27.07	26.15
Taxi	2.54	5.72	5.66	9.04
Transit	58.6	62.33	62.41	66.83
Walk	22.86	22.5	19.84	17.67

**Quartile 1: $0-$30,200, Quartile 2: $30,200-$63,000, Quartile 3: $63,000-$108,000, Quartile 4: >$108,000*

Figure A4.60 Average Commute Time in Minutes by Income Quartile

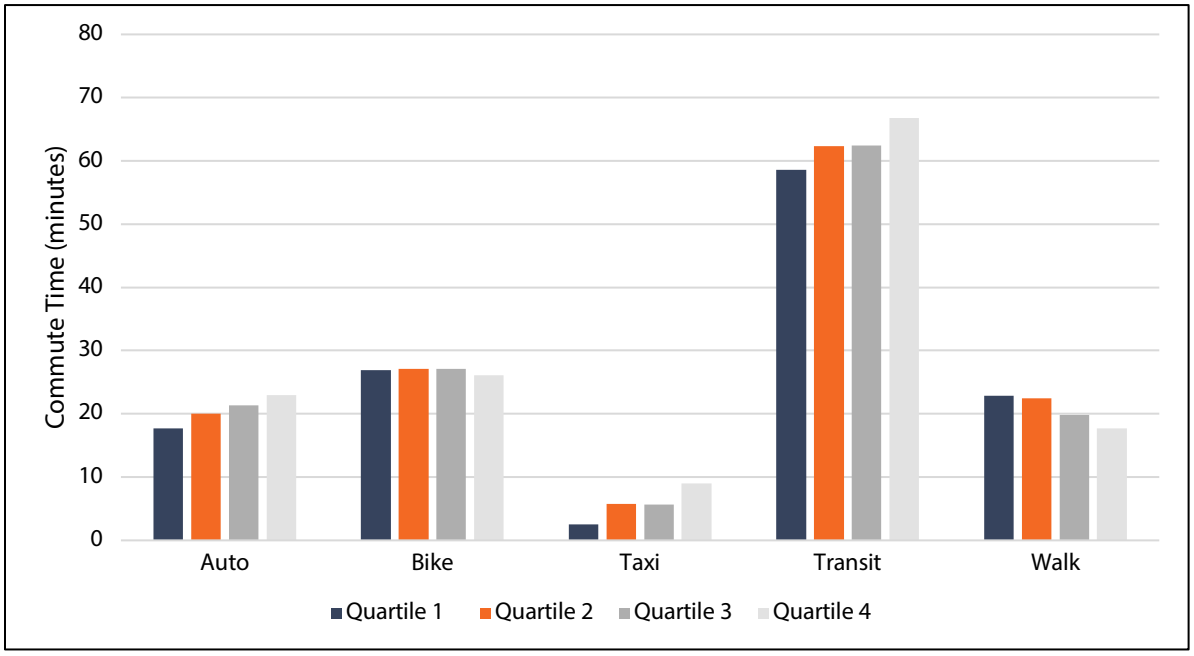
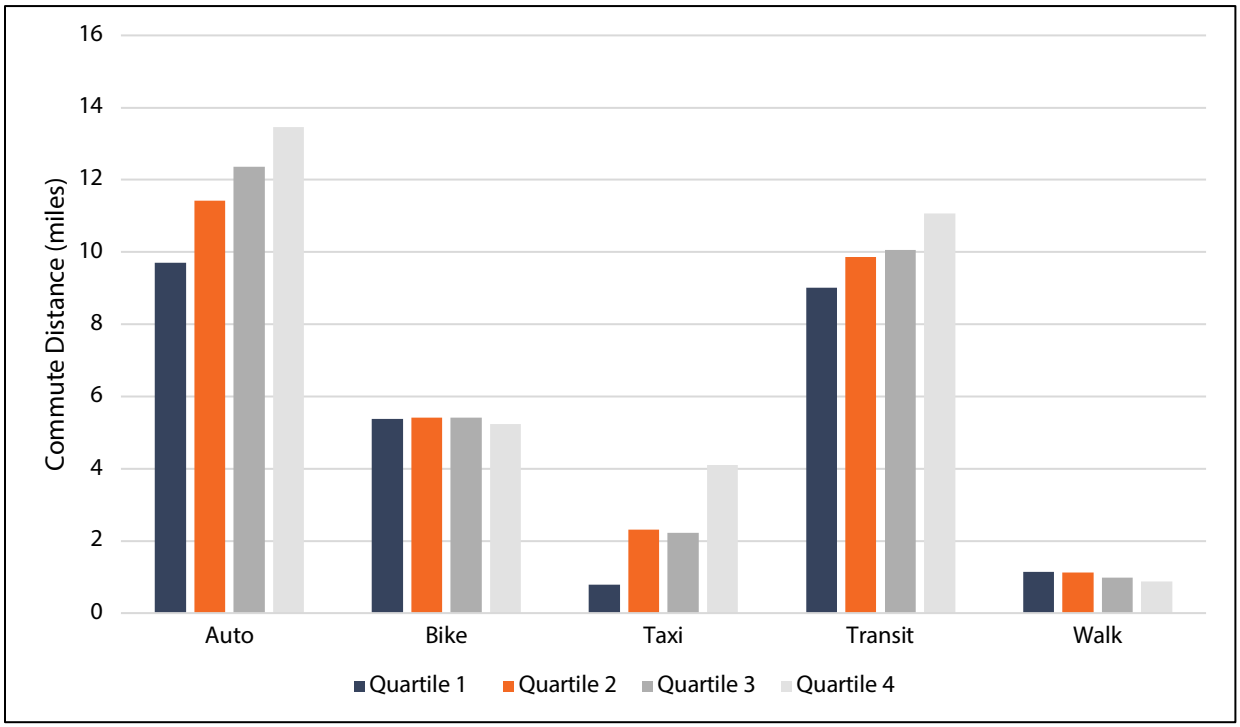


Table A4.18 Average Commute Distance in Miles by Income Quartile

	Income Quartile			
Mode	**Quartile 1**	**Quartile 2**	**Quartile 3**	**Quartile 4**
Auto	9.7	11.42	12.36	13.46
Bike	5.38	5.42	5.42	5.23
Taxi	0.79	2.31	2.22	4.1
Transit	9.02	9.86	10.06	11.07
Walk	1.14	1.12	0.99	0.88

**Quartile 1: $0-$30,200, Quartile 2: $30,200-$63,000, Quartile 3: $63,000-$108,000, Quartile 4: >$108,000*

Figure A4.61 Average Commute Distance in Miles by Income Quartile



APPENDIX 5: 2055 RMAP STRATEGIES

As part of the federally required planning process, strategies that address the goals identified in the 2055 RMAP are required. These strategies promote a safe, connected, efficient and coordinated regional transportation system. The RMAP strategies were first adopted in 2016 as part of the 2045 RMAP and were carried forward during the 2045 RMAP Update. Many strategies have been implemented over the last nine years. The strategies shown in this section reflect ongoing action steps and additional measures that can be taken to bring the concepts in the 2055 RMAP to reality.

Strategies align with specific focus areas and associated RMAP goals and are supported by the performance measures in **Appendix 4**. These strategies will be revisited and updated during the next RMAP development cycle as new methods for tracking performance are developed and a decision on the RTA Next plan is made by the voters.

FOCUS AREA: Safe Infrastructure

GOALS	STRATEGY
Safety: Safety and security for all transportation users across the region	Continue to track and support disseminating real-time traveler information to the public regarding potential safety hazards and to support efficient incident responses.
	Continue to track safety-related performance measures and associated targets.
	Support safety-related projects, plans and programs during the RMAP project selection process that promote safety and security for all roadway users.
	Include Roadway Safety Assessments (RSA) as part of projects addressing safety issues. RSAs should be addressed during the scoping and design process to incorporate safety features in all projects as early as possible and to avoid project retrofits.
	Prioritize funding for safety improvement projects as a key component of transportation project development through the TIP and RMAP processes and ensure that HSIP funding is fully utilized in the region consistent with the emphasis areas of the regional Strategic Transportation Safety Plan.

FOCUS AREA: Reliable Network

GOALS	STRATEGY
Maintenance: Roadways, bike and pedestrian infrastructure, and transit systems that are rehabilitated, complete, and maintained in a state of good repair	Develop tools for tracking system performance including the condition of transportation facilities that assist local agencies and support consistent reporting standards regionwide.
Advanced Technologies: State-of-the-art, cost-effective delivery of transportation services and facilities	Support jurisdictions in upgrading traffic signal control equipment, power supplies, communications connections and detection systems on arterial roadways while piloting innovative technologies to improve safety and network performance.
Performance: Improved regional mobility, congestion management, and travel-time reliability through reducing travel demand, enhancing operations and adding system capacity for all modes where necessary	Support a comprehensive performance measurement program of the transportation network whereby mobility issues are identified and addressed promptly through a program of expanded data collection and analysis.
	Consider alternative congestion management strategies such as biking, walking, transit, ridesharing, signal coordination, and other operational approaches to address congestion causes and impacts. These strategies should be integrated into project development to include congestion mitigation features and be evaluated before deciding on capacity-increasing projects in the regional development process.
	Support technological and best practices that improve the efficiency of the regional transportation network including ITS features, telecommunications infrastructure, access management policies and operational improvements.
	Regularly update PAG plans and studies such as the Regionally Significant Corridors Study, the High-Capacity Transit Study, and active transportation-related plans, to ensure continual improvements to the transportation network. Coordinate the timing of plan updates to increase planning effectiveness as feasible.

FOCUS AREA: Vibrant Economy

GOALS	STRATEGY
Land Use and Transportation: Land use decisions and transportation investments that are complementary and result in improved access to important destinations and support vibrant and healthy communities	Track forecasted future land use development and support connections between varying land uses and alternative transportation infrastructure during planning processes.
Freight and Economic Growth: Regional freight transportation infrastructure that supports global competitiveness, economic activity and job growth by providing for the efficient movement of goods within our region, giving access to national and international markets, and improving intermodal connections	Continue to support transportation infrastructure studies, initiatives and projects that could ultimately increase job opportunities in the community.
	Continue to coordinate transportation planning with adjoining counties, regions and councils of government for transportation needs and improvements beyond those in our region.
	Support the integration of freight movement and land use planning to develop regional, multimodal logistics hubs, designate freight priority corridors for heavy freight movements, and collaborate with airports to improve connections between air and ground travel, addressing infrastructure gaps and enhancing the efficient mobility of people and goods.
	Collect and track high quality commercial vehicle data including that for trucks, trains and cargo airplanes to inform decision making and planning efforts.
	Continue efforts to assist businesses affected by transportation projects.

FOCUS AREA: Sustainable Environment

GOALS	STRATEGY
Environmental Stewardship: Environmental stewardship, natural resource protection and energy efficiency in transportation planning, design, construction and management	Support regional efforts to remove invasive species in road improvement and maintenance efforts, incorporate rainwater harvesting and green infrastructure along roadways and at commercial sites to reduce stormwater peak flows and pollution, and promote wildlife protection by creating crossings on major roadways, particularly along wildlife corridors between mountain ranges and ongoing monitoring.
	Support alternate mode options, such as bike, pedestrian and transit to decrease vehicle miles traveled and to reduce air pollution.
	Ensure consistency between PAG region transportation plans, such as the RMAP and local circulation plans, and adopted conservation plans, such as the Sonoran Desert Conservation Plan and others, so that they may avoid further habitat fragmentation.
	Monitor greenhouse gas (GHG) emissions and develop strategies to reduce the effect of transportation-related GHG emissions; currently, it is estimated one-third of all regional GHG come from on-road transportation sources.
	Support expansion of alternative fuel vehicles to reduce regional on-road emissions.

FOCUS AREA: Menu of Travel Options

GOALS	STRATEGY
Multimodal Choices: A variety of integrated, high-quality, accessible and interconnected transportation choices to meet all mobility needs and changing travel preferences	Support retaining the quality of the current public transportation system and expanding access and service.
	Track and document deficiencies in the transportation network, such as gaps in the sidewalk network and incomplete bicycle facilities, and support projects and programs that address these.
	Support and conduct regional alternative transportation planning and infrastructure and promote non-vehicular trips via education and outreach.
	Use various data sources to track where infrastructure elements and amenities that would improve the comfort of the transportation network are lacking.
	Support jurisdictions implementing complete streets practices in the region.

FOCUS AREA: Commitment to Process

GOALS	STRATEGY
Public Involvement: Continued outreach and involvement of all users in transportation decision-making	Conduct education and public outreach on the value of the region's transportation network and the importance of transportation improvements including those in current planning efforts.
	Involve broad, geographically dispersed populations, including under-represented and disadvantaged groups, in developing plans and projects, and provide repeated opportunities for meaningful public input during planning processes.
	PAG staff will provide public input results to decision-makers in a timely manner and to explicitly consider and respond to public comments.
Funding and Implementation: Revenue sources and strategies that ensure ample funding and timely project development	Monitor the proposed extension of the half-cent excise tax and the Regional Transportation Authority (RTA) beyond its expiration in 2026 and continue to provide information on the value of dedicated transportation funding sources.
	Continue tracking performance measures and associated targets to assess the progress of the implementation of the 2055 Regional Mobility and Accessibility Plan.
	Encourage proper maintenance and upkeep of the existing transportation network.
	Set targets for project delivery and the implementation of the projects in the five-year Transportation Improvement Program (TIP).
	Track and report on potential new funding sources to member jurisdictions.
Accountability: Continued transparency, responsiveness and coordination to meet transportation needs throughout the region	Track the implementation of projects and regularly update the public on the status of projects, programs and finances.
	Encourage jurisdictions to provide information on recently completed projects when conducting public outreach on developing projects. Explain the benefits of completed projects to educate the public about transportation improvements and solicit input on developing projects.

APPENDIX 6: TITLE VI ANALYSIS

OVERVIEW

TITLE VI

Title VI of the 1964 Civil Rights Act (42 U.S.C. 2000d-1 and related regulations) 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 subjected to discrimination under any program or activity receiving federal financial assistance."

A Title VI analysis was performed to determine the impact of 2055 RMAP improvements on protected populations. The Federal Highway Administration and the Federal Transit Administration are committed to ensuring that Title VI of the 1964 Civil Rights Act is carried out for federally funded programs. Within this context, PAG recognizes the importance of transportation access to all residents in the region and works toward the fair distribution of benefits and burdens of transportation improvements.[7]

PAG's Title VI analysis evaluates the relative distribution of costs and benefits of transportation projects upon various segments of the community. The analysis starts by identifying traffic analysis zones (TAZ) in which federally protected classes of population reside in greater concentrations than the total regional percentage of that population group. PAG then uses sophisticated travel modeling and geographic information system (GIS) mapping software packages to determine the average travel times for all populations compared to those of protected classes residing in a concentrated TAZ. Travel time refers to how long it takes the average person to travel by auto on a home-based vehicle trip (a trip that starts or ends at home). Additionally, maps are created to review whether transportation improvements are fairly distributed throughout the region.

PAG also performs a Title VI analysis on projects included in its five-year Transportation Improvement Program (TIP), while the jurisdictions conduct project-specific assessments during project development. Each jurisdiction or project sponsor is responsible for addressing impacts and Title VI compliance as part of the planning and construction of individual projects. This includes "just" compensation and relocation assistance for properties that qualify due to project impacts.

The analysis shows 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 comparable travel time benefits. In the land use scenario modeled for the 2055 RMAP, the average travel time improvement "with the RMAP projects" compared to "without" was 0.6 minutes (36 seconds) for everyone in the region during peak period travel and 0.3 minutes (18 seconds) during off-peak travel. Protected classes would be expected to experience an improvement "with the RMAP projects"

[7] Prior long-range planning efforts considered the 1994 Executive Order 12898 passed signed by then President Bill Clinton. In 2025, Executive Order 12898 was repealed by President Donald Trump.

compared to "without" in travel time of 0.6 minutes (36 seconds) during peak period and 0.2 minutes (12 seconds) for off-peak travel. **Table A6.1** contains the peak and off-peak travel times for the entire population as well as for protected populations.

Table A6.1 Title VI Analysis Travel Time

Group			Avg Travel Time 2024 (min/veh)	Avg Travel Time 2055 No-Build (min/veh)	Avg Travel Time 2055 with projects (min/veh)	Comparison of travel time with & without projects (min/veh)
			(1)	(2)	(3)	(4) =[(3)-(2)]
Peak-Hours	All		13.6	14.6	14.0	-0.6
	African American	Protected	13.2	14.3	13.6	-0.7
		Non-Protected	13.6	14.6	14.0	-0.6
	Asian	Protected	13.0	14.1	13.5	-0.6
		Non-Protected	13.6	14.6	14.0	-0.6
	Disabled	Protected	13.4	14.5	13.9	-0.6
		Non-Protected	13.6	14.6	14.0	-0.6
	Elderly (+65)	Protected	13.6	14.5	14.1	-0.5
		Non-Protected	13.6	14.6	14.0	-0.6
	Hispanic	Protected	13.1	14.3	13.6	-0.7
		Non-Protected	13.8	14.7	14.1	-0.6
	Low Income	Protected	13.0	14.1	13.5	-0.6
		Non-Protected	13.7	14.7	14.1	-0.6
	Native American	Protected	14.1	15.3	14.6	-0.7
		Non-Protected	13.6	14.6	14.0	-0.6
	Pacific Islander	Protected	15.3	16.5	15.9	-0.6
		Non-Protected	13.6	14.6	14.0	-0.6
Off-Peak Hours	All		10.0	10.4	10.1	-0.3
	African American	Protected	9.8	10.2	9.9	-0.3
		Non-Protected	10.0	10.4	10.1	-0.3
	Asian	Protected	9.6	10.0	9.8	-0.2
		Non-Protected	10.0	10.4	10.1	-0.3
	Disabled	Protected	9.7	10.1	9.8	-0.2
		Non-Protected	10.1	10.4	10.2	-0.3
	Elderly (+65)	Protected	9.8	10.2	9.9	-0.2
		Non-Protected	10.1	10.4	10.2	-0.3
	Hispanic	Protected	9.8	10.1	9.8	-0.3
		Non-Protected	10.1	10.5	10.2	-0.3
	Low Income	Protected	9.4	9.8	9.6	-0.2
		Non-Protected	10.1	10.5	10.2	-0.3
	Native American	Protected	10.2	10.5	10.2	-0.3
		Non-Protected	10.0	10.4	10.1	-0.3
	Pacific Islander	Protected	10.9	11.3	11.2	-0.1
		Non-Protected	10.0	10.4	10.1	-0.3

Table A6.1 shows modeling results and the travel time improvements based on building the *2055 RMAP* projects. It provides a breakdown by protected population group as compared to the general population.

Figures A6.1 – A6.8 are maps representing the location of the *2055 RMAP* projects in comparison to the location of various concentrations of protected populations. This visualization validates the

appropriate distribution of projects across the region in relation to protected populations and shows that no undue burden falls on any single group of residents.

Additionally, separate but complementary to the Title VI analysis that PAG performs, PAG also evaluates proposed roadway projects in relation to disadvantaged communities and facility users. **Figure A6.9** shows the 2055 RMAP projects in relation to disadvantaged communities and facility users. These areas are where residents and facility users have experienced greater burdens and thus render them disadvantaged compared to other areas in the greater Tucson region.

Figure A6.1 2055 RMAP Roadway Projects and African American Population

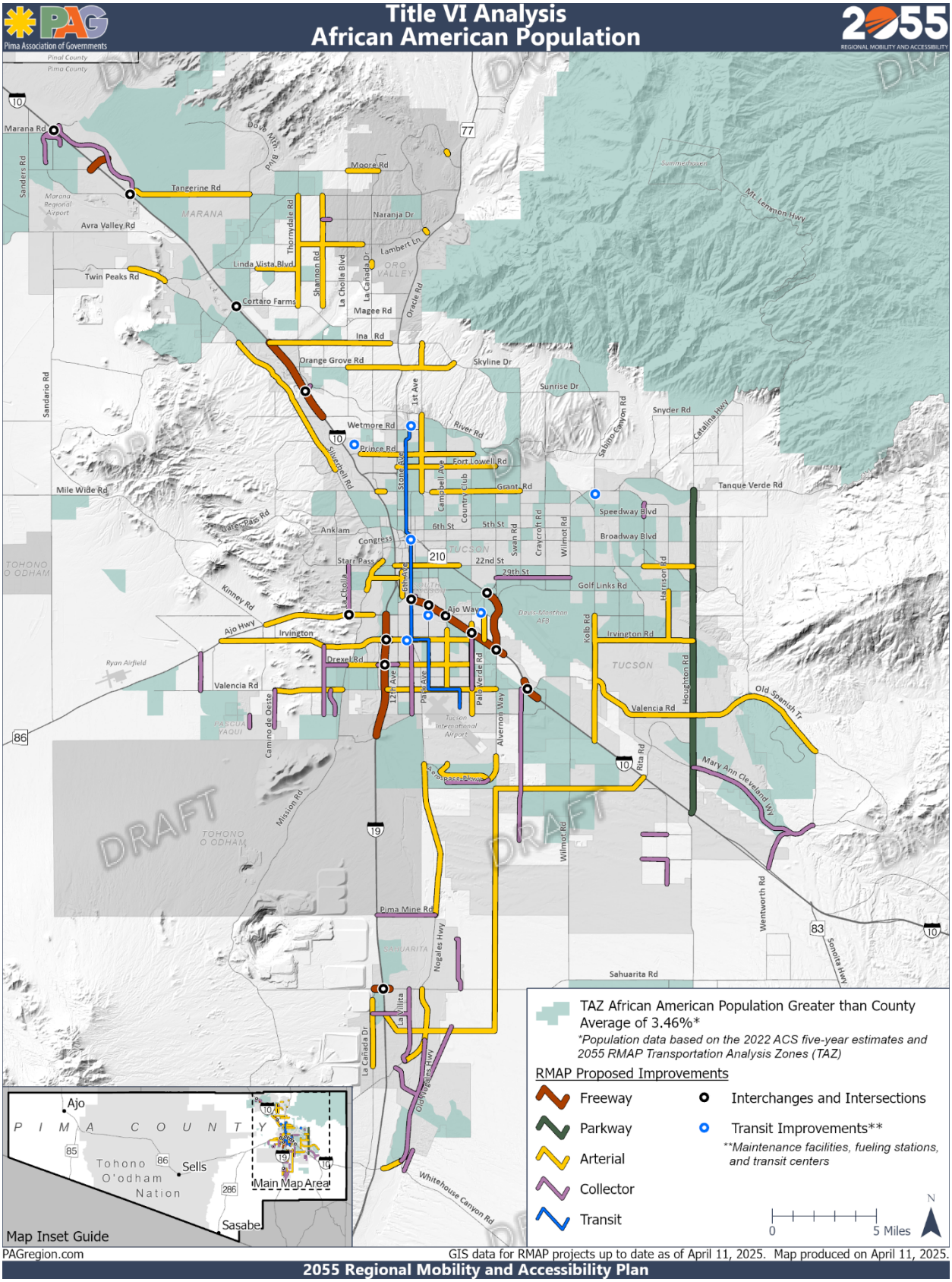


Figure A6.2 2055 RMAP Roadway Projects and Asian Population

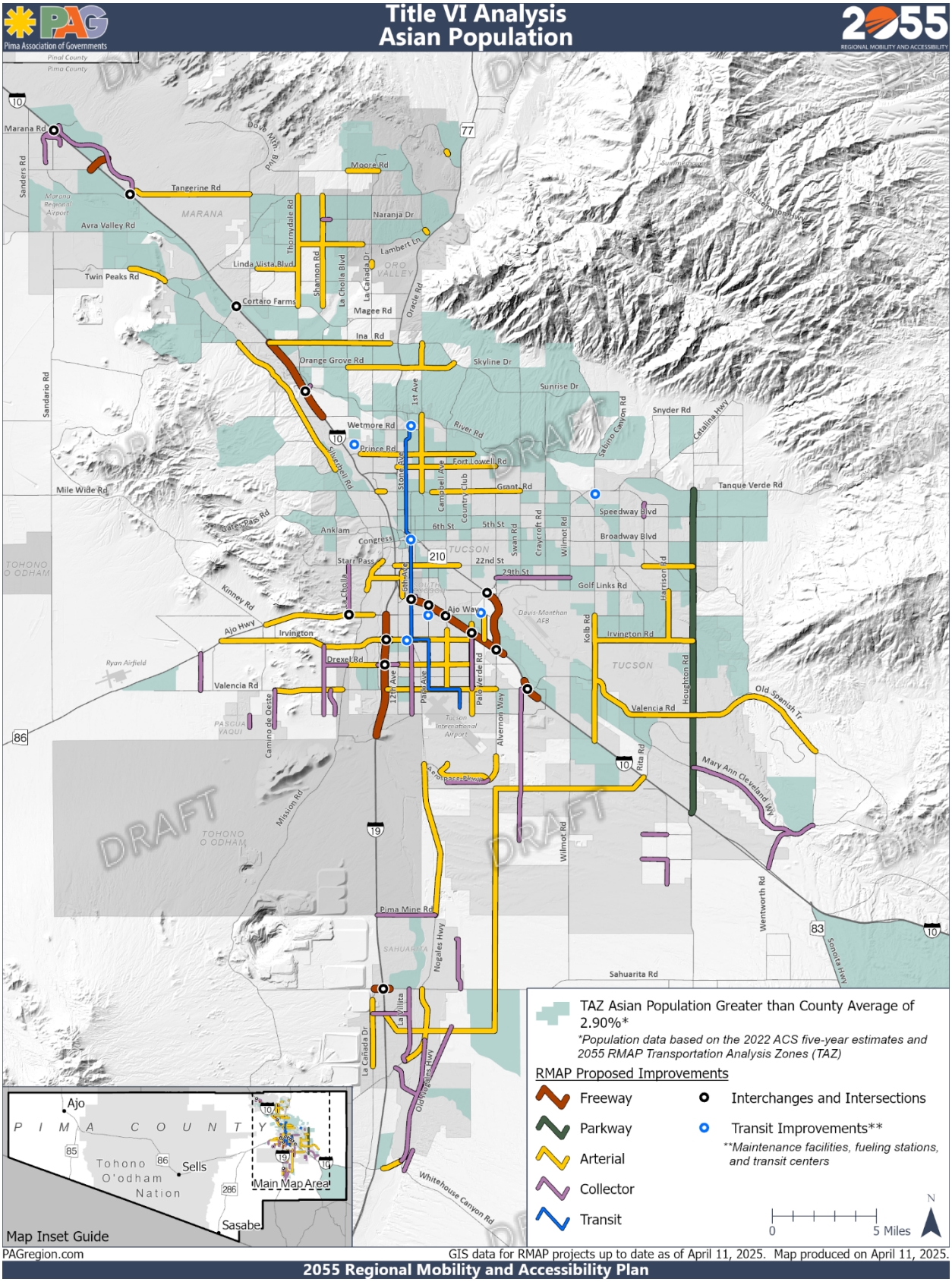


Figure A6.3 2055 RMAP Roadway Projects and Population with Disabilities

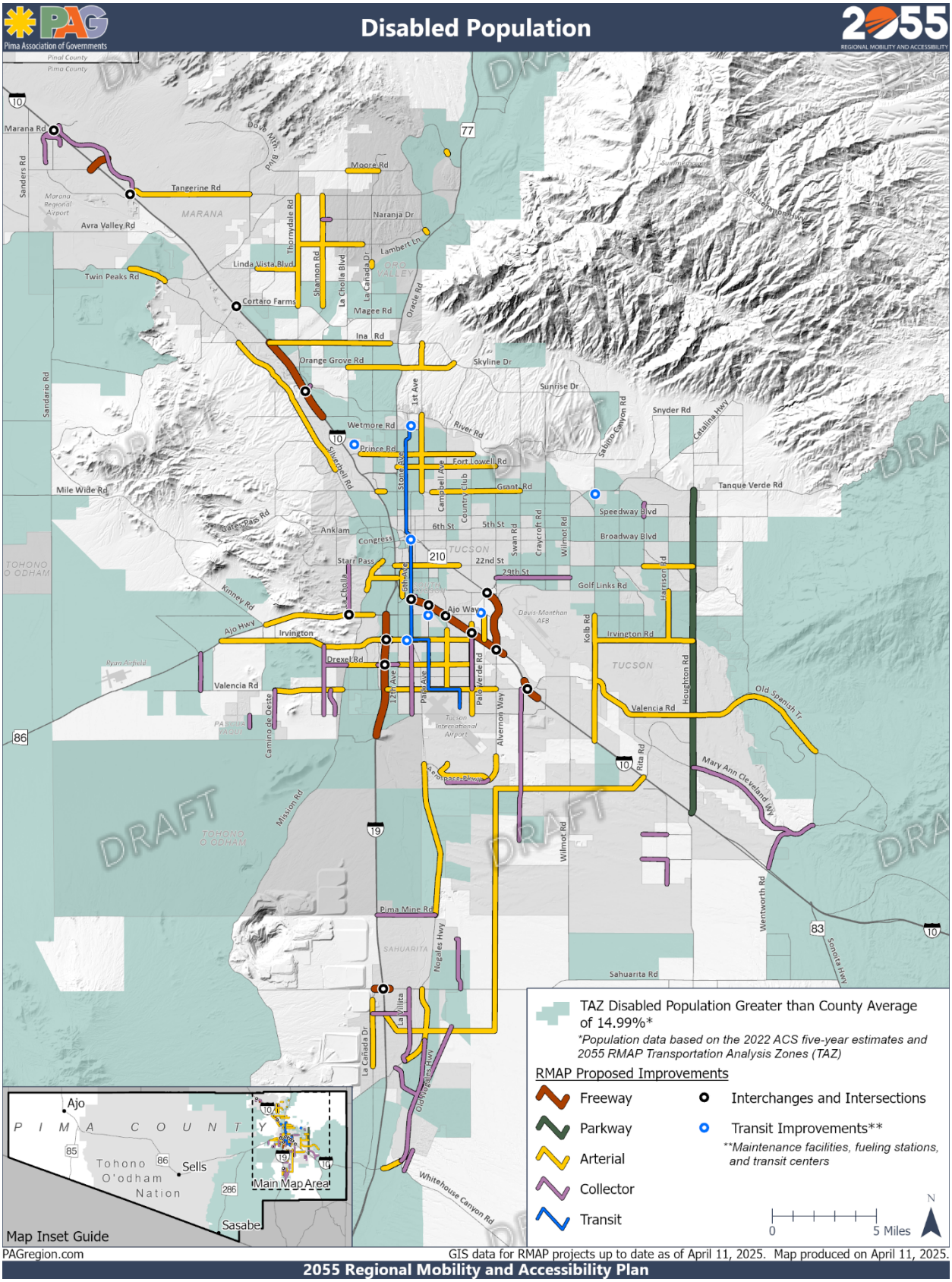


Figure A6.4 2055 RMAP Roadway Projects and Elderly (65+) Population

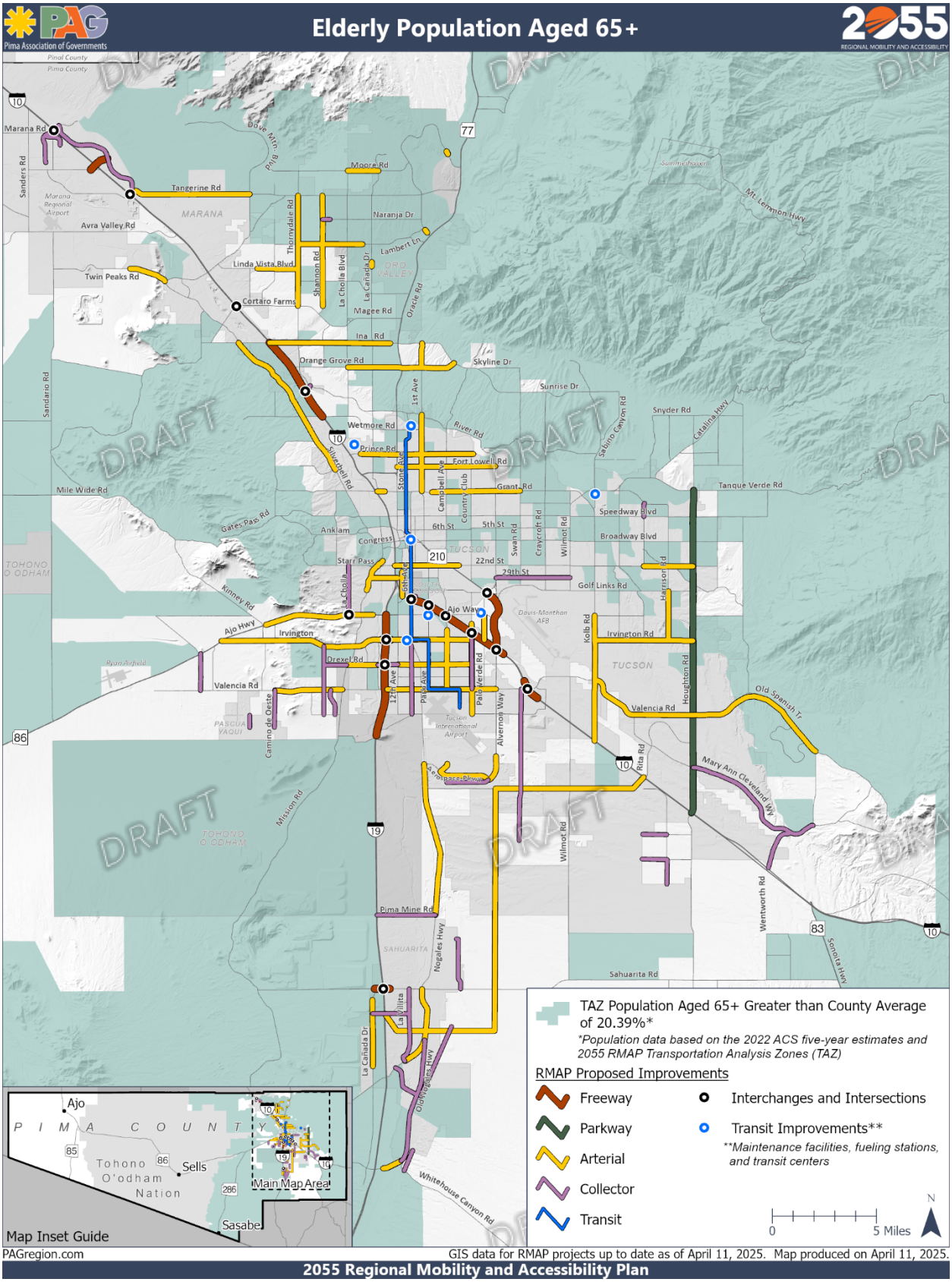


Figure A6.5 2055 RMAP Roadway Projects and Hispanic Population

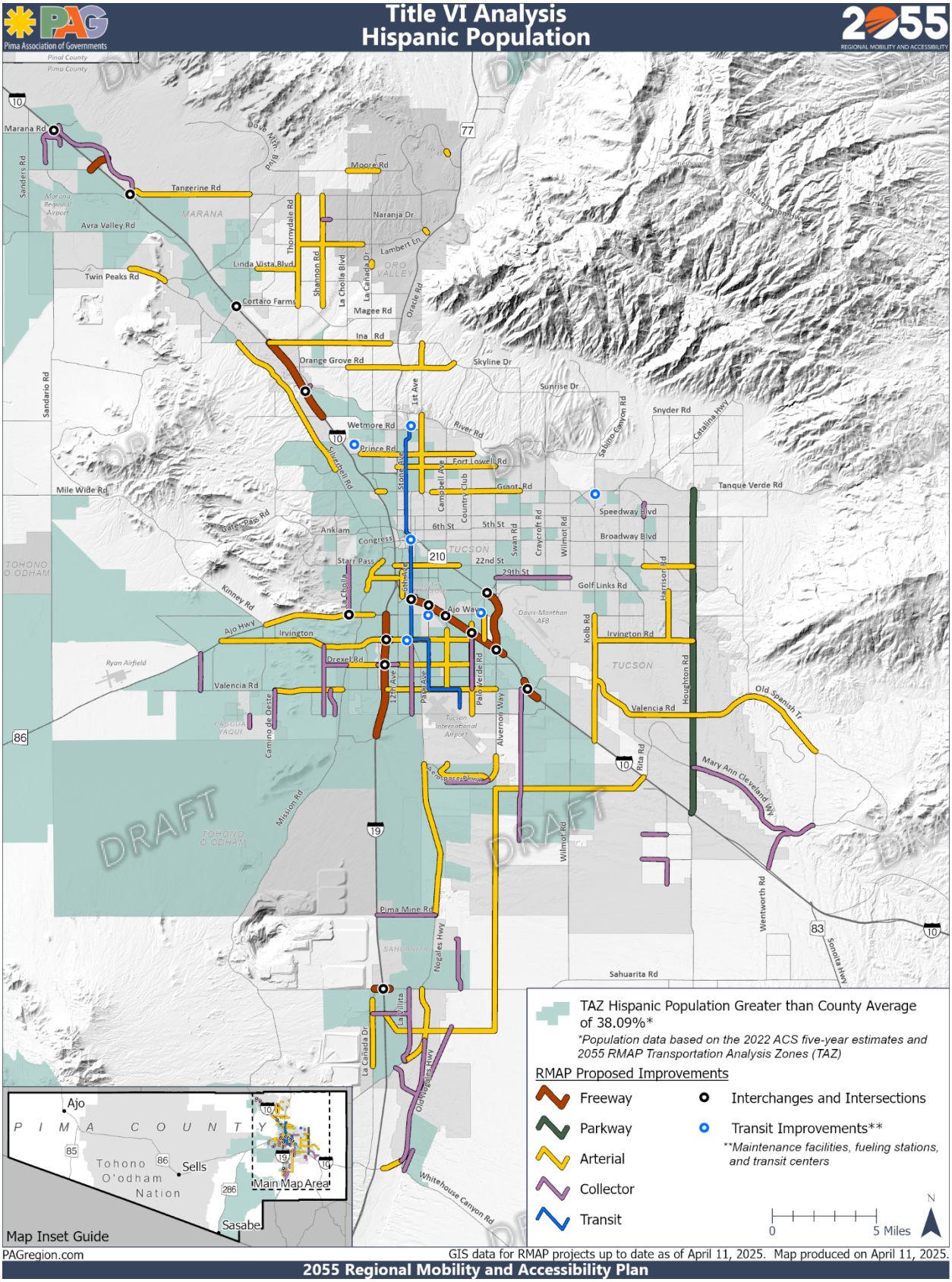


Figure A6.6 2055 RMAP Roadway Projects and Low-Income Population

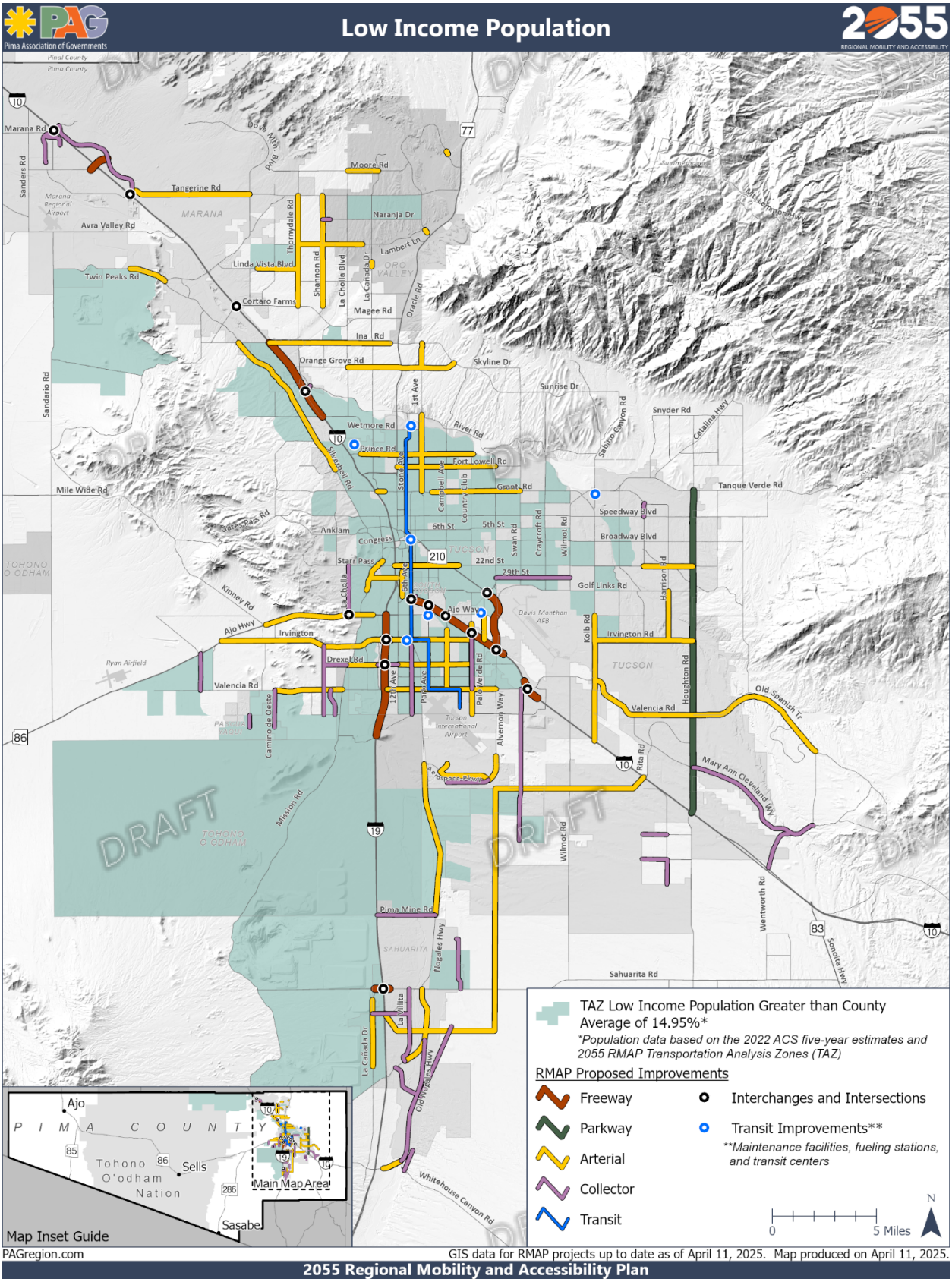


Figure A6.7 2055 RMAP Roadway Projects and Native American Population

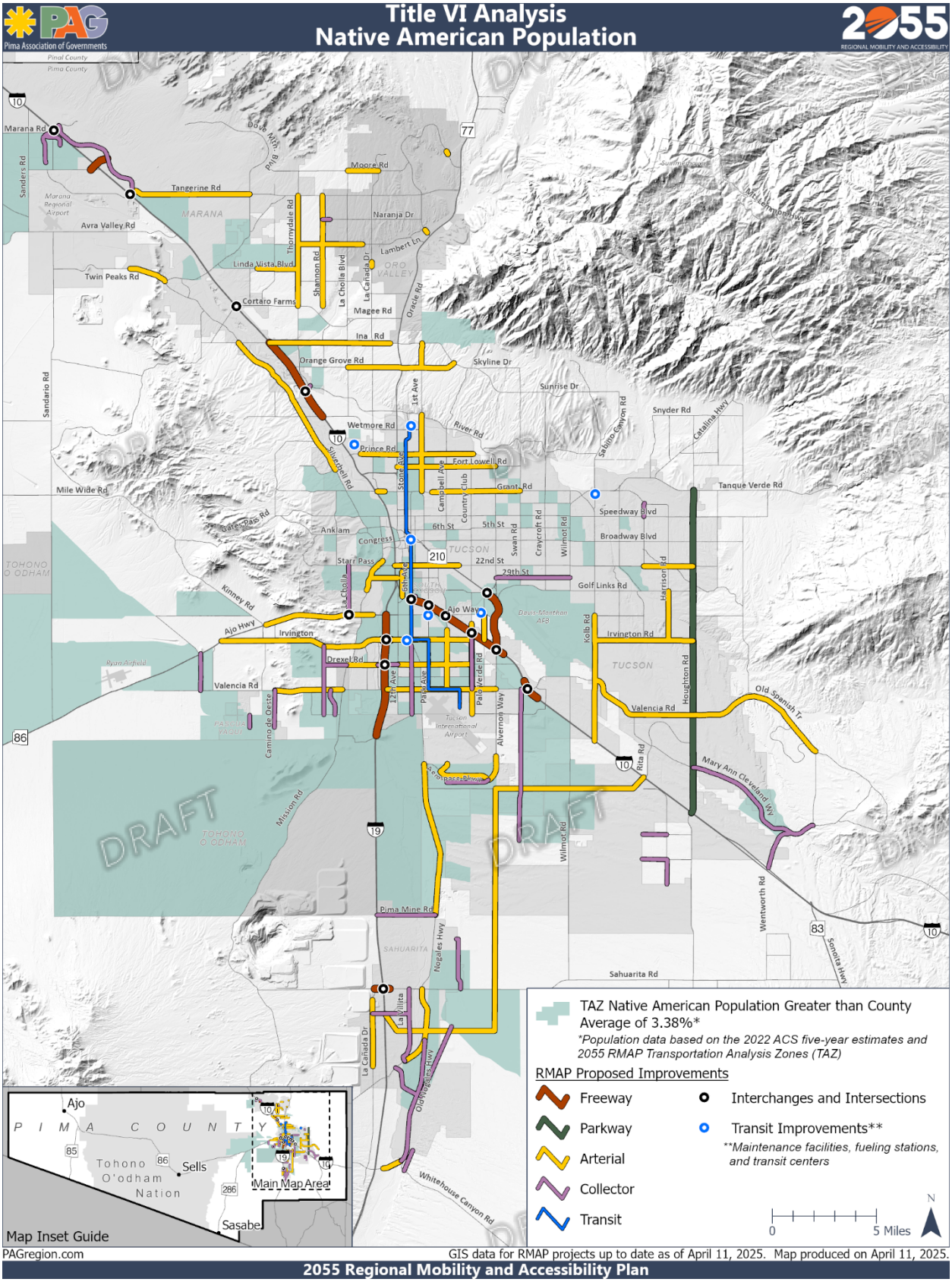


Figure A6.8 2055 RMAP Roadway Projects and Pacific Islander Population

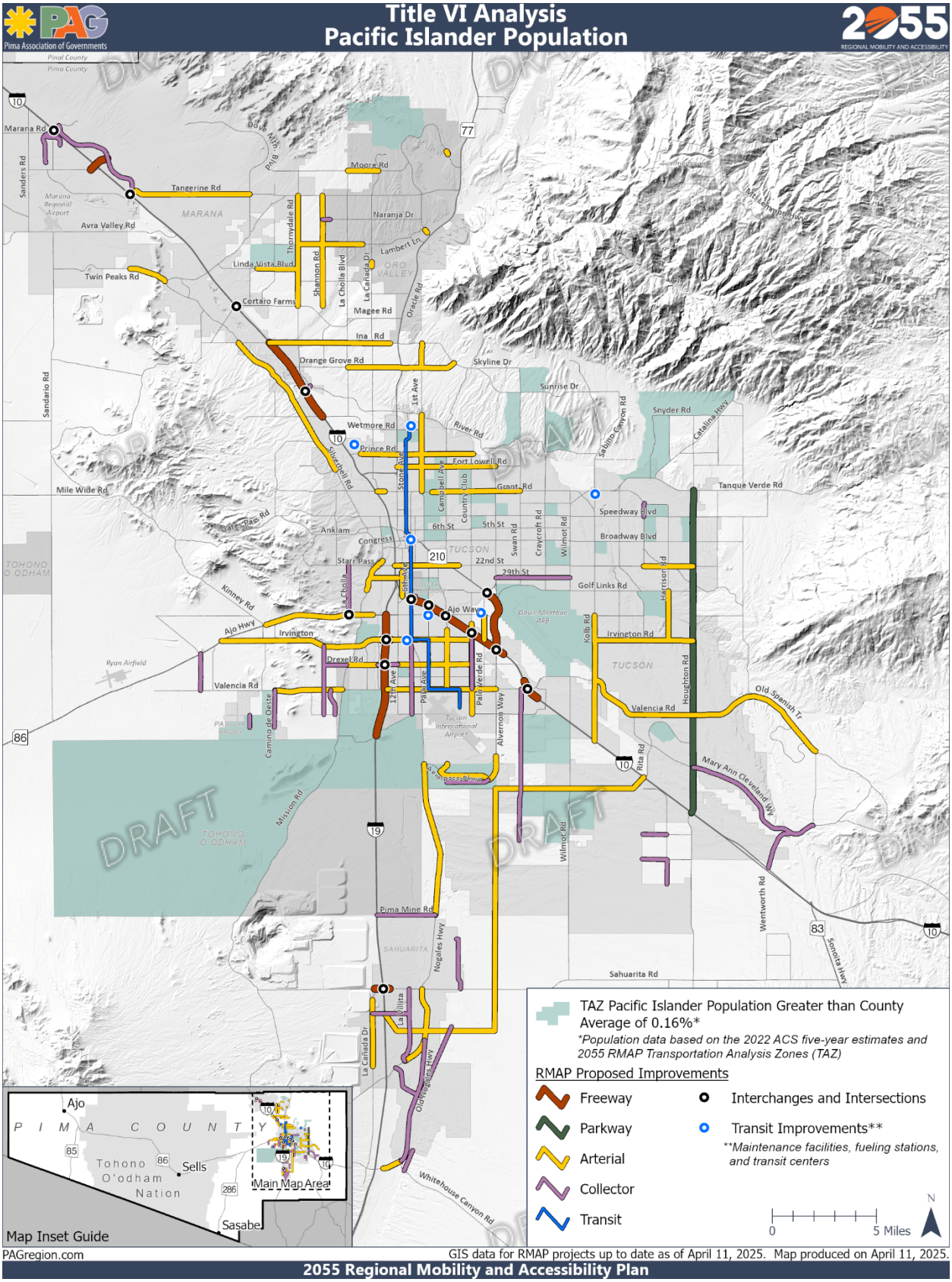
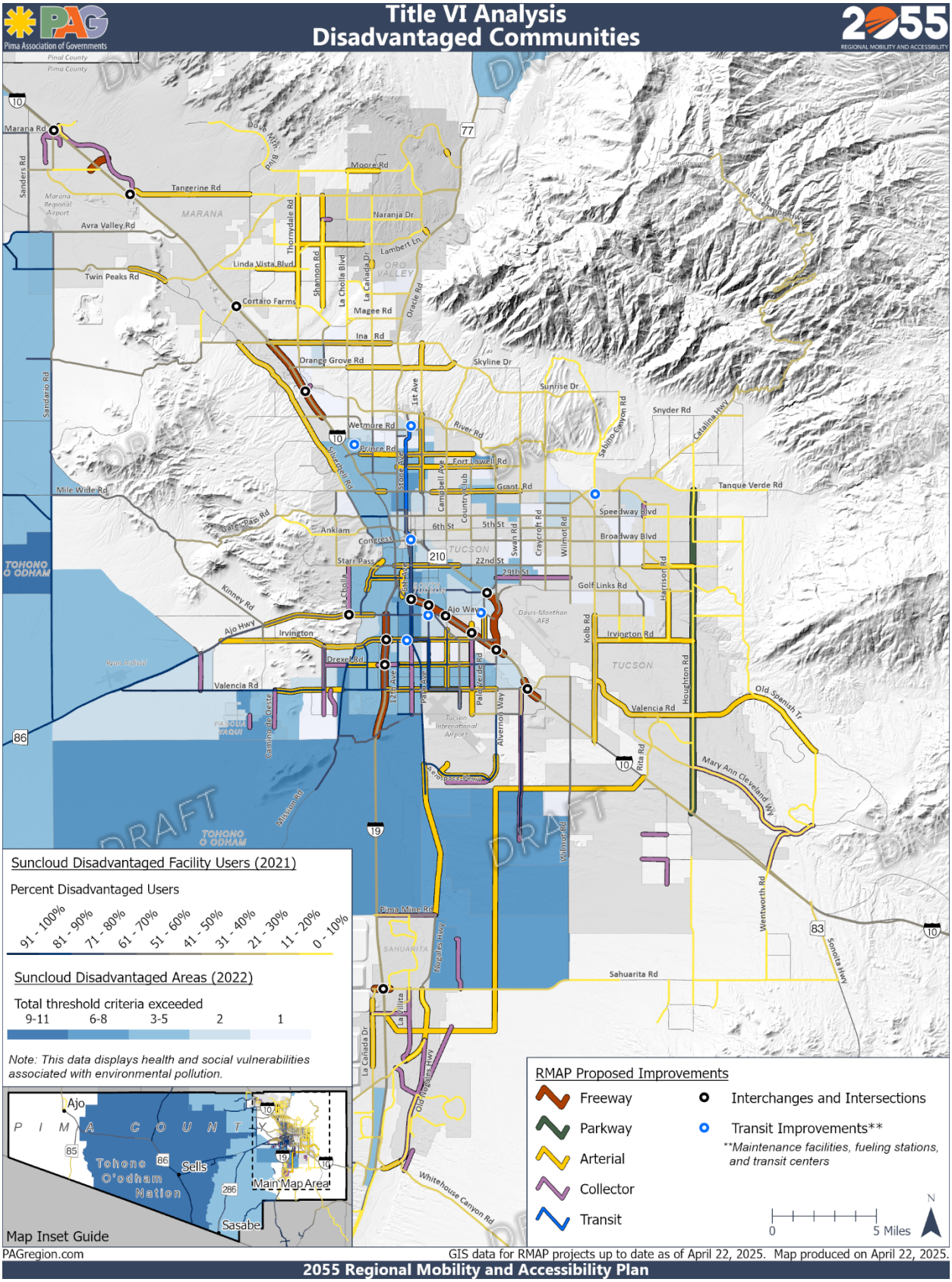


Figure A6.9 2055 RMAP Roadway Projects and Disadvantaged Communities



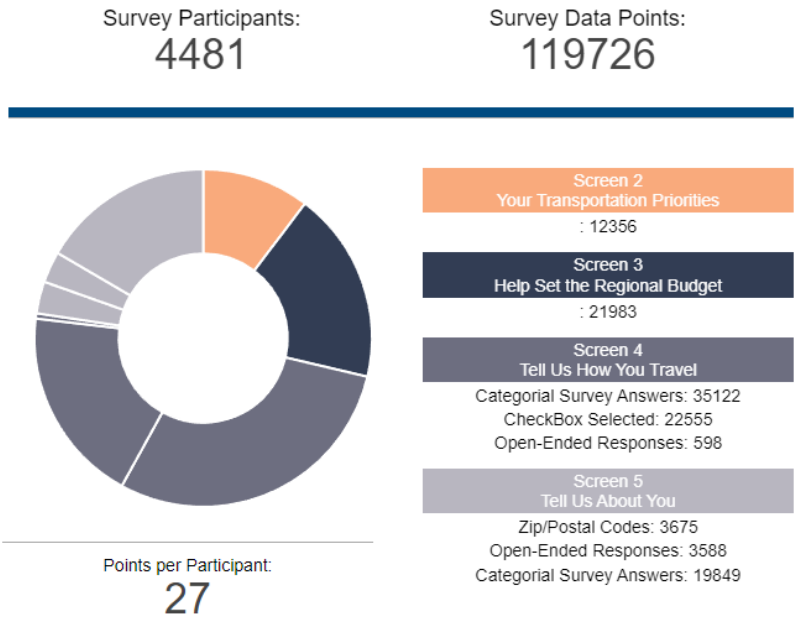
APPENDIX 7: OUTREACH SUMMARY REPORT

INTRODUCTION

As the greater Tucson region's federally designated metropolitan planning organization, PAG updates its long-range transportation plan every four years to secure limited federal funding for essential transportation improvements in the region.

In developing the 2055 Regional Mobility and Accessibility Plan, gathering public opinion to assess the transportation priorities of as many people in the region as possible was an important part of the plan development process.

Using an engagement survey tool from a MetroQuest subscription, PAG sought public input regionwide over a six-week period. Nearly 4,500 people completed the Shape Your Transportation Future survey providing almost 120,000 data points for analysis, as shown in the chart below.



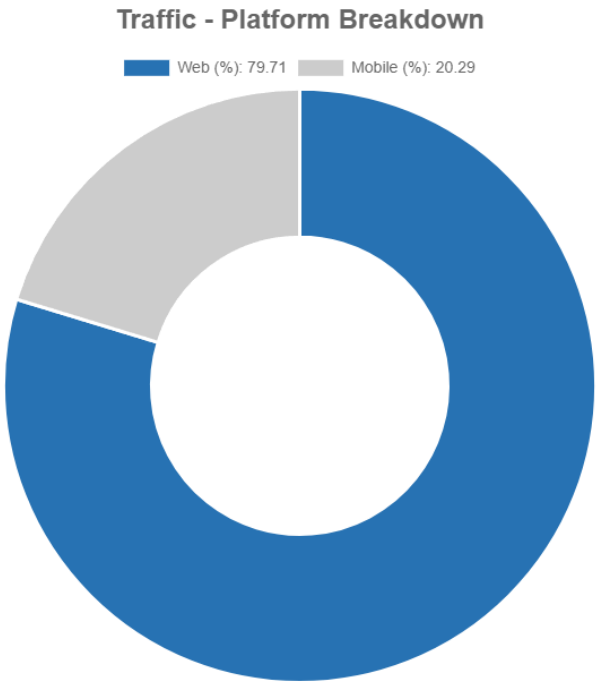
In seeking to gather input from as wide a section of the community as possible, the survey was available in English and Spanish. PAG Communications staff also worked with the survey vendor to develop an accessible version of the survey compatible with screen reading devices. A microsite was built on the PAG website to house information and links to all versions of the survey. The website also included an alert bar and pop-up notice on every page with links to the survey.

The survey was promoted though a multimedia outreach campaign, including through email notices to PAG stakeholders, advertising in English and Spanish language print, radio, television, digital and social media channels, as well as through targeted emails. See complete details about outreach starting on page 12.

PAG transportation staff used survey results to inform their planning efforts and coordinate where additional outreach could be applied to seek additional public input during the remaining plan development period. The following is a summary of information gathered through the engagement survey.

PLATFORM BREAKDOWN

The survey was available in web and mobile-friendly platforms. Throughout the six-week survey period, the majority of users opted to complete the survey on the web platform. Nearly 80 percent of participants chose this format.

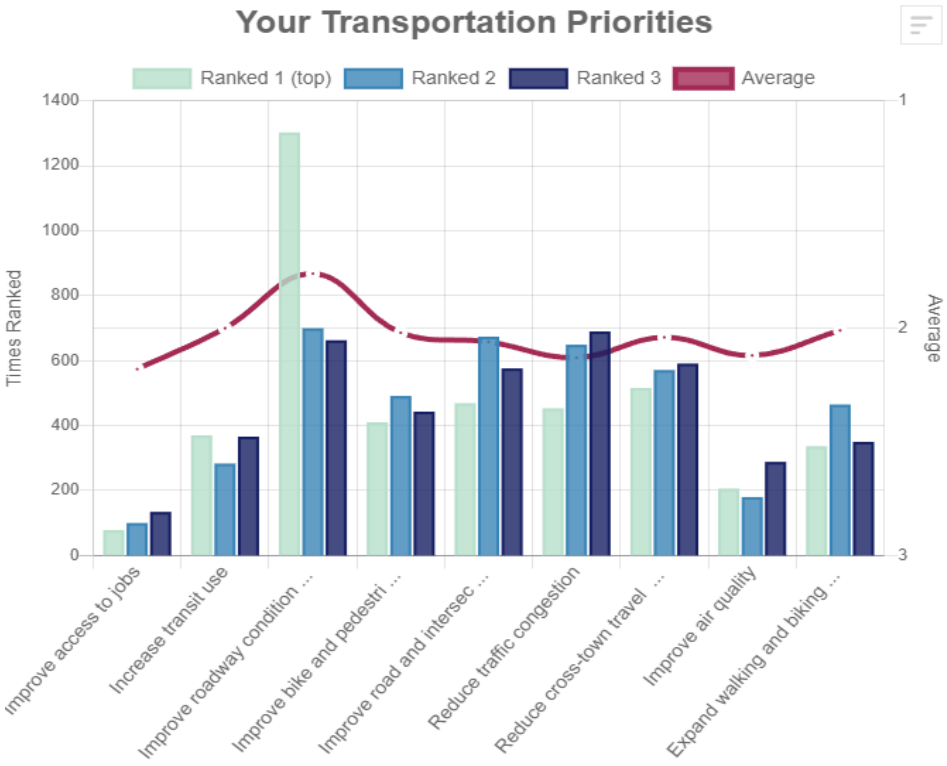


TRANSPORTATION PRIORITIES

Survey participants were asked to rank their transportation priorities among the following selections:

- Improve access to jobs
- Increase transit use
- Improve roadway conditions
- Improve bike and pedestrian safety

- Improve road and intersection safety
- Reduce traffic congestion
- Reduce cross-town travel time
- Improve air quality
- Expand walking and biking options



Far and away, the most popular transportation priority among survey participants was to improve roadway conditions, with 1,303 participants ranking this as their top priority. The same category also was the most popular second priority, with 700 participants making improved roadway conditions their second choice. It was also the second most common third choice, with 663 participants.

The second most common top priority chosen was to reduce cross-town travel time, with 516 participants making this their second highest priority.

Improve road and intersection safety and reduce traffic congestion were the third and fourth top priorities, with 459 and 453, respectively, making these their top choices.

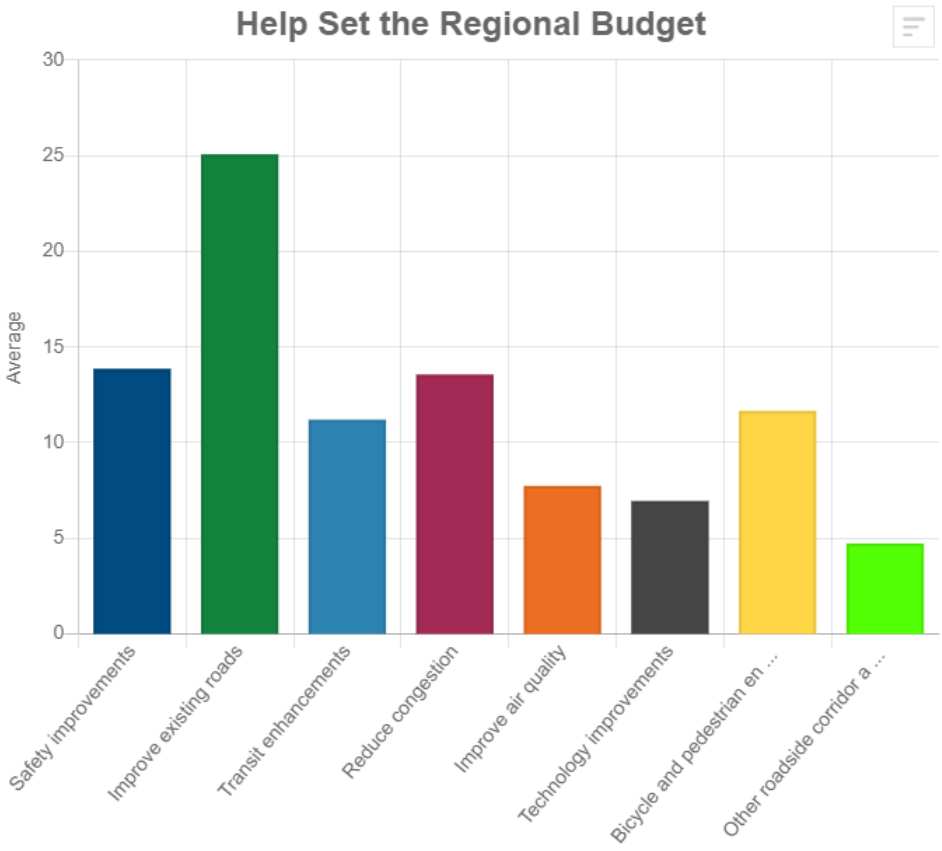
Improve access to jobs was the least common top priority, with 78 people making this their top selection.

HELP SET THE REGIONAL BUDGET

The survey allowed users to set transportation spending priorities by applying dollar amounts in $1 and $10 increments up to $100 across various areas. Users were provided $90 in units of ten and $10 in units of one. They could apply these funds in any way they desired, placing all the funds in a single priority or dividing them among the various priorities. Similar to the priority ranking section, improving existing roads, safety improvements, and congestion reduction were the most popular options for survey participants.

Below are the funding priorities included in the survey. The chart shows the average total value of coins given to each item. The items from which users could choose included:

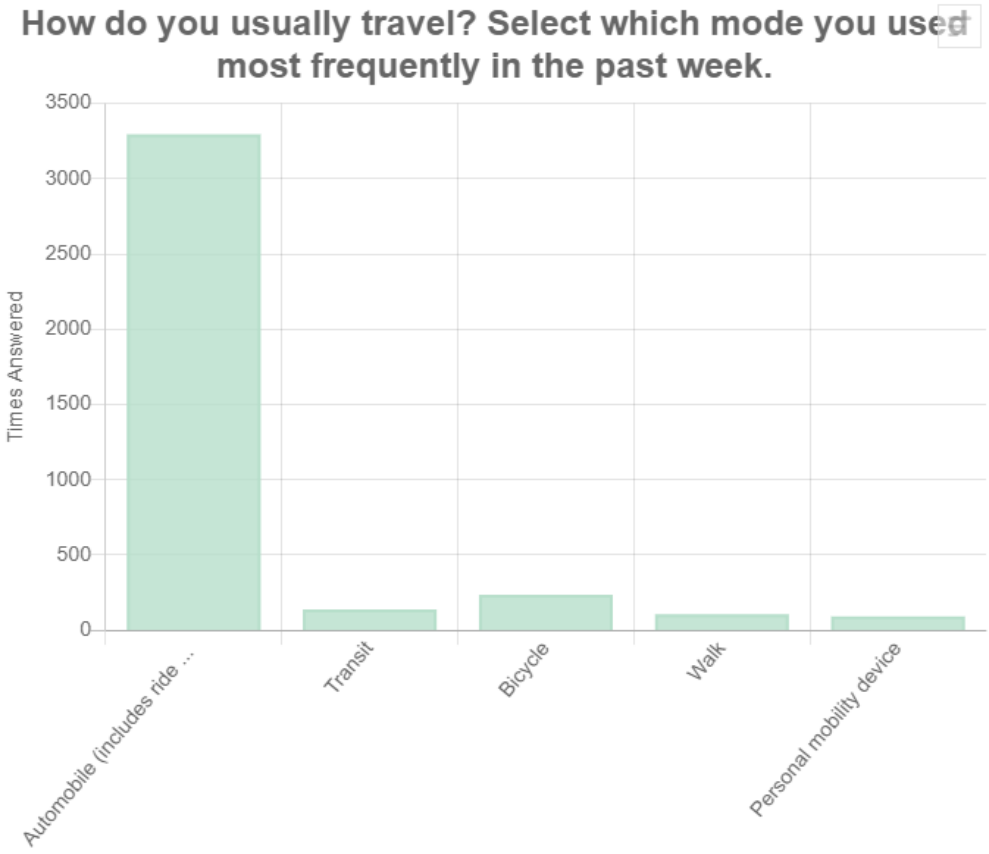
- Improve existing roads
- Safety improvements
- Reduce congestion
- Bicycle and pedestrian enhancements
- Transit enhancements
- Technology improvements
- Improve air quality
- Other roadside corridor amenities



TELL US HOW YOU TRAVEL

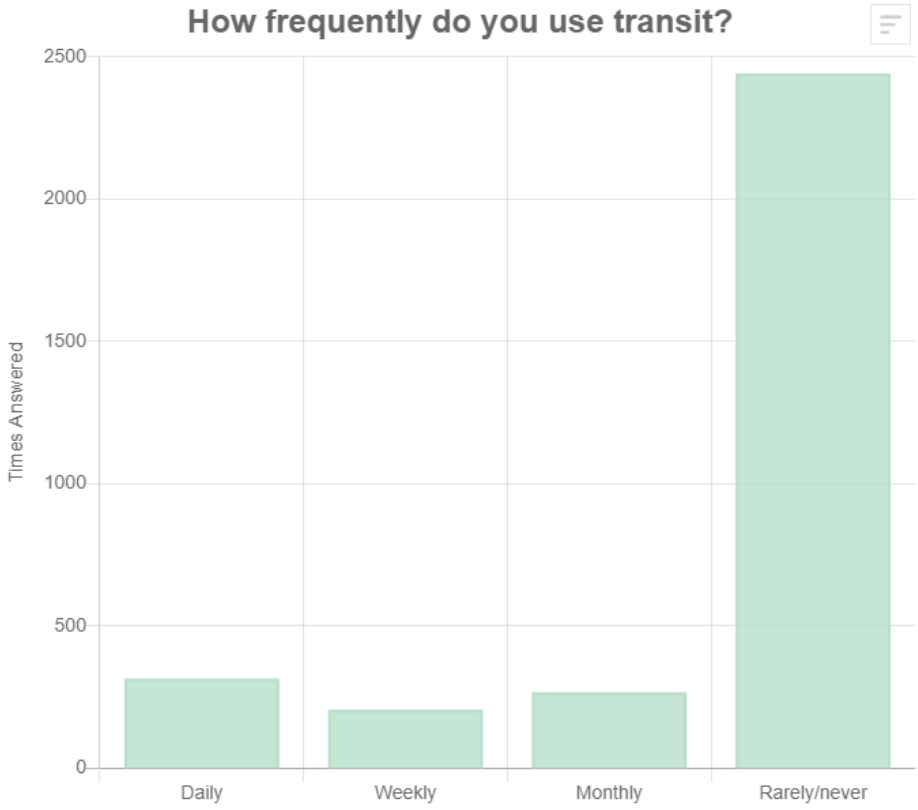
A survey goal was to measure the different ways people travel through the region using various modes of transportation, including automobile, transit, bicycle, walking, or personal mobility devices.

Among the selections available, 3,295 participants selected automobiles as the mode they most often use to travel. Bicycles were the second most commonly used mode, with 234 participants selecting the option.



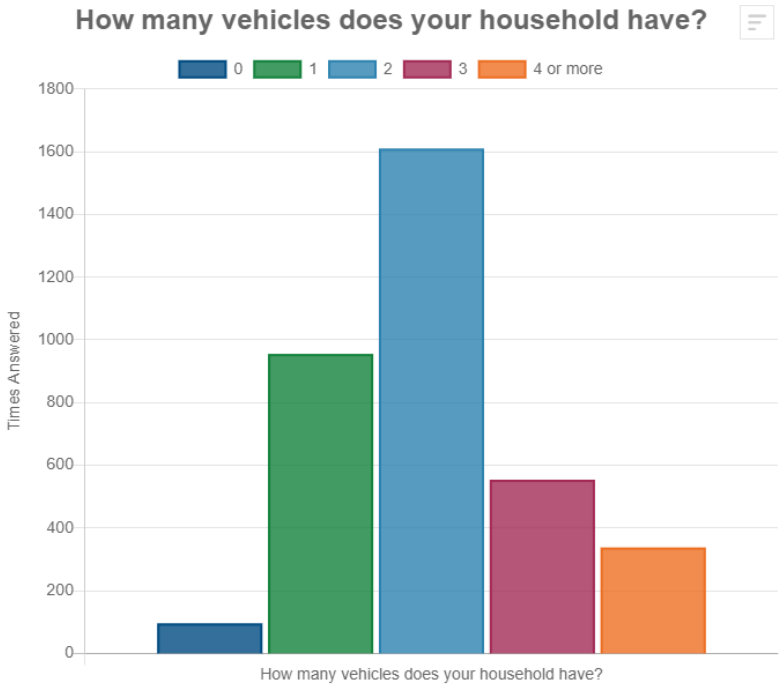
HOW FREQUENTLY DO YOU USE TRANSIT?

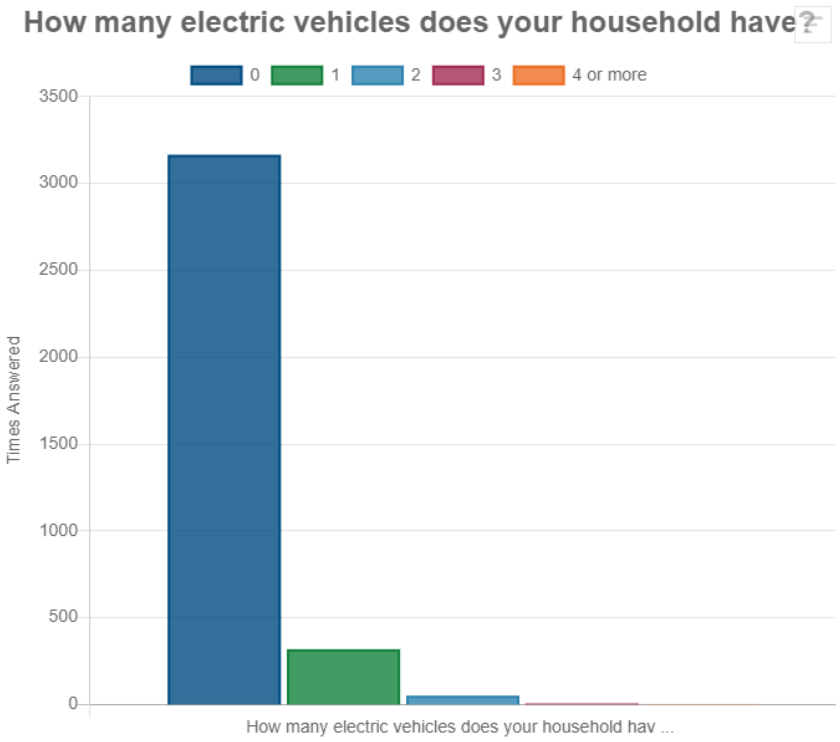
Survey participants were asked about their transit use frequency. Of the participants who answered the question, 2,441 said they rarely/never use transit. Another 315 participants said they use transit daily.

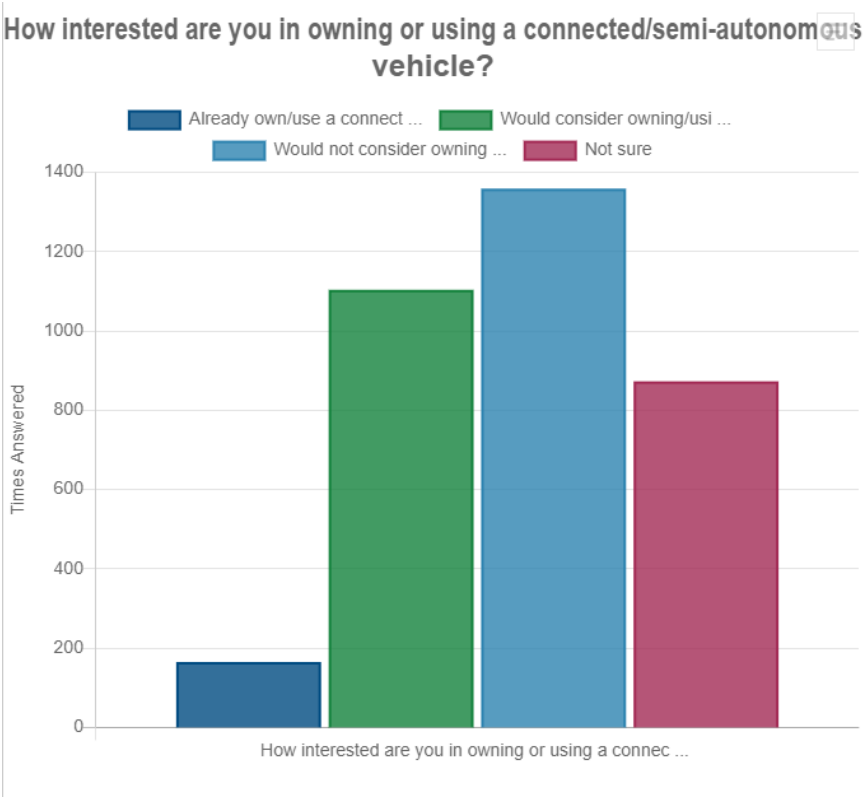


VEHICLE TECHNOLOGY

The survey asked a series of questions about vehicle technology, including people's interest in electric and autonomous vehicles and the number of vehicles they own.




How many electric vehicles does your household have?
0
1
2
3
4 or more
3500
3000
2500
2000
1500
1000
500
0
Times Answered
How many electric vehicles does your household hav ...

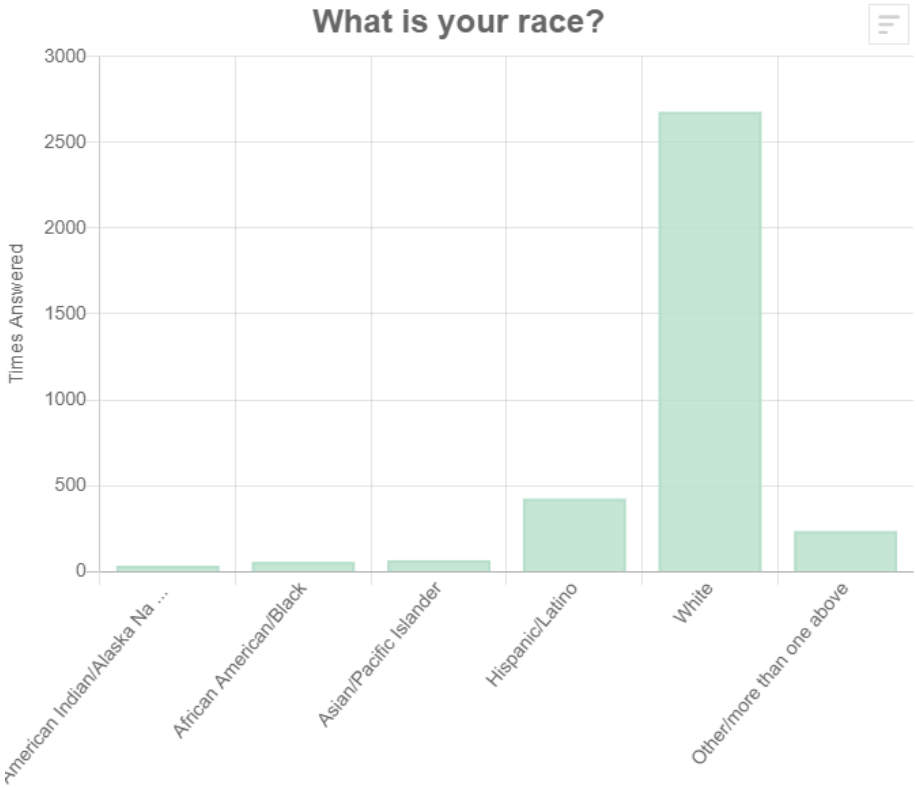

How interested are you in owning or using a connected/semi-autonomous vehicle?
Already own/use a connect ...
Would consider owning/usi ...
Would not consider owning ...
Not sure
1400
1200
1000
800
600
400
200
0
Times Answered
How interested are you in owning or using a connec ...

TELL US ABOUT YOU

The final questions of the survey looked to gather personal information about participants, including where they live, income age, and race. These were optional questions.

On the question of racial identity, participants answered in the following ways:

- White – 2,678
- Hispanic/Latino - 424
- Other/more than one above - 235
- Asian/Pacific Islander - 65
- African American/Black - 55
- American Indian/Alaska Native – 33



The age breakdown of survey participants was as follows:

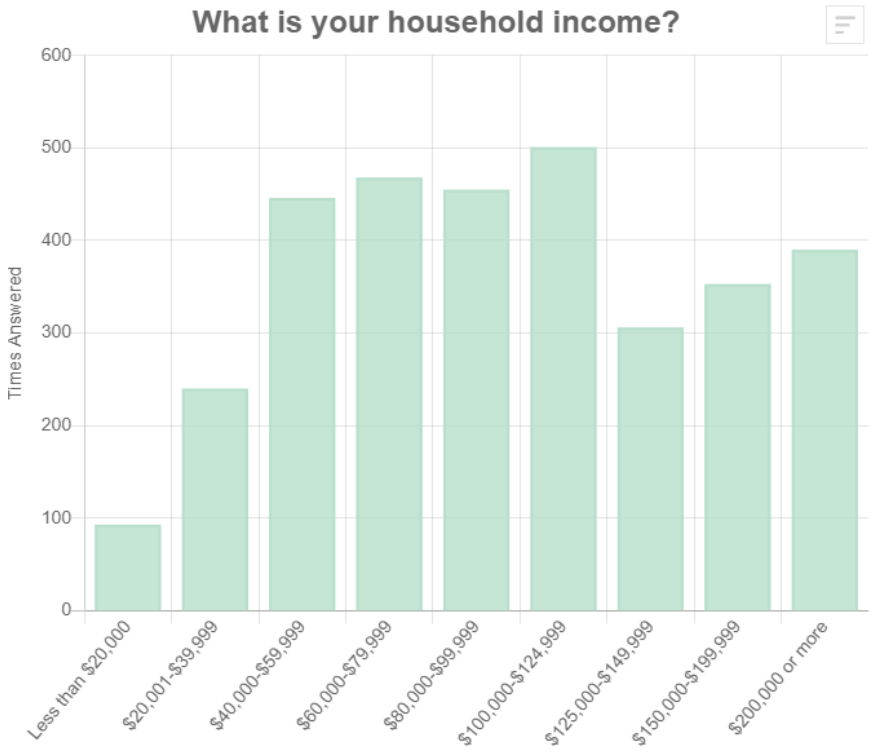
- 66 or older – 1,198
- 51-65 – 1,175
- 36-50 - 808
- 21-35 - 360
- 20 or younger – 9

The gender breakdown of survey participants was:

Male – 1,720
Female – 1,781

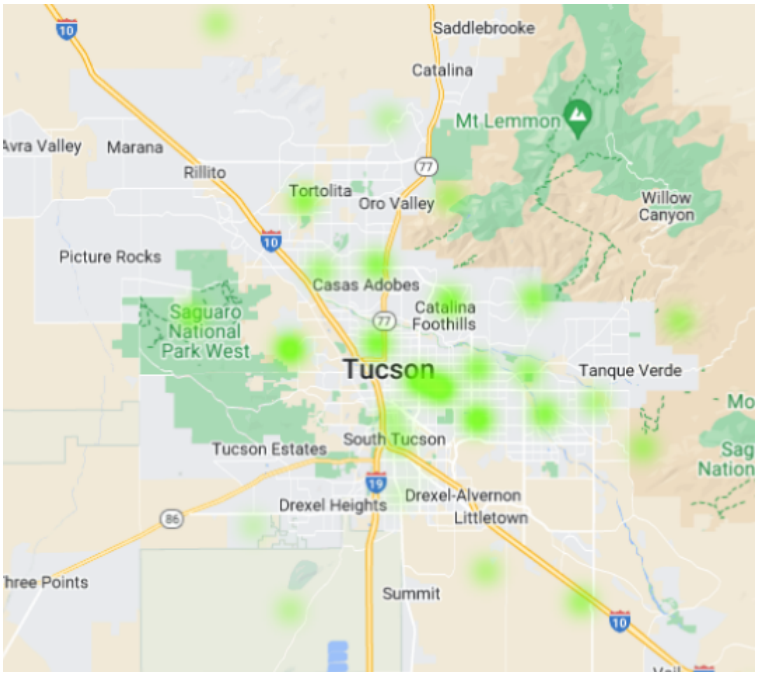
Household income:

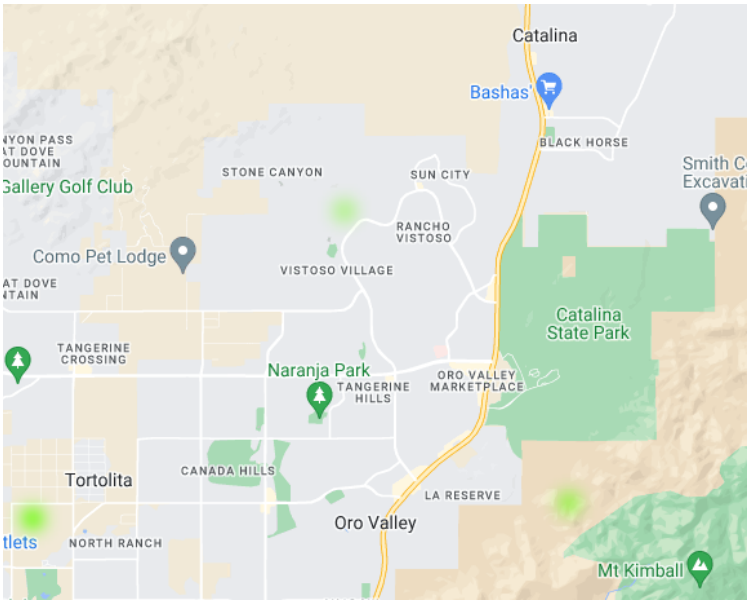
- Less than $20,000 - 93
- $20,001-$39,999 - 240
- $40,000-$59,999 - 446
- $60,000-$79,999 - 468
- $80,000-$99,999 - 455
- $100,000-$124,999 - 501
- $125,000-$149,999 - 306
- $150,000-$199,999 - 353
- $200,000 or more - 390

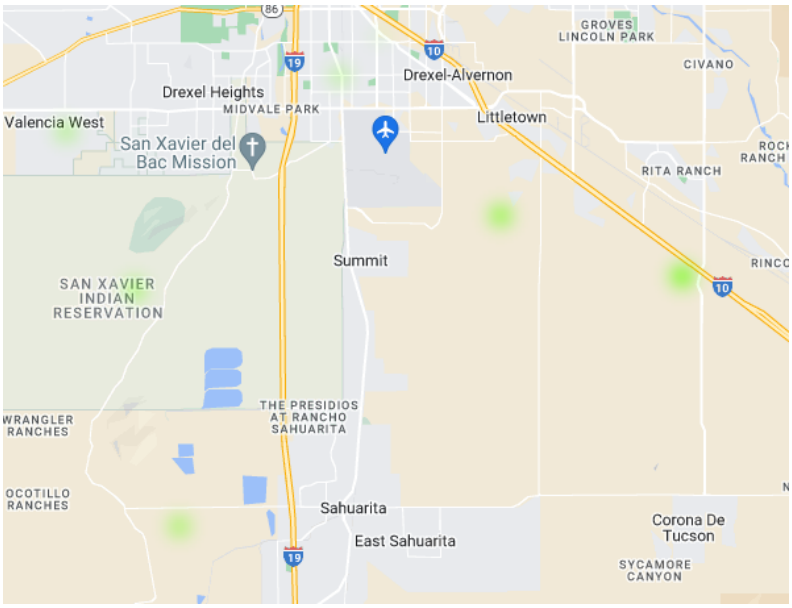


Survey participants were asked to provide their ZIP codes in the wrap up section. The majority of users provided ZIP codes indicating residency within the city of Tucson. However, strong participation was also seen in the unincorporated areas and smaller towns. A small number of out-of-region ZIP codes were also collected.

Survey data tools provided the following heat maps to show participation by area. PAG staff will further analyze location data from the datasets.







OUTREACH

Public outreach efforts were the key to driving participation in the survey. Purchased advertising was placed in print, digital, social media, broadcast, and radio in English and Spanish media outlets as part of a multimedia campaign. News releases announcing the opening of the survey and a later reminder that the survey would soon close were sent to local media. Outreach efforts also were made to individual reporters, editors, and producers. The survey was mentioned in seven articles or news reports.

Communications staff also invited survey promotion by reaching out to well over 100 contacts, including elected leaders, government communications staff, nonprofit organizations, transportation industry and trade groups, community service providers, business leaders, chambers of commerce, homeowners associations and others to reach out directly through email to their contacts. More than half shared the survey link at least once through e-newsletters, social media or website posts. PAG staff also shared survey information with various PAG committees.

Additionally, Communications staff wrote a series of emails to distribute to the PAG network of contacts through the mass email marketing platform Constant Contact. Throughout the six-week survey period, staff sent 11 emails and resends (automated resends to those who didn't open the original message) to our list of nearly 8,000 contacts. The survey information also was included in the quarterly PAG Regional Connections newsletter, which came out a few weeks into the campaign and was distributed to a similar list of contacts.

PAG staff also organized 10 pop-up events, engaging more than 300 people during the survey period. These events sought to encourage participation among hard-to-reach audiences, including low-income, elderly, minority, and people with disabilities. Communications staff produced tabletop signs, printed hard copies of the survey, a Spanish and English flyer, and a business card with a survey QR

code to promote participation.

PAG staff organized three additional pop-up events in October 2024 engaging 55 people after the survey period. These events were scheduled by staff to increase participation from minority populations, specifically the Hispanic population, and young adult population, specifically ages 18-35, after staff identified opportunities for additional engagement when analyzing the demographic survey results. Locations for this additional outreach were determined by staff with guidance from local jurisdictions during a Technical Management Committee meeting.

Additional outreach efforts included a required 30-day comment period and public hearing. PAG staff may also seek to engage specific stakeholder groups and other constituencies during the plan development period following further analysis of survey data.

Throughout the campaign, the most effective means of driving participation in the survey was through direct emailing efforts. This was expected based on previous experience and best practice advice from the survey vendor, which noted engaging audiences through existing email lists is the most effective way to reach interested potential participants.

The highest levels of survey participation were seen in the first few weeks. Noticeable increases in survey participation were seen immediately following distribution of reminder emails.

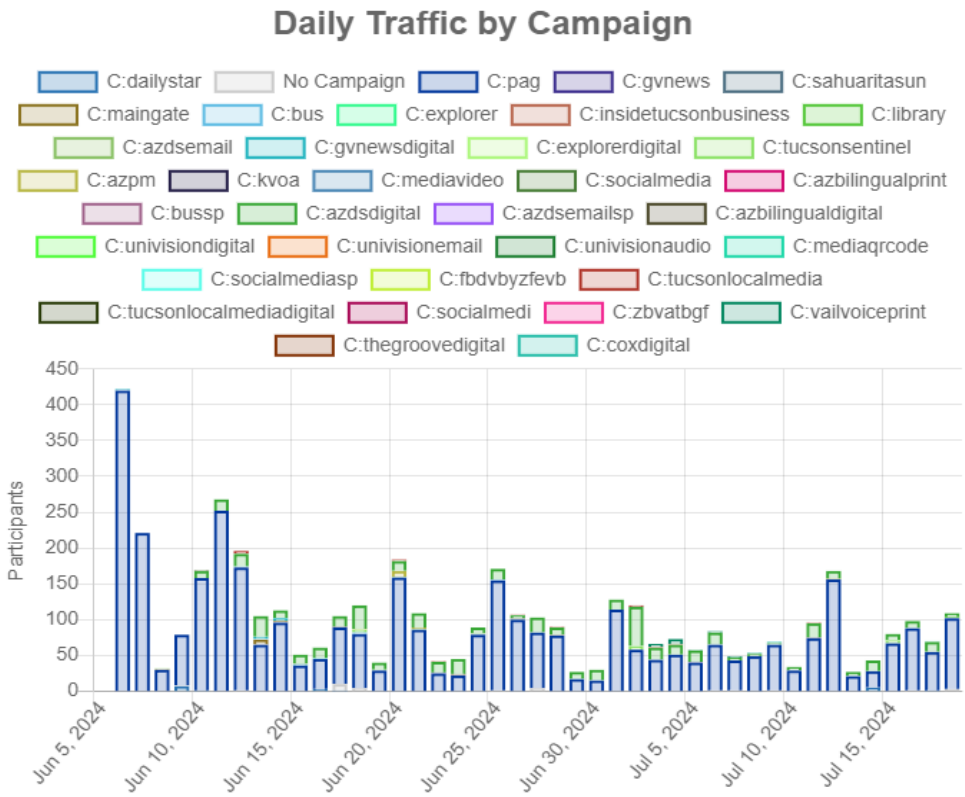
The chart below shows the number of surveys completed on the days when emails were sent to PAG contacts and, for comparison, number of surveys completed on the previous day from when an email was sent.

	Date	Completed surveys	Completed previous day
Email	6-Jun	422	
	7-Jun	221	
Resend	9-Jun	79	
Email	10-Jun	169	79
Email	11-Jun	268	169
	12-Jun	196	
Resend	14-Jun	113	
Email1`qa	25-Jun	171	89
	26-Jun	107	
Email	1-Jul	128	30
	2-Jul	120	
Resend	4-Jul	73	

Email	12-Jul	168	96
	13-Jul	27	
Email	16-Jul	98	80
	17-Jul	70	
Email	18-Jul	109	70
Newsletter	17-Jun	106	61
	18-Jun	120	
Total		**2,765**	

The survey tool allowed us to track how participants accessed the survey by creating individual QR codes and links for each digital advertisement. For the Constant Contact and other email campaigns, recipients were sent untracked links directly to the survey landing page Communications staff created.

The chart below shows the daily traffic to the survey by advertising campaign. As is shown below, the majority of users entered through the survey landing page. This indicates direct emails were the largest driver of survey participation. Other participants may have accessed the survey through untracked links to the website from newspaper, radio, television or digital advertisements, following links in PAG or other social media posts, or through content shared with them through email.



IN-PERSON OUTREACH

The following locations for pop-up events were selected for community characteristics such as limited English proficiency, persons with disabilities, low-income residents, and populations over 64 years old. Locations were identified using the EPA EJ screening tool, PAG Title VI maps, and USDOT ETC Explorer.

The events themselves were not exclusive to PAG but instead were existing programs that community service providers and nonprofit organizations coordinated. PAG staff requested to attend and present information about long-range transportation planning and the survey at these events.

PAG staff explained the purpose of the survey to attendees, answered questions, and provided technical assistance to those completing surveys. In addition, paper copies of the survey in English and Spanish were available for attendees to complete. PAG staff later input attendees' responses into the online survey so their comments would be recorded.

Staff also brought an information flyer/card with a QR code to the survey, sign-in sheets, and RTA Next informational materials (card with QR code, RTA funding chart, RTA Our Mobility brochure).

Target Group	Organization	Date	Location	Materials
Senior citizens	Pima Council on Aging – Senior Meal Lunch Program	**June 12, 2024** **June 17, 2024**	Quincie Douglas Center 1575 E 36th Street El Rio Neighborhood Center 1390 W. Speedway Blvd	- RMAP paper survey - Flyer/card with survey QR Code
Low-income/minority populations/LEP	Community Food Bank of Southern AZ	**June 20, 2024**	Caridad Community Kitchen 845 N Main Ave.	- RMAP paper survey - Flyer with survey QR code
Low-income/minority populations/LEP	Interfaith Community Services – Mobile Food Bank	**June 21, 2024** **June 28, 2024**	Vida Nueva Church 330 W. Nebraska St. Unleashed Christian Church 265 W. Valencia Rd.	- RMAP paper survey - Flyer with survey QR code

Seniors & Disabled	Green Valley Assistance Services Green Valley Resource Center	**June 25, 2024** **June 25, 2024**	Green Valley Library Green Valley Resource Center	- RMAP paper survey - Flyer with survey QR code Ride Guides - dial-a-ride brochure page for Green Valley
General Tucson Region Population	MSA Annex Night Market	**June 28, 2024**	Mercado District / MSA Annex	Business cards with survey QR code
General Tucson Region Population	**Card/flyer drop-offs**	**June 28, 2024**	Food City – Sixth Street and Tucson Blvd. Independence Cup – Naranja Park in Oro Valley	Business cards with survey QR code dropped off at these locations
Low-income/minority populations	Marana Food Bank & Community Resource Center	**July 17, 2024**	Community Food Bank	- RMAP paper surveys - Flyer with survey QR code
General Tucson Region Population	Pima County Job Fair	**July 18, 2024**	Kino Event Center – Pima County HR	- RMAP paper surveys - Flyer with survey QR code
Additional in-person events scheduled in October 2024				
Hispanic and Young Adult Populations	Tucson Meet Yourself	**October 6, 2024**	Downtown Tucson	- RMAP paper surveys - RMAP priorities & budget posters
Hispanic Population The following organizations were emailed an invitation to meet us in person: - Vida Nueva Church - Our Lady of Fatima Parish	Community Resource Night	**October 8, 2024**	El Rio Neighborhood Center 1390 W. Speedway Blvd.	- RMAP paper surveys - RMAP priorities & budget posters

- El Rio Neighborhood Center staff (teacher, daycare, kitchen, drivers, etc.) - Pima County ONE-STOP - United Community Health Centers - Tucson Hispanic Chamber - U of A Hispanic Center of Excellence - YWCA Promotoras Folklorico - U of A Student Chapter Movimiento Estudiantil Chicano de Aztlan and Chicano-Hispano Center - TUSD Gear Up program				
Young Adult Population	University of Arizona	**October 22, 2024**	University of Arizona Mall	- RMAP survey in Menti platform (poster with QR code)

ADDENDUM

Below is a summary of the results of individuals who completed an accessible version of the Shape Your Transportation Future survey.

Shortly after the survey was launched, PAG Communications received communications from two visually impaired individuals who informed us that the survey was not accessible to people who rely on screen readers.

MetroQuest, the survey vendor, provided a PDF version of the survey that would be accessible for screen readers. Although Communications staff adjusted the PDF further to mirror the exact survey questions and tested the PDF on Adobe screen reader software, one person tested it and found that it was still unreadable.

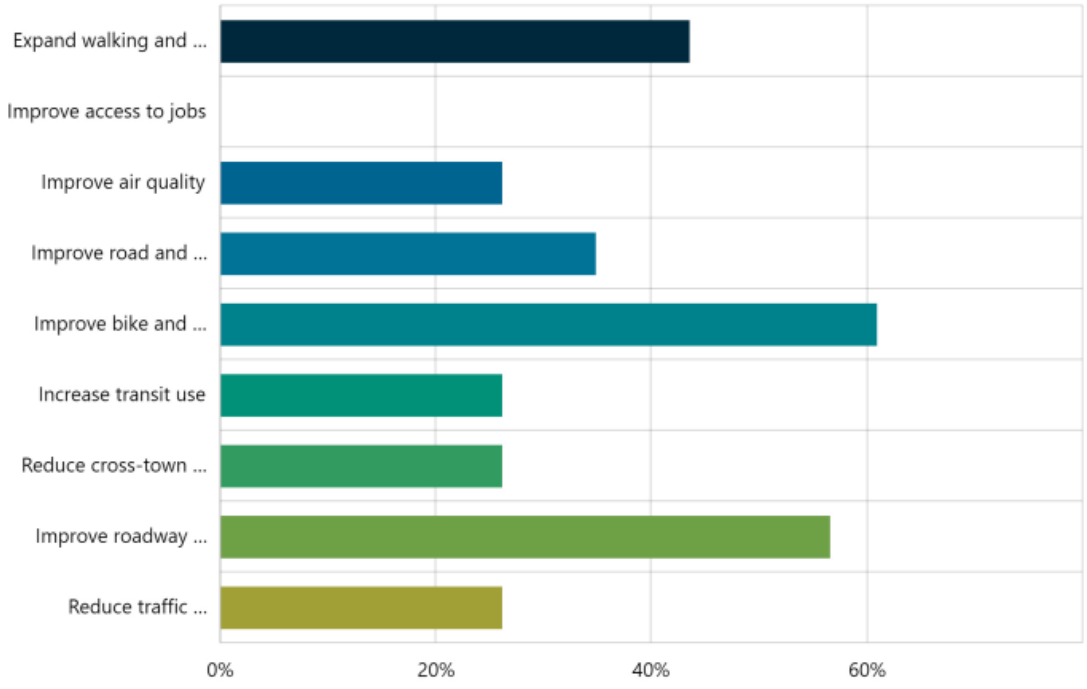
Staff initially offered a reasonable accommodation to read the survey to the individual over the telephone and fill in their answers but the person declined.

MetroQuest, which recently merged with another company, offered to bump up its development process on an accessible online survey and use the Shape Your Transportation Future survey as a test version. After a few text edits and iterations of the survey, it was ready for public use.

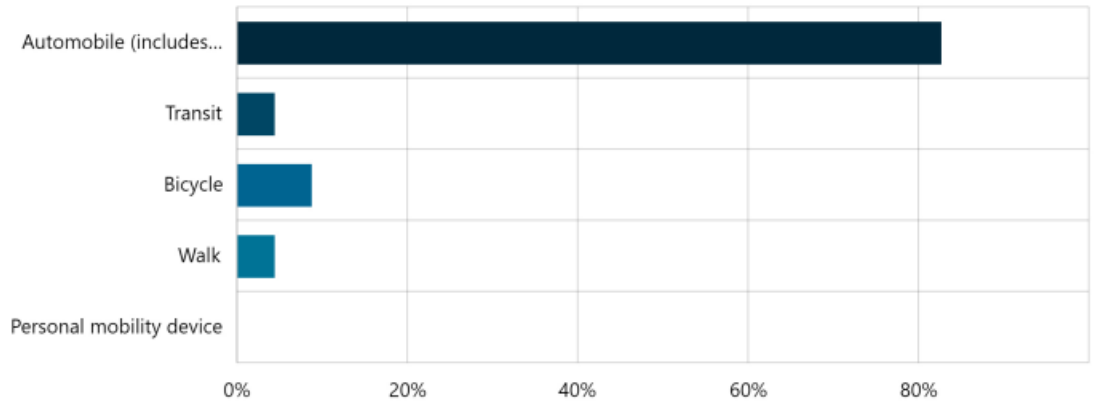
Communications shared the survey with the two individuals who had earlier found the PDF incompatible with their screen readers, and both were able to complete the online survey.

In total, 23 individuals completed the accessible version of the online survey.

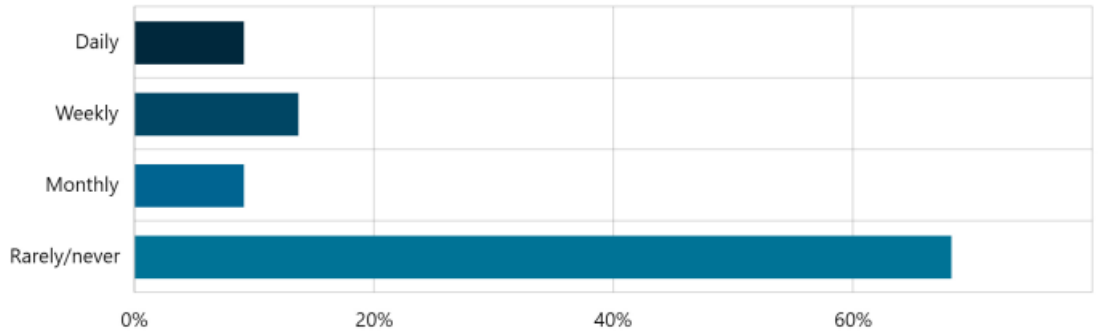
1. Your Transportation Priorities Required
Multi Choice | Skipped: 0 | Answered: 23 (100%)



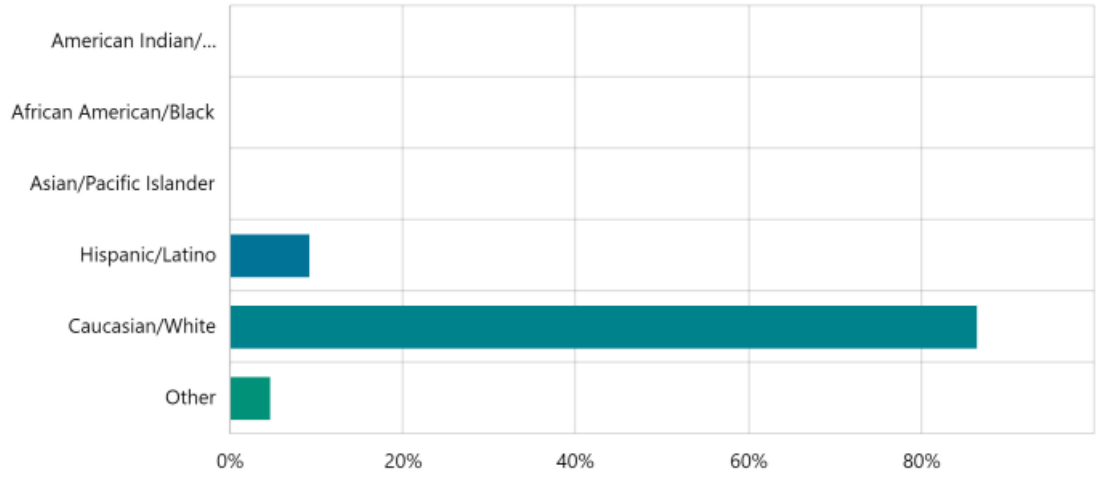
9. How do you usually travel?
Multi Choice | Skipped: 0 | Answered: 23 (100%)



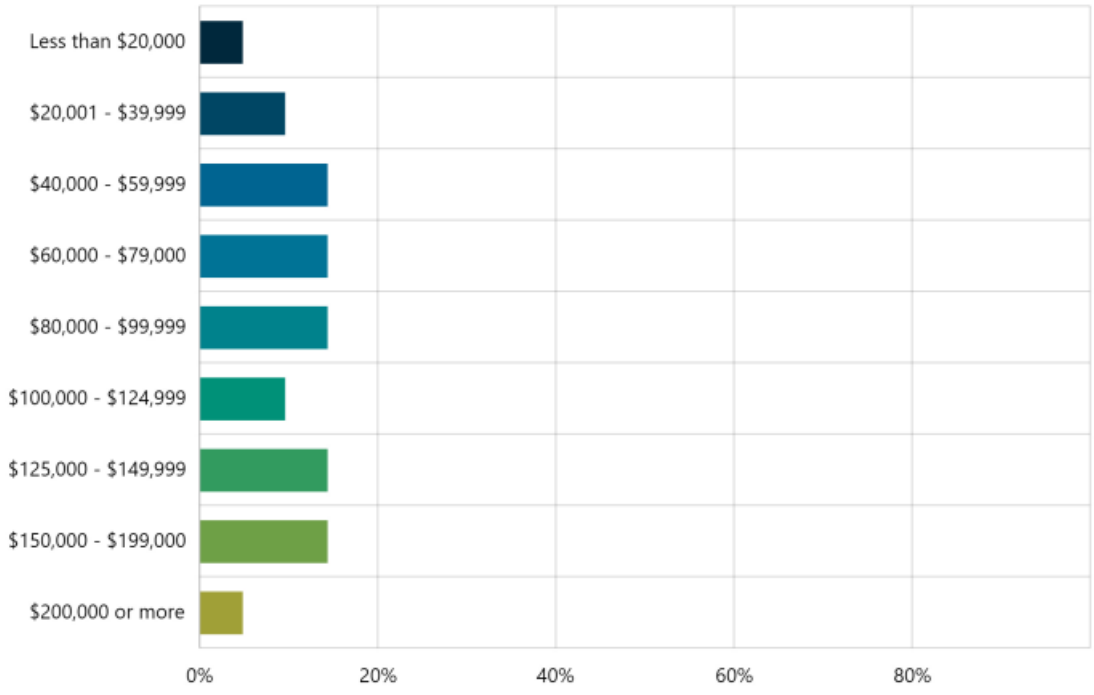
11. How frequently do you use transit?
Multi Choice | Skipped: 1 | Answered: 22 (95.7%)



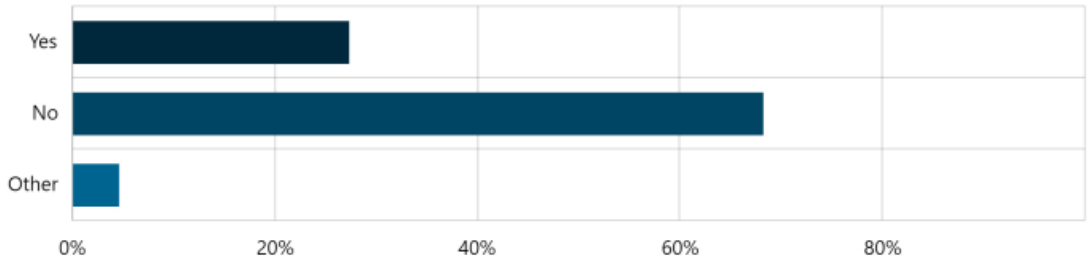
25. What is your racial identity?
Select Box | Skipped: 1 | Answered: 22 (95.7%)



28. What is your annual household income?
Select Box | Skipped: 2 | Answered: 21 (91.3%)



29. Are you disabled?
Select Box | Skipped: 1 | Answered: 22 (95.7%)



APPENDIX 8: ACRONYM GLOSSARY

Transportation terms and acronyms can often be confusing. This glossary provides a listing of the most common transportation planning terms and acronyms that are referenced in the *2055 RMAP*.

AASHTO American Association of State Highway and Transportation Officials

ACIS Arizona Crash Information System

ACS American Community Survey

ABM Activity-Based Modeling

ADEQ Arizona Department of Environmental Quality

ADOT Arizona Department of Transportation

ADT Average Daily Traffic

AI Artificial Intelligence

AOEO Office of Economic Opportunity

ASCT Adaptive Signal Control Technology

ASTP Arizona Surface Transportation Program

ATSAP Active Transportation Safety Action Plan

AV Autonomous Vehicles

AVFT Alternative Vehicle Fuel and Technology

BIL Bipartisan Infrastructure Law

BRT Bus Rapid Transit

BTS Bureau of Transportation Statistics

CAV Connected and Automated Vehicles

CFR Code of Federal Regulations

CMAQ Congestion Mitigation and Air Quality Improvement

CMP Congestion Management Process

CNG Compressed Natural Gas

CO Carbon Monoxide

CO_2 Carbon Dioxide

COA Comprehensive Operational Analysis

CV Connected Vehicles

EPA Environmental Protection Agency

EV Electric Vehicle

FAA Federal Aviation Administration

FAR Floor Area Ratio

FAST Act Fixing America's Surface Transportation Act

FHWA Federal Highway Administration

FTA Federal Transit Administration

FY Fiscal Year

GHG Greenhouse Gas

GI Green Infrastructure

GIS Geographic Information System

GPS Global Positioning System

HAWK High-Intensity Activated Cross Walk

HCT High-Capacity Transit

HCTIP High-Capacity Transit Implementation Plan

HFCs Hydrofluorocarbons

HPMS Highway Performance Monitoring System

HSIP Highway Safety Improvement Program

HURF Highway User Revenue Fund

IGA Intergovernmental Agreement

IIJA Infrastructure Investment and Jobs Act

IRI International Roughness Index

ITS Intelligent Transportation Systems

LiDAR Light Detection and Ranging

LOS Level of Service

LRRTP Long-Range Regional Transit Plan

LTAF Local Transportation Assistance Fund

LUM Land Use Model

MAG Maricopa Association of Governments

MAP-21 Moving Ahead for Progress in the 21st Century

MOE Maintenance of Effort

MOVES MOtor Vehicle Emission Simulator

MPO Metropolitan Planning Organization

MVEB Motor Vehicle Emission Budget

NAAQS National Ambient Air Quality Standards

NAICS North American Industry Classification System

NBI National Bridge Index

NHPP National Highway Performance Program

NHS National Highway System

NOX Oxides of Nitrogen

NTAD National Transportation Atlas Database

O_3 Ozone

PAG Pima Association of Governments

PCS Primary Commercial Service

PDEQ Pima County Department of Environmental Quality

PFCs Perfluorocarbons

PM Particulate Matter

PTI Planning Time Index

RATP Regional Active Transportation Plan

RMAP Regional Mobility and Accessibility Plan

RSA Roadway Safety Assessment

RTA Regional Transportation Authority

RTAG Regional Transportation Alternatives Grant

SAM Sub-Area Allocation Model

SCT Signal Control Technology

SDCP Sonoran Desert Conservation Plan

SHSP Strategic Highway Safety Plan

SIP State Implementation Plan

SO2 Sulfur Dioxide

STBGP Surface Transportation Block Grant Program

TAA Tucson Airport Authority

TAP Transportation Alternatives Program

TAPA Tucson Air Planning Area

TAZ Traffic Analysis Zone

TCM Transportation Control Measure

TDM Travel Demand Management/Travel Demand Model

TI Traffic Interchange

TIA Tucson International Airport

TIP Transportation Improvement Program

TMA Transportation Management Area

TNC Transportation Network Company

TOD Transit-Oriented Development

TPC Transportation Planning Committee

TRP Travel Reduction Program

TTI Travel Time Index

UA University of Arizona

UDST Urban Data Science Toolkit

U.S.C. United States Code

UAS Unmanned aerial system

US DOT U.S. Department of Transportation

UZA Urbanized Area

VOC Volatile Organic Compound

VHT Vehicle Hours Traveled

VLT Vehicle License Tax

VMT Vehicle Miles Traveled

2055

REGIONAL MOBILITY AND ACCESSIBILITY PLAN

Pima Association of Governments
1 E. Broadway Blvd., Suite 401
Tucson, AZ 85701
(520) 792-1093
PAGregion.com

Pima Association of Governments