

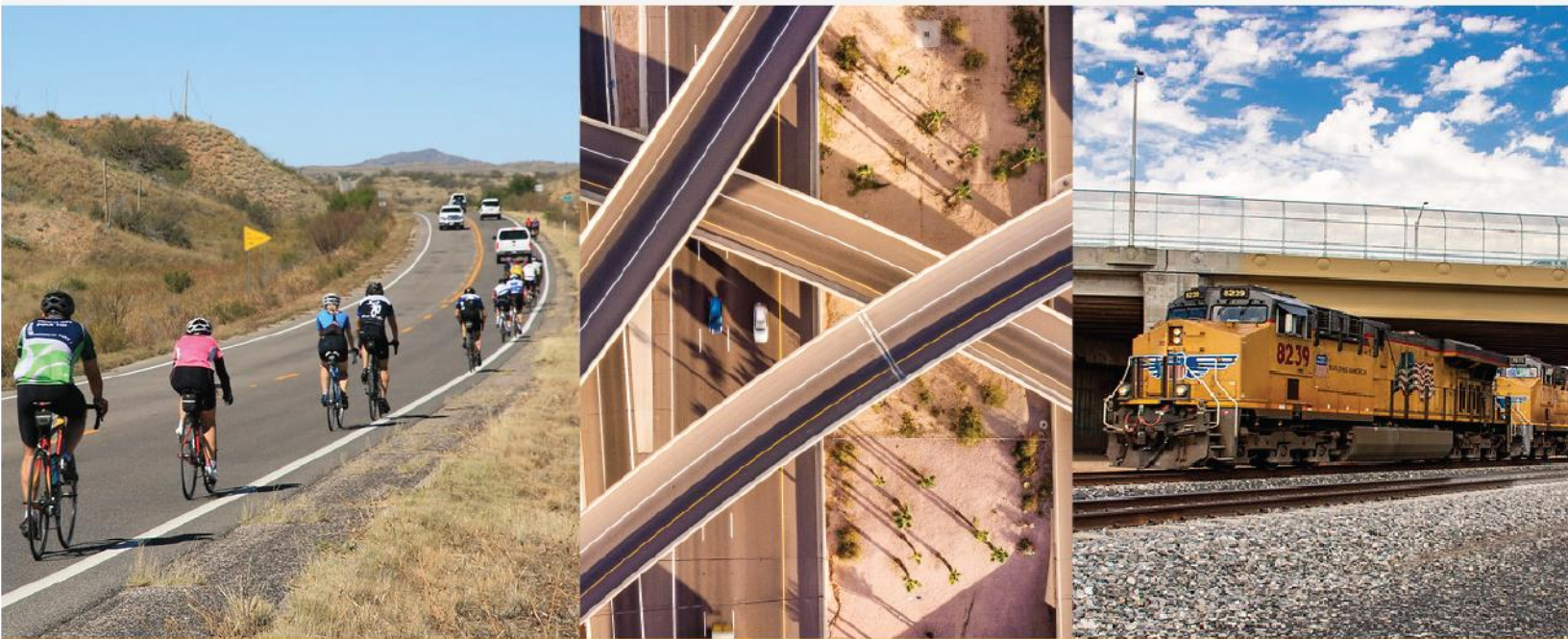


2050 Long-Range Transportation Plan

ADOT

**Maricopa Association of Governments (MAG) and
Pima Association of Governments (PAG)**

Current Conditions Report



Connecting Arizona. Better Lives Through Better Transportation.



Contents

1	Introduction/Overview.....	1
1.1	Maricopa Association of Governments (MAG).....	1
1.2	Pima Association of Governments.....	2
2	Planning Considerations – Connecting MAG & PAG to Federal Policies through ADOT.....	4
2.1	Measuring Performance	10
3	Long-Range Transportation Plan Elements.....	12
3.1	State Highway System in the MAG Region.....	12
3.2	State Highway System in the PAG region.....	13
3.3	The Long-Range Transportation Plan.....	14
4	MAG & PAG Funding & Revenue Assumptions.....	20
4.1	MAG Funding Sources.....	20
4.2	PAG Funding Sources	22
5	Appendix A:	24
6	Appendix B.....	28

Tables

Table 1: MAG and PAG Long Range Transportation Plan’s Vision & Goals.....	4
Table 2: Connecting MAG and PAG Long Range Transportation Plan’s Goals to Federal Planning Factors.....	6
Table 3: Performance Based Planning Approach: Connecting National Goals to MAG PAG Targets	7
Table 4: Additional Goals, Performance Measures and Targets by MAG and PAG	9
Table 5: ADOT & MAG 2/4 Year Targets	11
Table 6: MAG 2/4 Year Emission Reduction Targets	11
Table 7: PAG Performance Measures, Targets and Status.....	12

Figures

Figure 1: Map of the MAG Region.....	2
Figure 2: Map of the PAG Region	3
Figure 3: Overview of State Highway System in MAG Region.....	13
Figure 4: Overview of State Highway System in PAG Region	14
Figure 5: Overview of MAG Momentum 2050 Plan Results.....	15
Figure 6: MAG – Momentum 2050 Freeway Program Categorized.....	16
Figure 7: PAG – 2045 RMAP Expenditures By Element.....	17
Figure 8: PAG – 2045 RMAP Freeway Program Categorized.....	18
Figure 9: MAG Momentum Funding Portfolio	20
Figure 10: PAG Funding Breakdown	22

1 Introduction/Overview

The Maricopa Association of Governments (MAG) and Pima Association of Governments (PAG) are the regional planning entities that cover the Phoenix and Tucson metropolitan areas, respectively. The MAG and PAG regions are the two most populous areas of the state of Arizona and the two federally designated transportation management areas (TMA). The MAG region is home to approximately 4.8 million people¹ and the PAG region has just over 1 million people, collectively about 80% of the state’s population. Supporting these major population centers and economic engines of the state are robust transportation networks that include major transportation corridors for movement of people and goods, and a multi-modal system that is supported by regional tax dollars in both areas.

The *Current Conditions Report of the MAG and PAG Regions (Report)* provides an overview of these two important regions, identifies the connections of their long-range transportation plans to required federal transportation goals, explains the funding resources each region relies on for transportation, and highlights the portions of their federally required long-range transportation plans that include the state highway system (SHS). The MAG Regional Transportation Plan – Momentum 2050 and the PAG 2045 - Regional Mobility and Accessibility Plan Update are the two main resources used to develop this *Report*. This *Report* will be used to support the development of the Arizona Department of Transportation (ADOT) Connecting Arizona 2050 Long Range Transportation Plan Update.

1.1 Maricopa Association of Governments (MAG)

MAG is the designated metropolitan planning organization (MPO) for the area that includes all of Maricopa County and portions of Pinal County; the Phoenix-Mesa-Scottsdale metropolitan statistical area (MSA) includes all of Maricopa and Pinal counties. In addition to having the responsibility for regional transportation planning, MAG serves as the agency designated by the federal government, state government, and member agencies for regional wastewater/sewage planning, water quality planning, air quality planning, solid waste planning, population projections, human services planning, and other localized issues.

Currently in the MAG region, there are over 500 centerline miles of freeways, 4,000 centerline miles of arterials streets, and 52 million annual transit boardings.² ADOT is responsible for building and maintaining the freeway system in the MAG region, with the majority of arterials owned by local cities and towns, and public transit operations supported by six different agencies that include: regional public transportation authority (RPTA)/Valley Metro, City of Phoenix, City of Scottsdale, City of Glendale, City of Peoria, and the Salt River Pima-Maricopa Indian Community.

MAG’s membership “includes 27 cities and towns, 3 Native nations, Maricopa County, portions of Pinal County, and the Arizona Department of Transportation. [Their] planning area encompasses about 10,600 square miles that include a diverse landscape of urban, rural, and natural areas (**Figure 1**).³”

The Regional Transportation Plan (RTP) – Momentum 2050 is the current long range transportation plan for the MAG region that was

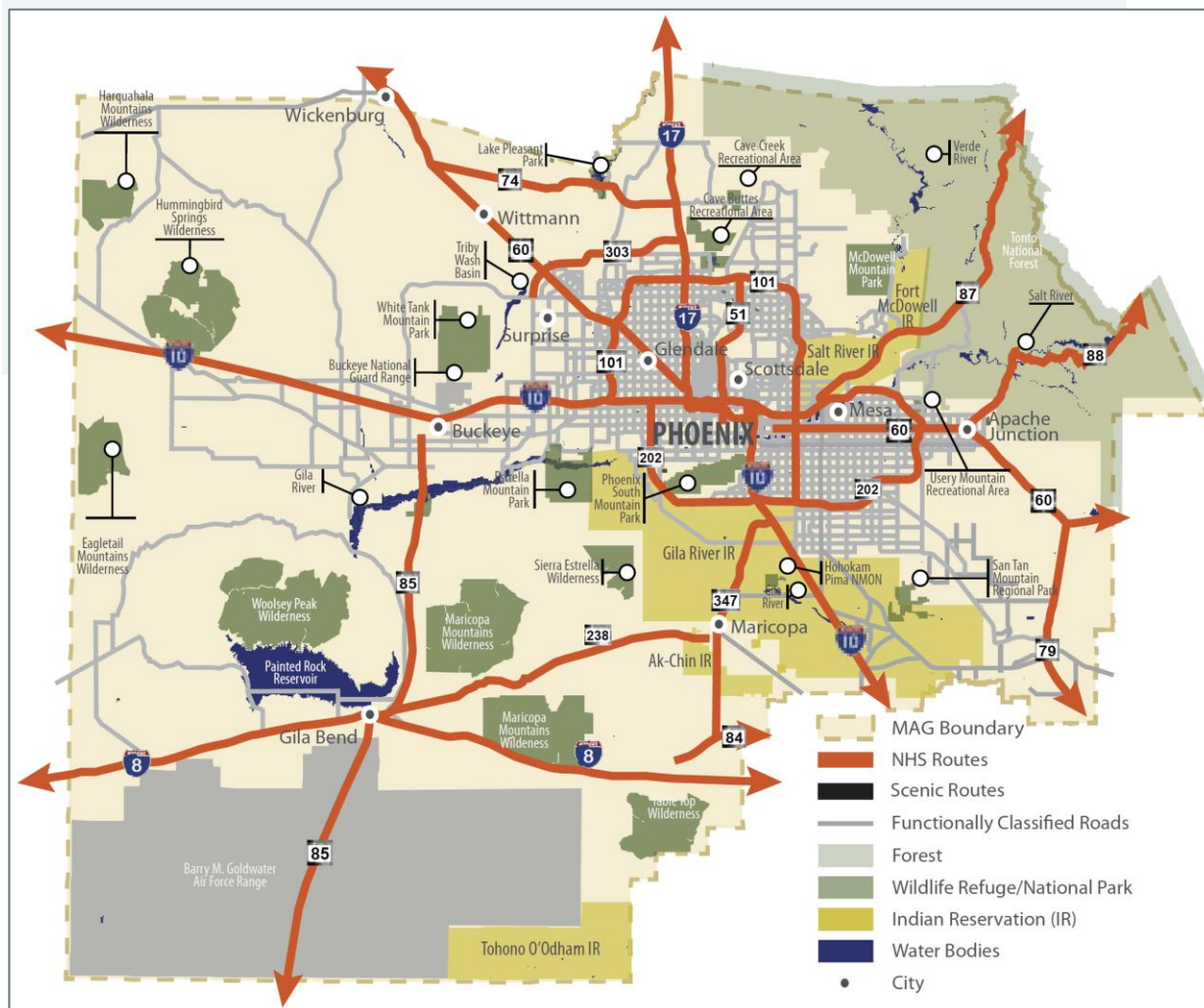


¹ MAG Community Data Explorer - <https://azmag.gov/Programs/Maps-and-Data/Community-Profiles>

² MAG Momentum, - <https://azmag.gov/Portals/0/Transportation/RTP/2022/RTP-Momentum-2050-v2.pdf> page 16.

adopted by their Regional Council on December 1, 2021, with a subsequent finding of air quality conformity analysis on December 15, 2021.

Figure 1: Map of the MAG Region



Source: ADOT Transportation Management Areas (TMA), <https://azdot.gov/planning/transportation-planning/tmas-mpos-and-cogs/transportation-management-areas-tma>

1.2 Pima Association of Governments

The Pima Association of Governments encompasses all of Pima County in Southern Arizona and includes the Town of Marana, Town of Oro Valley, the Pascua Yaqui Tribe, City of South Tucson, the Tohono O'Odham Nation, City of Tucson, and Town of Sahuarita. PAG's planning area covers an area of nearly 9,200 square miles (Figure 2), although the vast majority of the region's approximately 1 million residents live in and around the cities and towns of eastern Pima County.⁴ According to ADOT's extent and travel report existing regional transportation system includes 48 miles of freeways, 478 miles of arterials, and 730 miles of collector streets in the Tucson area. Three primary public agencies provide public transit in the

⁴ PAG 2045 Regional Mobility and Accessibility Plan - <https://pagregion.com/mobility/transportation-planning/regional-mobility-and-accessibility-plan/>

PAG region under the Sun Transit (Sun Tran) umbrella: the City of Tucson, the Regional Transportation Authority (RTA) and the Town of Oro Valley⁵. These services include a range of transit options that result in (on average) over 1 million transit trips a month⁶.

The PAG region is also home to a critical section of the national freight system due to its proximity to Mexico and the volume of freight on Interstates 10 and 19, the railroad network, and the local airports.⁷

The long-range transportation plan that guides the PAG region – 2045 Regional Mobility and Accessibility Plan (RMAP) was initially adopted in 2016 and was most recently updated on September 24, 2020. The update utilized new population and employment data and updated revenue forecasts, while maintaining the goals, performance measures, strategies, and investment plans.⁸ PAG is currently developing the next (2055) RMAP.



Figure 2: Map of the PAG Region



Source: ADOT Transportation Management Areas (TMA), <https://azdot.gov/planning/transportation-planning/tmas-mpos-and-cogs/transportation-management-areas-tma>

⁵ PAG Short-Range Transit Program Implementation Plan FY 2017 Through FY 2021, <https://pagregion.com/wp-content/docs/pag/2020/09/SRTP-FY2017-2021.pdf>

⁶ Sun Tran Monthly Operations Report – May 2022, https://www.suntran.com/wp-content/uploads/2022/06/MAY-2022-ST.SL_SV-final-MOR.pdf

⁷ PAG Our Freight Mobility Regional Freight Plan – Executive Summary, <https://pagregion.com/wp-content/docs/pag/2020/08/PAGRegionalFreightPlan2018ExecutiveSummary.pdf>

⁸ PAG 2045 Regional Mobility and Accessibility Plan - <https://pagregion.com/mobility/transportation-planning/regional-mobility-and-accessibility-plan/>, page 1

2 Planning Considerations – Connecting MAG & PAG to Federal Policies through ADOT

Through the code of federal regulations (CFR) the federal government has outlined expectations for metropolitan planning organizations (MPO) to consider a set of planning factors and establish a performance-based plan when developing their long-range transportation plans and the short-range transportation improvement program (TIP).

There are ten planning factors identified in the CFR 450.306 for MPOs to consider in their long-range planning efforts that include:

- Support Economic Vitality
 - Increase Safety
 - Increase Security
 - Increase Accessibility and Mobility of People and Freight
 - Improve Quality of Life, Environment, Energy Conservation, and Plan Consistency
- Enhance Integration and Connectivity Across and Between Modes
 - Promote System Management and Operations
 - Emphasize Preservation of the Existing System
 - Improve Resiliency and Reliability
 - Enhance Travel and Tourism

While the federal government provides the overarching factors for MPOs to consider, every region is unique to itself with the people that live and work there, the existing and future land uses, projected economies, the physical landscape, the transportation network, and its’ culture. MAG and PAG each have guiding visions that set the foundation in developing their respective long-range transportation plans.

To meet their visions, MAG and PAG each developed a series of goals that create an integral link between the vision and actionable strategies & projects. Another component of these goals is developing an evaluation process that links anticipated performance measurements of strategies and projects to the vision. The MAG RTP – Momentum 2050 outlines six goals while the PAG 2045 RMAP has developed eleven goals, shown in **Table 1**, that support the implementation of their visions.

Table 1: MAG and PAG Long Range Transportation Plan’s Vision & Goals

MAG	PAG
Vision	
Establish a sustainable, resilient, multi-modal transportation investment program that connects people with the opportunities to prosper and thrive.	A state-of-the-art, reliable, multimodal, and environmentally responsible regional transportation system that is continuously maintained, interconnected, and integrated with sustainable land use patterns to support a high quality of life and healthy, safe and economically vibrant region.
Goals	
Safety: Provide for the safety of all pedestrians, bicyclists, riders, and drivers	Maintenance: Roadways, bike and pedestrian infrastructure, and transit systems are rehabilitated, completed, and maintained in a state of good repair.

MAG	PAG
Mobility: Ensure ease of movement for people and goods throughout the region, providing equitable and appropriate access to essential services and destinations	Safety: Safety and security for all transportation users across the region.
Prosperity: Support economic competitiveness and growth through strategic transportation investments	Multimodal Choices: A variety of integrated, high-quality, accessible, and interconnected transportation choices to meet all mobility needs and changing travel preference.
Responsiveness: Expand travel choices that accommodate future growth and are flexible in adapting to changing needs and innovations	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.
Livability: Invest in a transportation system that supports health and wellbeing and sustains the environment	Environmental Stewardship: Environmental stewardship, natural resource protection and energy efficiency in transportation planning, design, construction, and management.
Preservation: Maintain our region's transportation infrastructure to protect existing investments for the future	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.
	Public Involvement: Continued outreach and involvement of all users in transportation decision-making.
	Advanced Technologies: State-of-the-art, cost-effective delivery of transportation services and facilities.
	Funding and Implementation: Revenue sources and strategies ensure ample funding and timely project development.
	Accountability: Continued transparency, responsiveness, and coordination to meet transportation needs throughout the region.

While each MPO's vision and goals have been developed to best respond to their region, they also clearly link to the federal government's planning factor requirements as shown in **Table 2**.

Table 2: Connecting MAG and PAG Long Range Transportation Goals to Federal Planning Factors

Federal Planning Factors	Connecting MAG and PAG Long Range Transportation Plan Goals to the Federal Planning Factors	MAG	PAG
Support Economic Vitality	MAG: Prosperity and Mobility PAG: Freight and Economic Growth	✓	✓
Increase Safety	MAG: Safety, Livability, Preservation PAG: Safety, Maintenance, Multimodal Choices	✓	✓
Increase Security	MAG: Safety, Livability, Preservation PAG: Safety	✓	✓
Increase Accessibility and Mobility of People and Freight	MAG: Mobility, Prosperity, Responsiveness, Livability PAG: Multimodal Choices, Land Use and Transportation, and Freight and Economic Growth	✓	✓
Improve Quality of Life, Environment, Energy Conservation, and Plan Consistency	MAG: Mobility, Prosperity, Responsiveness, Livability PAG: Environmental Stewardship, Land Use and Transportation, Advanced Technologies	✓	✓
Enhance Integration and Connectivity Across and Between Modes	MAG: Mobility, Prosperity, and Responsiveness PAG: Multimodal Choices, Land Use and Transportation, Advanced Technologies	✓	✓
Promote System Management and Operations	MAG: Mobility and Responsiveness PAG: Multimodal Choices, Performance, and Accountability	✓	✓
Emphasize Preservation of the Existing System	MAG: Preservation PAG: Maintenance and Accountability	✓	✓
Improve Resiliency and Reliability	MAG: Mobility, Responsiveness, and Preservation PAG: Multimodal Choices, Maintenance, Advanced Technologies, Performance	✓	✓
Enhance Travel and Tourism	MAG: Prosperity and Mobility PAG: Multimodal Choices, Land Use and Transportation, Freight and Economic Growth	✓	✓

In addition to the planning factors for MPOs to consider, CFR 450.306 requires that the MPO planning process uses a performance-based approach for regional transportation decisions that connect to national goals and that are coordinated through the state. In accordance with the federal regulations, both MAG and PAG have coordinated their performance measurements and targets with ADOT.

Recognizing the needs of their respective regions, both MAG and PAG have developed criteria and measures that respond to both the national and state objectives as well as their regional goals. For the MAG region, these criteria were incorporated into their long-range planning process for the RTP, as explained in Section 6 of the MAG RTP Momentum 2050. Similarly, PAG created their vision, goals, and a performance measurement program to evaluate projects and the system as part of the 2045 RMAP. **Table 3** provides details of how both MAG and PAG meet the federal performance-based planning approach.

Table 3: Performance-Based Planning Approach: Connecting National Goals to MAG and PAG Targets

National Performance Goals/ Requirements	Definition	Performance Target	MAG	PAG
Safety	Achieve a reduction in traffic fatalities and serious injuries on public roads	# of Fatalities (5-Year Average)	✓	✓
		Fatalities per 100 Million Vehicle-Miles Traveled (100M VMT)	✓	✓
		# of Serious Injuries	✓	✓
		Serious Injuries per 100M VMT	✓	✓
		# of Non-Motorized Fatalities and Non-Motorized Serious Injuries	✓	
		# of Pedestrian Fatalities (5-Year Average)		✓
		Pedestrian Fatality Rate		✓
		# of Pedestrian Serious Injuries (5-Year Average)		✓
		Pedestrian Serious Injury Rate		✓
		# of Bicycle Fatalities (5-Year Average)		✓
		Bicycle Fatality Rate		✓
		# of Bicycle Serious Injuries (5-Year Average)		✓
		Bicycle Serious Injury Rate		✓

		Transit Crash Rate		✓
Bridge & Pavement Condition/System Maintenance	Maintain the highway infrastructure in a state of good repair	4-Year: Interstate Pavement Condition	✓	✓
		4-Year: Non Interstate NHS Pavement Condition	✓	✓
		4-Year: NHS Bridge Condition	✓	✓
		2-Year: Interstate Pavement Condition		
		2-Year: Non Interstate NHS Pavement Condition	✓	
		2-Year: NHS Bridge Condition	✓	
System Reliability	To improve the efficiency of the surface transportation system	Travel Time Reliability - Interstate	✓	✓
		Travel Time Reliability - Non-Interstate	✓	✓
		Truck Travel Time Reliability Index	✓	✓
		Peak Hour Excessive Delay per Capita	✓	✓
		% Non-Single Occupancy Vehicle (SOV) Travel	✓	✓
Environmental Sustainability	Enhance the performance of the system while protecting or enhancing the natural environment	Emission Reduction (2-Year and 4-Year)	✓	✓
		On-Road Greenhouse Gas Emissions		✓
Transit Asset Management	Provide accountability and visibility for asset management	Rolling Stock	Valley Metro and City of Phoenix	RTA
		Equipment		
		Facilities		
		Infrastructure		
		Fatalities		RTA

Public Transportation Agency Safety Plans	Document process and procedures to implement safety management systems and meet the Federal Transit Administration (FTA) performance-based planning requirements	Injuries	Valley Metro and City of Phoenix	
		Safety Events		
		System Reliability		

Table 4 includes information about MAG and PAG localized goals, measures, and targets that are in addition to the federal required planning goals.

Table 4: Additional Goals, Performance Measures and Targets by MAG and PAG

Local Performance Goals Measure	MAG and/or PAG Target	MAG	PAG
Multimodal Choices	Walk, Bike or Transit to Work Rate		✓
	Total Transit Trips		✓
	Average Transit Travel Time		✓
	Average Transit Speed		✓
	Total Miles of Pedestrian Facilities		✓
	Total Miles of Bicycle Facilities		✓
	Average Age of Public Buses		✓
Land Use and Transportation	Regional Jobs Reachable by Auto		✓
	Regional Jobs Reachable by Transit		✓
	Job Accessibility Index for All Modes		✓
	Jobs within Quarter Mile of Transit Stop		✓
	Population within Quarter Mile of Transit		✓
Prosperity	Current Population Density	✓	
	Current Employment Density	✓	
	Future Population Density	✓	
	Future Employment Density	✓	

Responsiveness	Planning Time Index	✓	
	Truck Planning Time Index	✓	

2.1 Measuring Performance

MAG and PAG have unique sets of targets and report the results of the performance measures in different manners. This is based on the set of targets that they adopted, and how long they have been evaluating the data that supports the performance measures.

2.1.1 MAG

As noted in the MAG 2021 System Performance Report, MAG has elected to support ADOT’s performance targets except for System Reliability targets. Instead of providing the status of meeting targets, MAG evaluates sets of projects that are impacting specific performance measures. MAG is working towards reporting status of targets, and will do so as data collection becomes more robust.

- For the Safety Performance Targets, ADOT has adopted these targets⁹, which MAG has elected to support:
 - Number of Fatalities: 2% increase (1045.2)
 - Rate of Fatalities/100 Million Vehicle Miles Travelled: 2% increase (1.568)
 - Number of Serious Injuries: 7% decrease (3210.7)
 - Rate of Serious Injuries/100 Million Vehicle Miles Traveled: 8% decrease (4.797)
 - Number of Non-Motorized Fatalities and Serious Injuries: 1% decrease (736.2)
- For Bridge and Pavement Targets, ADOT has set these targets¹⁰, which MAG has elected to support:
 - Percent of National Highway System (NHS) Bridges classified in good condition based on deck area: 52%
 - Percent of NHS Bridges classified in poor condition based on deck area: 4%
 - Percent of Interstate Pavements in good condition: 44%
 - Percent of Interstate Pavements in poor condition: 2%
 - Percent of Non-Interstate NHS Pavements in good condition: 28%
 - Percent of Non-Interstate NHS Pavements in poor condition: 6%

⁹ ADOT Performance Management, <https://azdot.gov/planning/transportation-programs/performance-management#:~:text=System%20Performance%20Targets%20for%202021&text=Maricopa%20Association%20of%20Governments%20and,Delay%20per%20capita%3A%2010.9%20hours>

¹⁰ ADOT Performance Management, <https://azdot.gov/planning/transportation-programs/performance-management#:~:text=System%20Performance%20Targets%20for%202021&text=Maricopa%20Association%20of%20Governments%20and,Delay%20per%20capita%3A%2010.9%20hours>

- For the System Reliability targets, MAG has identified different targets that represent their regional conditions¹¹. **Table 5** identifies the System Reliability measures and different targets ADOT and MAG use.

Table 5: ADOT & MAG 2/4 Year System Reliability Targets

Measure	ADOT		MAG	
	2-Year Target	4-Year Target	2-Year Target	4-Year Target
Travel Time Reliability - Interstate System	85.83%	85.70%	67.84%	64.28%
Travel Time Reliability - Non-Interstate NHS	79.22%	74.90%	69.95%	61.11%
Truck Travel Time Reliability Index	1.2	1.35	1.47	1.70
Peak Hour Excessive Delay Per Capita	8.8 Hours	10.9 Hours	8.8 Hours	10.9 Hours
% Non-SOV Travel	22.90%	22.60%	22.90%	22.60%

- For Congestion Mitigation and Air Quality Improvement Program performance, MAG has adopted these 2 and 4-Year Emission Targets displayed in **Table 6**:

Table 6: MAG 2/4 Year Emission Reduction Targets

Emission Reduction Targets (kg/day)	VOC	CO	NOx	PM-10	PM-2.5
2-Year Target (FY2018-2019)	210	3,720	418	873	69
4-Year Target (FY2018-2021)	385	6,985	761	1,399	112

2.1.2 PAG

In the PAG Region, the RMAP identifies specific targets that support the ADOT performance targets which are then measured in both the RMAP and in their TIP through a set of 40 evaluation factors.

Results are included in the PAG TIP report¹², evaluating if their near-term investment plan aligns with their performance measures and includes information if targets are being met, behind or ahead, as shown in **Table 7**.

¹¹ MAG - 2021 System Performance Report

¹² PAG 2022-2026 Transportation Improvement Program, page 199.

Table 7: PAG Performance Measures, Targets and Status

Performance Measure	Description	2015 Baseline	Current	2020 Benchmark	2025 Benchmark	2045 Target	Desired Trend	Status
System Maintenance								
Federal-Aid Pavement in Poor Condition	% of centerline miles	37.0%	24.6%	34.2%	23.4%	20.0%	decrease	on pace
Public Bridges in Poor Condition	% of all bridges	9.1%	4.5%	8.4%	5.9%	10.0%	maintain	on pace
Average Age of Public Buses	years in service	6.5	7.7	7.7	7.5	7.0	maintain	on pace
Safety								
Total Fatalities	5-year average	95.8	126.0	91.8	112.8	75.0	decrease	trending away
Fatality Rate	per 100 million VMT	1.26	1.4	1.11	1.22	0.66	decrease	trending away
Total Serious Injuries	5-yr average	581.4	415.0	557.2	420.5	436.1	decrease	on pace
Serious Injury Rate	per 100 million VMT	7.6	5.4	6.3	5.0	3.7	decrease	behind pace
Total Pedestrian Fatalities	5-yr average	21.2	33.6	20.0	28.5	14.0	decrease	trending away
Pedestrian Fatality Rate	per 10,000 walk	20.7	33.6	18.3	26.5	6.2	decrease	trending away
Total Pedestrian Serious Injuries	5-yr average	53.4	51.2	50.5	47.2	35.8	decrease	behind pace
Pedestrian Serious Injury Rate	per 10,000 walk	52.1	51.1	46.0	41.9	15.6	decrease	behind pace
Total Bicycle Fatalities	5-yr average	4.4	6.0	4.2	5.2	2.9	decrease	trending away
Bicycle Fatality Rate	per 10,000 bike commutes	5.9	9.1	5.2	7.2	1.8	decrease	trending away
Total Bicycle Serious Injuries	5-yr average	31.0	24.2	29.3	23.4	21.0	decrease	on pace
Bicycle Serious Injury Rate	per 10,000 bike commutes	41.3	36.8	36.5	30.4	12.4	decrease	behind pace
Transit Crash Rate	per 100,000 service miles	1.9	1.6	1.9	1.6	1.5	decrease	on pace
Multi-Modal Choices								
Walk, Bike, or Transit to Work Rate	% of population	6.8%	6.0%	7.3%	7.1%	10.0%	increase	trending away
Walk, Bike, and Transit Mode Share, All Trips	% of population	16.3%	18.3%	17.0%	18.8%	20.0%	increase	behind pace
Total Transit Trips	millions per year	21.3	13.5	22.1	18.88	34.4	increase	trending away
Average Transit Travel Time	minutes	50.8	54.7	50.7	53.59	50.0	decrease	trending away
Average Transit Speed	miles per hour	13.3	14.0	13.5	14.23	15.0	increase	on pace
Total Miles of Pedestrian Facilities		442	582	568	742	1200	increase	on pace
Total Miles of Bicycle Facilities		1010	1195	1128	1331	1720	increase	on pace
System Performance								
Daily Vehicle Hours Traveled per Capita	minutes	32.3	32.7	32.0	32.3	30.6	decrease	trending away
Daily Vehicle Miles Traveled (VMT) per Capita		20.6	21.1	20.3	20.5	18.5	decrease	behind pace
Travel Time Index, PM Peak		1.44	1.4	1.46	1.48	1.58	maintain	on pace
Percent of Peak-Hour VMT under Severe	level of service E or F	0.012	0.012	0.013	0.014	0.018	maintain	on pace
Environmental Stewardship								
On-Road Greenhouse Gas Emissions per	metric tons per year	3.3	3.4	3.1	3.1	2.3	decrease	behind pace
Weekday Metric Tons of NOx Emissions		22.8	13.1	22.8	11.1	4.6	decrease	on pace
Weekday Metric Tons of VOC Emissions		18.3	12.6	18.3	10.8	4.6	decrease	on pace
Weekday Metric Tons of CO Emissions		164.0	146.5	164.0	124.0	49.2	decrease	on pace
Weekday Metric Tons of PM 2.5 Emissions		0.5	0.2	0.5	0.3	0.5	maintain	on pace
Weekday Metric Tons of PM 10 Emissions		1.3	0.9	1.3	1.0	1.3	maintain	on pace
Land Use and Transportation								
Regional Jobs Reachable by Auto	within 30 minutes	240,242	210,938	258,238	242,642	348,320	increase	behind pace
Regional Jobs Reachable by Transit	within 45 minutes	26,332	24,139	28,526	27,683	39,498	increase	behind pace
Job Accessibility Index for All Modes	all modes	57.1	47.7	58.6	51.9	65.7	increase	behind pace
Jobs within Quarter Mile of Transit Stop	% of all jobs	58.6%	58.4%	59.1%	58.8%	60.0%	increase	behind pace
Population within Quarter Mile of Transit	% of population	42.5%	40.8%	43.0%	41.8%	45.0%	increase	behind pace

3 Long-Range Transportation Plan Elements

Considering the diverse goals identified in MAG and PAG's long-range transportation plans, they each have envisioned a comprehensive transportation system that includes highways, roadways, pedestrian facilities, bike facilities, transit networks, airports, operations, and more.

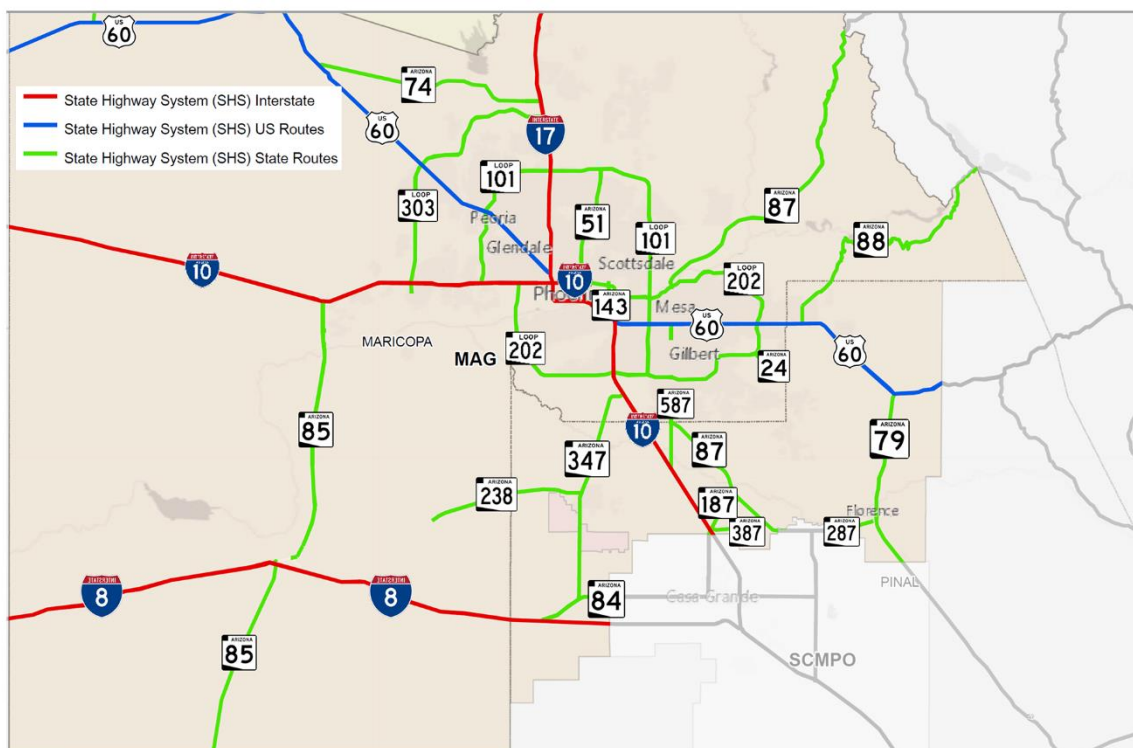
3.1 State Highway System in the MAG Region

The SHS in the MAG region (all of Maricopa County and parts of Pinal County) includes (all or portions of) twenty highways that are displayed in **Figure 3**, and include:

- Three Interstates: I-10, I-17, and I-8
 - Total Mileage: 612
- One US Route: US-60/Grand Avenue
 - Total Mileage: 264

- Sixteen State Routes that include: SR-24, SR-51, SR-74, SR-79, SR-84, SR-85, SR-87, SR-88, SR-143, SR-187, SR-287, SR-347, SR-587, SR-101L (Loop 101), SR-202L (Loop 202), and SR-303L (Loop-303)
 - Total Mileage: 745

Figure 3: Overview of State Highway System in MAG Region



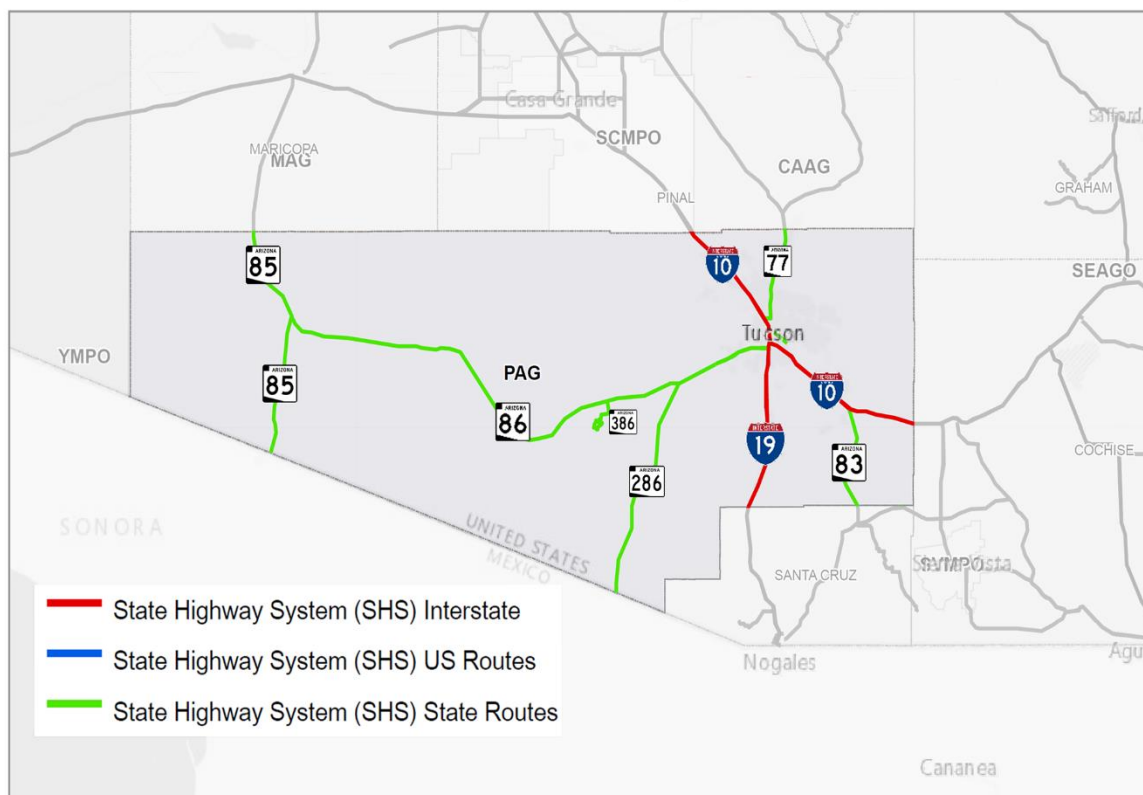
Source: ADOT Interactive Maps, <https://azdot.gov/node/4715>

3.2 State Highway System in the PAG region

As shown in **Figure 4**, the SHS in Pima County consists of:

- Two Interstates: I-10 and I-19
 - Total Mileage: 270
- Six State Routes that include: SR-77, SR-83, SR-85, SR-86, SR-286, SR-386
 - Total Mileage: 350

Figure 4: Overview of State Highway System in PAG Region



Source: ADOT Interactive Maps, <https://azdot.gov/node/4715>

3.3 The Long-Range Transportation Plan

To keep up with projected future demands of these systems and align with the vision of their futures, each regional agency has identified their future transportation system via a set of programs and projects to implement. While the federal government requires MPO long range transportation plans to be fiscally constrained, the agencies have identified needs that are not fulfilled due to lack of funding.

3.3.1 MAG RTP – Momentum 2050 Plan Highlights

The MAG RTP – Momentum 2050 is a 25-year long range plan, which is inclusive of all modes of transportation and assumes a continuation of the Maricopa County half-cent sales tax in addition to the federal, state, and local funding portfolio. Taken directly from MAG’s Momentum plan¹³, shown in **Figure 5**, the region is planned to invest over \$36 billion in the next 25 years to support a diversified transportation network that includes light rail, streetcar, bus rapid transit, major investments to the arterial street network, and programs that align with their planning goals.

¹³ MAG Momentum 2050 – Project Map, https://assets.website-files.com/613f85a4173508def284bc8b/620dd6670e5bc373dfa3bbc1_MOMENTUM_ProjectsPrograms_AltTxt_Red.pdf

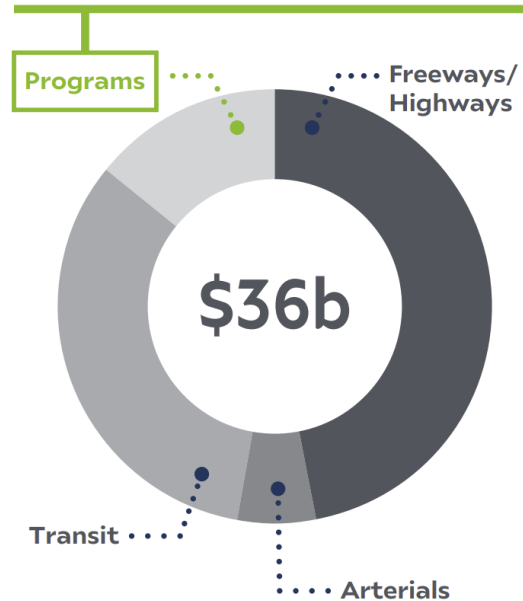
Figure 5: Overview of MAG RTP – Momentum 2050 Plan Results

By the Numbers



Program Investments

Active Transportation:	\$1,000,000,000
Air Quality:	\$200,000,000
Arterial Intersection:	\$500,000,000
Arterial Rehabilitation:	\$625,000,000
Arterial Widening:	\$375,000,000
Emerging Technology:	\$312,500,000
ITS:	\$750,000,000
Safety:	\$250,000,000
TDM Expansion:	\$312,500,000



3.3.1.1 MAG Freeway Program

MAG works with ADOT on many levels to plan, program and develop the region's freeway program. This includes full coordination at a staff level, from planning to construction of the freeway system and to coordinating with members of the Arizona State Board of Transportation serving as part of the MAG Regional Council.

Recognizing that maintenance of the freeway system is a critical element to keeping people and goods moving through the region, in preparation for developing the MAG RTP – Momentum 2050, MAG did a comprehensive analysis of roadway maintenance costs of the SHS in the region. This analysis included

projected maintenance needs in five categories: central district, pavement, bridge, transportation system management operations (TSMO), and other. The bridge and pavement maintenance categories have the greatest need for investment. From this analysis, there is a known \$7 billion need that is unmet with the current projected revenue. It was also determined that if these needs/costs were to be ‘funded entirely by an extension of the county half-cent sales tax, there would be limited regional funding for multimodal modernization or expansion projects, unless additional funding was identified.’¹⁴

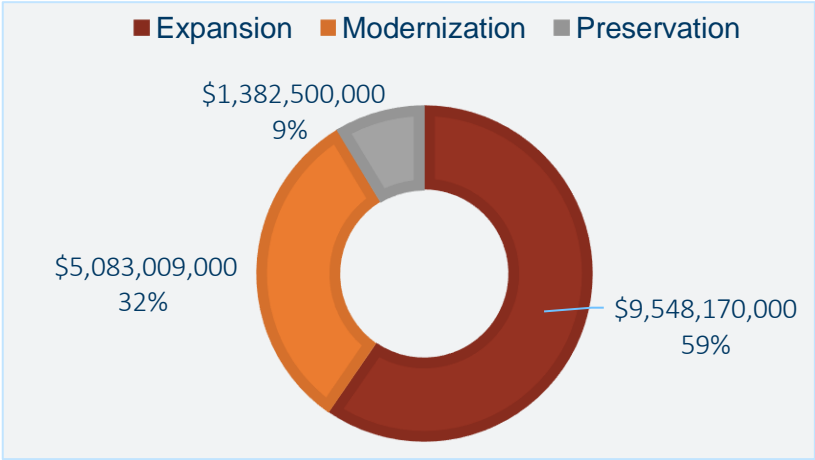
While maintenance needs are expansive in the MAG region, the MAG Regional Council adopted a Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP)¹⁵ for the MAG RTP – Momentum 2050, which were based on a series of planning principles that included these three guidelines specifically related to the SHS:

- Maintenance of the freeway/highway system is the responsibility of ADOT/State of Arizona.
- An allocation of funding is set aside for litter, landscape, and sweeping of the regional freeway/highway system. The allocation does not change over time except for standard inflationary increases.
- Funding is set aside for the administration of the regional freeway program.

Accounting for MAG’s planning framework for the freeway program, the adopted MAG RTP – Momentum 2050 included an investment of \$16 billion for 88 specific projects that mainly support the expansion and modernization of the SHS system in the region and for 5 overarching programs: implementation, re-habilitation, litter/landscape/sweep, turnbacks, and minor and spot safety improvements. The detailed list of these projects and programs can be found in **Appendix A**.

A more detailed review indicates that the majority (59%, or \$9.5 billion) of the freeway project and programs are related to expansion of the system. These projects include widening general-purpose lanes (GPL), adding new high-occupancy vehicle (HOV) lanes, adding new traffic interchanges (TI) including direct HOV TIs, and building new freeways (SR-24, SR-30 and SR-303L). The second largest investment category for the SHS in the MAG region is modernization (32%, or \$5 billion). This category includes improving TIs, improvements to system interchanges, reconstruction and modernization of the freeways (I-17), bottleneck improvements, grade separations, corridor optimization, and safety improvements. The preservation category (9%, or \$1.4 billion) of the freeway program includes

Figure 6: MAG RTP – Momentum 2050 Freeway Program Categorized



¹⁴ MAG – ADOT Maintenance Costs Executive Summary, October 2019

¹⁵ MAG - Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP) - <https://azmag.gov/Portals/0/Documents/MagContent/RSTIIP-062321.pdf>

one project – the reconstruction of the I-10 Hance Park Tunnel – and two programs: capital rehabilitation and the litter/landscape/sweep program. This information is shown in **Figure 6**.

3.3.1.2 MAG Transit System

ValleyMetro is the primary transit provider in the MAG region and serves Phoenix and the surrounding metropolitan area. Within ValleyMetro’s service area, there are 19 Express/RAPID routes, 28 miles of light rail (with 7.1 miles currently under construction), 55 park-and-ride lots, and 14 transit centers. Amongst all routes and modes, there is an average 29.5 minute headway.

3.3.1.3 MAG Active Transportation System

Active transportation is a primary focus of MAG, as evidenced by the 2020 MAG Active Transportation Plan (ATP). The ATP focuses on strategies to connect the various shared use paths, sidewalks, and bike lanes across the region (most of which are located in the Phoenix metropolitan area). Since 2004, the number of bike lanes in the MAG region has more than doubled.

3.3.1.4 MAG Aviation System

The MAG region contains two commercial airports, Phoenix Sky Harbor International and Phoenix-Mesa Gateway. Sky Harbor is the largest commercial airport in the state of Arizona, serving 46 million passengers in 2019, and the primary international gateway for air travelers. The U.S. military also operates an air force base, Luke Air Force Base, in the center of the region. In addition, there are six general aviation and six general aviation reliever airports.

MAG routinely conducts large scale survey efforts focused better understanding the impacts, both positive and negative, of regional aviation travel.

3.3.2 PAG – PAG 2045 Regional Mobility and Accessibility Plan Highlights

The PAG 2045 Regional Mobility and Accessibility Plan (RMAP) is a 30-year long range multimodal plan that, similar to MAG, assumes the continuation of the countywide RTA sales tax in its anticipated funding portfolio. Improvement of all transportation modes within the PAG region is focused on six elements: Roadway Expansion, System Maintenance and Modernization, Transit, Bike/Pedestrian, Programs, and Local Funding Priorities. A breakdown of planned expenditures per element can be seen in **Figure 7**.

Figure 7: PAG 2045 RMAP Expenditures By Element

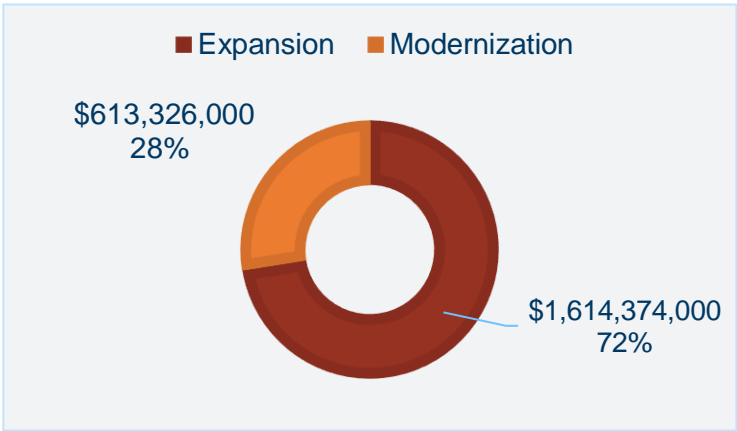
Funding Category	2045 RMAP	2045 RMAP Update
Multimodal Roadway Improvements	\$4,991 million	\$4,519 million
System Maintenance and Modernization	\$3,180 million	\$2,862 million
Transit	\$4,333 million	\$3,765 million
Bike/Ped	\$602 million	\$602 million
Programs	\$685 million	\$301 million
Local Funding Priorities	\$3,498 million	\$3,012 million
Total	\$17,289 million	\$15,062 million

3.3.2.1 PAG Freeway System

There are currently over 4,700 lane miles of freeways, freeways, parkways, arterials, and collector streets in the PAG Region. The 2045 RMAP identifies 28 highway projects, detailed in **Appendix B**, the majority (72%) of which focus on expansion with the remainder (28%) focusing on modernization/reconstruction of existing interchanges and intersections, the breakdown of which is shown in **Figure 8**.

The 2045 RMAP operates on the assumption that anticipated traffic volumes over the next 30 years will require significant capacity additions to the SHS or else the region risks having stop-and-go traffic throughout its transportation system at peak times. The plan also notes that due to declining transportation revenue forecasts, a number of critical projects are not projected to be financially feasible and make up more than \$1.5 billion in unfunded needs.

Figure 8: PAG 2045 RMAP Freeway Program Categorized



3.3.2.2 PAG Transit System

The current PAG regional transit network consists of multiple services including:

- Sun Tran – Primary fixed route bus system including 30 fixed routes and 13 express routes covering an area of 230 square miles. Named America’s Best Transit System in 2005 and Arizona’s Best Transit System in 2012, ridership increased 21% from 2005 to 2015, growing twice as fast as the population of the region.
- Sun Link – 3.9-mile streetcar line that began service in 2014. The region’s first high-capacity transit service, Sun Link carried more than 1 million riders in its first year of operations, exceeding early predictions and estimates.
- Sun Van – The City of Tucson’s complementary paratransit service for elderly and disabled persons is available within ¾-miles of every Sun Tran route. Sun Van ridership has increased 34% since 2005 (as of 2015).
- Sun Shuttle – Neighborhood Circulator in Marana, Oro Valley, Catalina, Sahuarita, Green Valley, and rural western Pima County. Sun Shuttle connects passengers to other Sun Tran routes.

On January 30, 2020, the PAG Regional Council approved the Long-Range Regional Transit Plan. This Plan set the direction for future transit investments, including expansion of night and weekend bus service as well as adding new bus routes.

3.3.2.3 PAG Active Transportation System

Bike: Most active transportation users live within urban cores and surrounding neighborhoods. Within the PAG region, Tucson and its surround communities are nationally recognized as great places for bicycling, with the League of American Bicyclists designating the region a gold-rated bicycle-friendly community for the extensive network. With over 1,000 miles of identified bike facilities as of 2015, the number of bike commuters grew 122% between 2006 and 2014.

Pedestrian: As of 2012, an estimated 75% of roadsides on major roadways in the urban core were inaccessible to those with disabilities or lacked pedestrian infrastructure entirely. Most new roadway projects include pedestrian improvements and the region's local agencies have made considerable progress in retrofitting existing systems to close pedestrian network gaps. In addition, the RTA funded the installation of more than 50 pedestrian hybrid beacon (also known as HAWK) signals from 2005 to 2015.

3.3.2.4 PAG Aviation System

Tucson International Airport (TIA) is the only primary commercial service (PCS) airport in the PAG region. Ryan Airfield and Marana Regional Airport are general aviation reliever airports in Pima County.

4 MAG & PAG Funding & Revenue Assumptions

4.1 MAG Funding Sources

The MAG RTP – Momentum 2050 forecasts an estimated \$69.79 billion in revenues over the 2022-2055 timeframe from seven categories of transportation funding sources as shown in Figure 9.

Federal Funds - Ongoing (\$26.07 billion)

Federal funds are allocated directly to the MAG region through a variety of programs, including MAG-allocated ADOT FHWA formula funds (37% of total state allocations), direct FTA formula funds (5307, 5310, and 5339 programs), and direct FHWA formula funds such as Surface Transportation Block Grant Program (STBGP) funds, Congestion Mitigation and Air Quality (CMAQ) funds, and the Transportation Alternatives Program (TAP) funds. These sources are considered an ‘ongoing revenue source’ in the Momentum 2050 Plan.

Federal Discretionary Funds (\$5.4 billion)

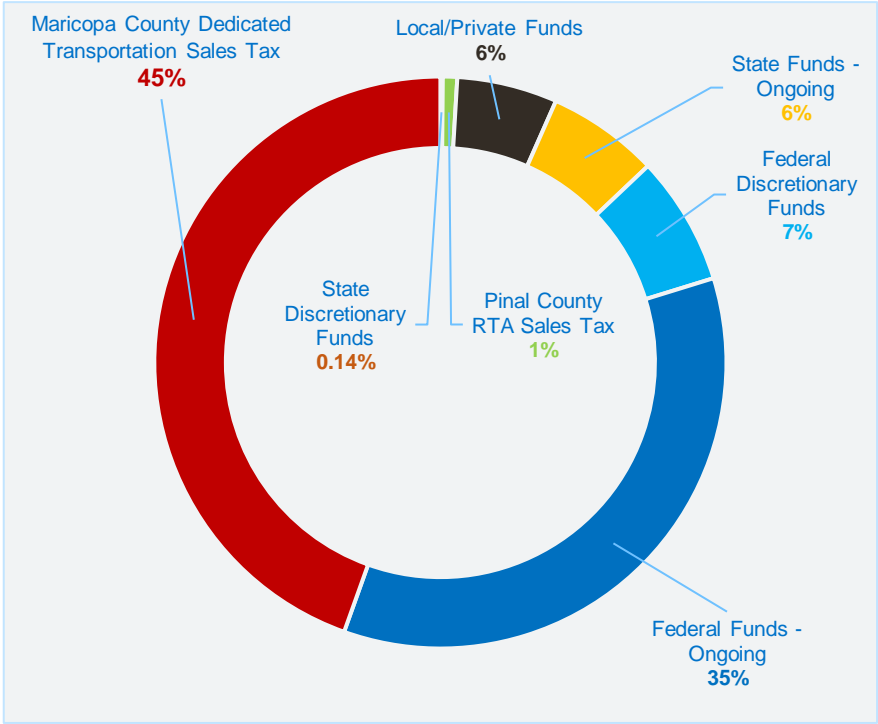
In addition to ongoing federal funding, a further \$5.4 billion is anticipated from FHWA and FTA in the form of discretionary grant programs awarded through competitive processes. These funds are on a per-project basis and are not considered an ongoing funding source.

State Funds - Ongoing (\$4.67billion)

A portion of funds from the Arizona State Highway User Fund (HURF) are allocated to the MAG region through a combination of state statute and State Transportation Board policy. From 2022 to 2051, total HURF revenues allocated to the MAG area for freeway/highway improvements are estimated to total \$4.37 billion. HURF funds are distributed to both the MAG and PAG regions as HURF 2.6% Funds and HURF 12.6% Funds. HURF 2.6% can only be spent on state-owned facilities; however, HURF 12.6% funds can be used on any arterial. A total of 75% of these distributions are allocated to the MAG region.

A further \$200 million is assumed for freeway/highway projects in the Pinal County portion of the MAG region.

Figure 9: MAG Momentum Funding Portfolio



State Discretionary Funds (\$100 million)

State discretionary funding is also anticipated over the next 30 years, totaling \$100 million. FHWA formula funding, HURF, and general fund monies allocated to ADOT not already committed or statutorily allocated can be awarded on a project-by-project basis and are not considered an ongoing revenue source.

Maricopa County Dedicated Transportation Sales Tax (\$32.95 billion)

Since 1985, the largest single ongoing source of revenue for transportation in the MAG region is a ½-cent sales tax, which is deposited into the Regional Area Road Fund (RARF). Reauthorized for an additional 20 years by voters in 2005, the funds generated were split three ways: 56.2% for the freeway program including capital and maintenance, 10.5% for major arterial and intersection improvements, and 33.3% for the public transportation system/transit for construction, maintenance, and operations. Through June 2021, RARF generated \$6 billion, and it is estimated an additional \$2.7 billion will be collected through December 2025.¹⁶ With this funding, new freeways were built that included Loop 202 (South Mountain), Loop 303, SR-24, and expansions and improvements to existing freeways that include I-10 and Loop 101.

The current tax is set to expire in 2025, with the RTP – Momentum 2050 Plan assuming voter reauthorization for another 25 years at that time. Revenues from the reauthorized sales tax are estimated to total \$32.95 billion.¹⁷

Pinal County Regional Transportation Authority (PCRTA) Sales Tax (\$600 million)

The PCRTA was established in 2015 to be a public improvement and taxing subdivision of the State of Arizona in Pinal County. A ½-cent sales tax was approved in 2017 by Pinal County voters for the next 20 years, but after a lengthy court battle it was determined the tax was not legal in terms of how it was described on the ballot. There is an ongoing effort to put a revised ½-cent sales tax proposition on the November 2022 ballot for voter consideration. These funds, if approved, would primarily be utilized on SHS facilities on a per-project basis so the sales tax would not be considered an ongoing revenue source for ADOT.

Local/Private Funds (\$4.2 billion)

Local funding from local municipalities and private sources is usually utilized on a per-project basis and is not considered an ongoing revenue source for ADOT. In some instances, regional or federal policy requires a local funding match to acquire certain funds. In other instances, such as construction of arterial roadways, most funding comes from local or private sources.

¹⁶ The 2021 Annual Report on the Implementation Status of Proposition 400, https://azmag.gov/Portals/0/Documents/MagContent/2021-Annual-Report-Draft-Prop-400_10-29-2021.pdf?ver=YkUe9SrX9I3QcQu88ad5rw%3D%3D

¹⁷ MAG Momentum, <https://azmag.gov/Portals/0/Transportation/RTP/2022/RTP-Momentum-2050-v2.pdf>, page 65.

4.2 PAG Funding Sources

The PAG 2045 RMAP forecasts an estimated \$15.1 billion in revenues over the 2015-2045 timeframe from six categories of transportation funding sources as shown in **Figure 10**. Of this anticipated \$15.1 billion, approximately \$7.828 billion has already been committed to specific projects and programs including street maintenance and transit operations, leaving \$7.119 billion with no prior commitments. Of this \$7.119 billion, \$4.1 billion is considered ‘restricted’ to specific purposes (e.g., transit funds being restricted to transit uses) with the remaining \$3.0 billion considered flexible funds. Unlike the MAG RTP – Momentum 2050, the PAG 2045 RMAP does not designate whether a funding source is an ongoing source of revenue or utilized on a per-project basis.

Federal Funds (\$732 million)

Federal funds are allocated to the PAG region from the Federal Highway Trust Fund thorough multiple programs: STBGP, the Highway Safety Improvement Program (HSIP), and the Regional Transportation Alternatives Grant (RTAG). These funds are authorized to the PAG region from the FAST Act, which informed development of the PAG 2045 RMAP

State Funds (\$3.01 billion)

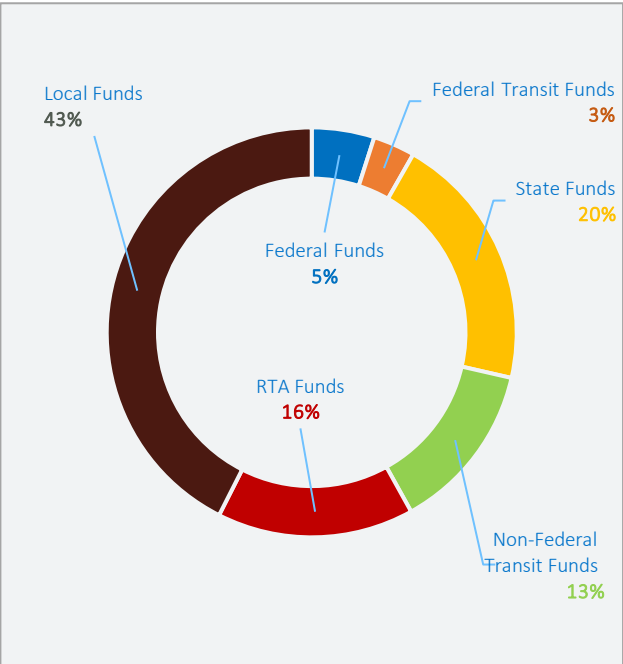
State funds are allocated to the PAG region from a variety of programs. In addition to State funding, the Arizona Department of Environmental Quality (ADEQ) provides funding to the PAG region to administer programs that encourage residents to carpool or utilize alternative transportation modes.

Additional state funding is allocated to the PAG region from State HURF, which sets aside state funds for use in larger urban areas and is distributed as HURF 2.6% Funds and HURF 12.6% Funds. HURF 2.6% can only be spent on state-owned facilities; however, HURF 12.6% funds can be used on any arterial included in the 2045 RMAP. A total of 25% of the total HURF 12.6% and HURF 2.6% distributed to MAG/PAG are allocated to the PAG region.

Regional Transportation Authority (RTA) Funds (\$2.3 billion)

RTA provides the single largest transportation funding source for the PAG region. The RTA itself is funded by a countywide ½-cent sales tax approved in 2006, which has raised approximately \$2 billion over the past 20 years¹⁸ for the region. The current sales tax and RTA Plan, which includes roadway, transit, safety, environmental, and economic vitality improvements, is set to expire in 2026, with a countywide vote on whether to extend the tax expected in the near future.

Figure 10: PAG Funding Breakdown



¹⁸ Tucson Sentinel, May 17, 2022 “Prop. 411 RTA Opinion”, https://www.tucsonsentinel.com/opinion/report/051722_prop_411_rta_op/prop-411-bag-now-tucson-must-move-with-rta/

Local Funds (\$6.3 billion)

Multiple sources provide funding for local governing bodies including construction sales taxes, development impact fees, road development fees, roadway impact fees, private developer funds, clean energy funds, HURF funds distributed directly to cities and towns, transportation bonds, Pima County Vehicle License Tax (VLT), and Sonoran Corridor funding. While programming decisions are made by localities based on local priorities and needs, the PAG 2045 RMAP assumes that portions of local funds will be used for regionally significant projects.

Federal Transit Funds (\$490 million)

Federal transit grants are provided through a variety of programs including 5307, 5339, 5310, 5311, and BUILD funds. In addition, the PAG region has received discretionary grants funding for transit projects such as the City of Tucson being awarded a \$63 Million TIGER grant in 2010. The PAG 2045 RMAP assumes the PAG region will continue to successfully compete for discretionary federal grants over the next 30 years.

Non-Federal Transit (\$1.98 billion)

Non-Federal Transit funds include state and locally generated funds that support transit operations such as general fund investments, fare box revenues, and other various revenue sources.

Of this anticipated \$15.1 billion in funds identified in the PAG 2045 RMAP for the PAG region, approximately \$7.828 billion has already been committed to specific projects and programs including street maintenance and transit operations, leaving \$7.119 billion with no prior commitments. Of this \$7.119 billion, \$4.1 billion is considered 'restricted' to specific purposes (e.g., transit funds being restricted to transit uses), with the remaining \$3.0 billion considered flexible funds.

5

Appendix A:

Appendix A: Freeway Program in the MAG Momentum 2050 - Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP)

Freeway	Segment	Description	Estimated Cost	Type of Project: Preservation, Modernization, and Expansion
Interstate 10	I-10 at Galveston St DHOV	Freeway: TI (DHOV)	\$64,924,000	Expansion
Interstate 10	I-10: Baseline Rd to Elliot Rd Collector-Distributor	Freeway: Other	\$144,708,000	Expansion
Interstate 10	I-10: I-10 Tunnel to I-17 Split	Freeway: GPL (widen)	\$182,000,000	Expansion
Interstate 10	I-10: SR 101L to I-17	Freeway: GPL (widen)	\$50,000,000	Expansion
Interstate 10	I-10: SR 85 to SR 303 (HOV)	Freeway: HOV (new lane)	\$66,660,000	Expansion
Interstate 10	I-17: I-10 Papago (Split) to 19th Ave	Freeway: HOV (new lane)	\$490,830,000	Expansion
Interstate 10	I-17: SR 74 to Anthem Way HOV	Freeway: HOV (new lane)	\$73,530,000	Expansion
Interstate 10	SR 101L (Agua Fria) at 83rd Avenue DHOV	Freeway: TI (DHOV)	\$48,750,000	Expansion
Interstate 10	SR 101L (Agua Fria) at I-17 DHOV	Freeway: TI (DHOV)	\$189,010,000	Expansion
Interstate 10	SR 101L (Agua Fria): I-10 to US 60 Grand Ave	Freeway: GPL (widen)	\$192,400,000	Expansion
Interstate 10	SR 101L (Agua Fria): US 60 Grand Ave to 75th Ave	Freeway: GPL (widen)	\$94,070,000	Expansion
Interstate 10	SR 101L (Price) at SR 202L (Red Mountain) DHOV	Freeway: TI (DHOV)	\$152,140,000	Expansion
Interstate 10	SR 202L (Red Mountain): Gilbert Rd to Higley	Freeway: GPL (widen)	\$82,210,000	Expansion
Interstate 10	SR 202L (Red Mountain): Higley Rd to US-60	Freeway: GPL (widen)	\$131,368,000	Expansion
Interstate 10	SR 202L (Santan) at Hamilton Street DHOV	Freeway: TI (DHOV)	\$45,000,000	Expansion
Interstate 10	SR 202L (Santan): Main St / Apache Tr to Gilbert Road HOV	Freeway: HOV (new lane)	\$85,000,000	Expansion
Interstate 10	SR 202L (Santan): SR 101L to I-10	Freeway: GPL (widen)	\$64,370,000	Expansion
Interstate 10	SR 202L (Santan): Val Vista Rd to US 60	Freeway: GPL (widen)	\$162,350,000	Expansion
Interstate 10	SR 24: SR 202L to Ironwood Drive	Freeway: New	\$148,400,000	Expansion
Interstate 10	SR 30: SR 202L to I-17	Freeway: New	\$2,100,000,000	Expansion
Interstate 10	SR 30: SR 303L to SR 202L	Freeway: New	\$2,129,211,000	Expansion
Interstate 10	SR 30: SR 85 to SR 303L Interim Facility (Option 2)	Freeway: New	\$878,256,000	Expansion
Interstate 10	SR 303L at 96th Ave	Freeway: TI (new)	\$31,000,000	Expansion
Interstate 17	SR 303L at I-17	Freeway: TI (new)	\$221,390,000	Expansion
Interstate 17	SR 303L at Litchfield Road	Freeway: TI (new)	\$31,000,000	Expansion
Interstate 17	SR 303L/I-10 DHOV	Freeway: TI (DHOV)	\$121,980,000	Expansion
Interstate 17	SR 303L: I-10 to Northern Ave HOV	Freeway: HOV (new lane)	\$24,590,000	Expansion
Interstate 17	SR 303L: Lake Pleasant Parkway to I-17	Freeway: New	\$113,135,000	Expansion
Interstate 17	SR 347: I-10 to Riggs Road	Freeway: GPL (widen)	\$90,000,000	Expansion
Interstate 17	SR 87 at McDowell Rd/Country Club Dr	Freeway: TI (new)	\$31,000,000	Expansion

Appendix A: Freeway Program in the MAG Momentum 2050 - Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP)

Freeway	Segment	Description	Estimated Cost	Type of Project: Preservation, Modernization, and Expansion
Interstate 17	US 60 (Grand Ave) at I-17 DHOV	Freeway: TI (DHOV)	\$76,590,000	Expansion
Loop 101 (Agua Fria)	US 60 (Superstition) at SR 202L (Santan) DHOV	Freeway: TI (DHOV)	\$156,030,000	Expansion
Loop 101 (Agua Fria)	US 60 (Superstition): Ellsworth Rd to Meridian Rd (GPL)	Freeway: GPL (widen)	\$40,340,000	Expansion
Loop 101 (Agua Fria)	US 60 (Superstition): Ellsworth Rd to Meridian Rd (HOV)	Freeway: HOV (new lane)	\$22,960,000	Expansion
Loop 101 (Agua Fria)		Freeway Program Implementation	\$279,250,000	Expansion
Loop 101 (Agua Fria)	I-10/I-17 Split DHOV	Freeway: System Interchange	\$169,960,000	Modernization
Loop 101 (Agua Fria)	I-10/I-17 Stack Improvements	Freeway: System Interchange	\$240,000,000	Modernization
Loop 101 (Agua Fria)	I-10/SR 202L/SR 51Mini Stack	Freeway: System Interchange	\$258,000,000	Modernization
Loop 101 (Agua Fria)	SR 101L (Agua Fria) at I-10/91st Avenue Connector	Freeway: TI (improve)	\$65,758,000	Modernization
Loop 101 (Agua Fria)	I-10 at 27th Ave	Freeway: TI (improve)	\$11,000,000	Modernization
Loop 101 (Agua Fria)	I-10 at 35th Ave	Freeway: TI (improve)	\$20,000,000	Modernization
Loop 101 (Agua Fria)	I-10 at 43rd Ave	Freeway: TI (improve)	\$20,000,000	Modernization
Loop 101 (Pima)	I-10 at 51st Ave	Freeway: TI (improve)	\$21,000,000	Modernization
Loop 101 (Price)	I-10 at 67th Ave	Freeway: TI (improve)	\$21,000,000	Modernization
Loop 101 (Price)	I-10 at 75th Ave	Freeway: TI (improve)	\$21,000,000	Modernization
Loop 101 (Price)	I-10 at 83rd Ave	Freeway: TI (improve)	\$21,000,000	Modernization
Loop 202 (Red Mountain)	I-10 at 91st Ave	Freeway: TI (improve)	\$21,000,000	Modernization
Loop 202 (Red Mountain)	I-10 at 99th Ave	Freeway: TI (improve)	\$5,000,000	Modernization
Loop 202 (Red Mountain)	I-10 at Baseline Rd	Freeway: TI (improve)	\$26,090,000	Modernization
Loop 202 (Santan)	I-10 at Chandler Blvd	Freeway: TI (improve)	\$14,000,000	Modernization
Loop 202 (Santan)	I-10 at Jackrabbit Trail	Freeway: TI (improve)	\$33,000,000	Modernization
Loop 202 (Santan)	I-10 at Warner Rd	Freeway: TI (improve)	\$9,970,000	Modernization
Loop 202 (Santan)	I-10 at Wild Horse Blvd	Freeway: TI (improve)	\$25,000,000	Modernization
Loop 202 (Santan)	I-17 at Bell Rd	Freeway: TI (improve)	\$133,730,000	Modernization
SR 24	I-17 at Glendale Ave	Freeway: TI (improve)	\$65,630,000	Modernization
SR 30	I-17 at Peoria Ave	Freeway: TI (improve)	\$39,399,000	Modernization
SR 30	I-17 at Thunderbird Rd	Freeway: TI (improve)	\$103,790,000	Modernization
SR 30	I-17: 19th Avenue to Dunlap	Freeway: Reconstruction	\$1,379,310,000	Modernization
Loop 303	I-17: Dunlap to SR 101L	Freeway: Reconstruction	\$541,090,000	Modernization
Loop 303	SR 101L (Agua Fria) at 59th Avenue	Freeway: TI (improve)	\$42,000,000	Modernization
Loop 303	SR 101L (Agua Fria) at 67th Ave	Freeway: TI (improve)	\$42,000,000	Modernization
Loop 303	SR 101L (Agua Fria) at Bell Rd	Freeway: TI (improve)	\$40,000,000	Modernization
Loop 303	SR 101L (Agua Fria) at Glendale Ave	Freeway: TI (improve)	\$35,000,000	Modernization
Loop 303	SR 101L (Agua Fria) at Peoria Ave	Freeway: TI (improve)	\$40,000,000	Modernization
Loop 303	SR 101L (Agua Fria) at Thunderbird Road	Freeway: TI (improve)	\$35,000,000	Modernization
Loop 303	SR 101L (Pima) at Pima Rd	Freeway: TI (improve)	\$27,900,000	Modernization

Appendix A: Freeway Program in the MAG Momentum 2050 - Regional Strategic Transportation Infrastructure Investment Plan (RSTIIP)

Freeway	Segment	Description	Estimated Cost	Type of Project: Preservation, Modernization, and Expansion
Loop 303	SR 101L (Price) at Frye Road (Northbound Ramp)	Freeway: TI (improve)	\$6,900,000	Modernization
Loop 303	SR 101L: SR 202L to US 60 Superstition Bottleneck Improvements	Freeway: Other	\$311,940,000	Modernization
SR 347	SR 202L (Red Mountain): Priest to SR 101L System Improvements	Freeway: Other	\$300,000,000	Modernization
SR 74	SR 202L (Santan) at Santan Village Parkway	Freeway: TI (improve)	\$25,000,000	Modernization
SR 87	SR 303L at Northern Ave	Freeway: TI (improve)	\$20,000,000	Modernization
US 60 (Grand Ave)	SR 303L at Northern Parkway	Freeway: TI (improve)	\$137,230,000	Modernization
US 60 (Grand Ave)	SR 303L at Olive Ave	Freeway: TI (improve)	\$20,000,000	Modernization
US 60 (Grand Ave)	SR 303L at US 60 Grand Ave (Ultimate Interchange)	Freeway: TI (improve)	\$126,580,000	Modernization
US 60 (Grand Ave)	SR 74 at Lake Pleasant Parkway	Freeway: TI (improve)	\$1,800,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at 103rd Ave	Freeway: TI (improve)	\$51,360,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at 111th Ave	Freeway: TI (improve)	\$26,700,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at 163rd Ave	Freeway: Other Grade Separation	\$34,030,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at 51st Avenue/Bethany Home	Freeway: Other Grade Separation	\$108,560,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at 99th Ave	Freeway: TI (improve)	\$42,770,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at BNSF Ennis Spur Grade Separation	Freeway: Other	\$35,000,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at Del Webb Blvd/107th Ave	Freeway: TI (improve)	\$26,400,000	Modernization
US 60 (Grand Ave)	US 60 (Grand Ave) at Greenway Rd	Freeway: TI (improve)	\$5,000,000	Modernization
US 60 (Superstition)	US 60 (Grand Ave) at Northern Avenue	Freeway: TI (improve)	\$159,530,000	Modernization
US 60 (Superstition)	US 60 (Grand Ave) at SR 101L/91st Avenue	Freeway: System Interchange	\$67,800,000	Modernization
US 60 (Superstition)	US 60 (Grand Ave): SR 303L to I-10 Corridor Optimization	Freeway: Other	\$200,000,000	Modernization
US 60 (Superstition)	US 60 (Superstition) at Mill Ave	Freeway: TI (improve)	\$45,000,000	Modernization
US 60 (Superstition)	US 60 (Superstition): Corridor Multimodal Optimization	Freeway: Other	\$250,000,000	Modernization
Freeway Program		ADOT Local Roadway Turnbacks	\$100,000,000	Modernization
Freeway Program		Freeway Program: Minor and Spot Safety Improvements	\$187,500,000	Modernization
Freeway Program	I-10 Papago Hance Park Tunnel Reconstruction	Freeway: Other	\$195,000,000	Preservation
Freeway Program		Freeway Capital Rehabilitation	\$750,000,000	Preservation

Appendix A: Freeway Program in the MAG Momentum 2050 - Regional Strategic Transportation
Infrastructure Investment Plan (RSTIIP)

Freeway	Segment	Description	Estimated Cost	Type of Project: Preservation, Modernization, and Expansion
Freeway Program		Freeway Litter, Landscape and Sweep	\$437,500,000	Preservation

6

Appendix B

Appendix B: Freeway Program in the PAG 2045 Regional Mobility and Accessibility Plan Update

Funded	Name	Location	Description	Estimated Project Cost	Type of Project: Preservation, Modernization, and Expansion
Yes	6th Ave Traffic Interchange	I-10 / 6th Ave	Widen crossroad and bridge over I-10	\$20,000,000	Expansion
Yes	Ajo Way Phase II	Ajo Way to Irvington Rd	I-19 Improvements between Ajo and Irvington	\$38,000,000	Modernization
Yes	I-10 East #B: Country Club Rd TI	I-10 / Country Club Rd	Add Traffic Interchange & remove Palo Verde Traffic Interchange	\$53,900,000	Modernization
Yes	I-10 East #C: Valencia Rd TI	I-10 / Valencia Rd	Construct Traffic Interchange	\$44,500,000	Expansion
Yes	I-10 East #E: Wilmot Rd TI	I-10 / Wilmot Rd	Reconstruct Traffic Interchange	\$44,568,000	Modernization
Yes	I-10 East #H: Houghton Rd TI Phase 1	I-10 / Houghton Rd	Reconstruct Traffic Interchange	\$45,609,000	Modernization
Yes	I-10 East Phase 3: Alvernon Way to Kolb Rd	Alvernon Way to Kolb Rd	Widen to 10 lanes	\$310,000,000	Expansion
Yes	I-10 East: 6th Ave to Kino Pkwy	6th Ave to Kino Pkwy	Widen to 8-lanes	\$54,400,000	Expansion
Yes	I-10 East: Kino Pkwy TI	I-10 / Kino Pkwy	Reconstruct Traffic Interchange	\$60,000,000	Modernization
Yes	I-10 East: Kolb Rd TI	I-10 / Kolb Rd	Reconstruct Traffic Interchange	\$44,500,000	Modernization
Yes	I-10 East: Park Ave Traffic Interchange	I-10 / Park Ave	New TI at Park Ave and I-10	\$44,000,000	Expansion
Yes	I-10 West: #B - Ruthrauff Rd TI	I-10 / Ruthrauff Rd	Reconstruct traffic interchange	\$127,234,000	Modernization
Yes	I-10 West: Cortaro Rd Traffic Interchange	I-10 / Cortaro Rd	Reconstruct Traffic Interchange with grade separation at railroad tracks	\$90,000,000	Modernization
Yes	I-10 Widening	Kino Pkwy to Alvernon Way	Widening I-10 to 6 lanes (coincides with RMAP projects 490.08 and 587.03)	\$1,000	Expansion
Yes	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	\$114,373,000	Expansion
Yes	I-10, I-19 to Kolb Rd and SR 210, I-10 to Golf Links Rd	I-10, I-19 to Kolb Rd and SR 210, I-10 to Golf Links Rd	DCR/EA	\$6,015,000	Modernization
Yes	I-19: Mainline Phase 3	Valencia Rd to Ajo Way	Widen to 6-lanes (three in each direction)	\$5,000,000	Expansion
Yes	I-19: Phase 4	San Xavier Rd to Valencia Rd	Widen I-19 to six lanes (three in each direction)	\$66,400,000	Expansion
Yes	I-19: Phase 6	I-10 to Valencia Rd	Widen I-19 to eight lanes (four in each direction)	\$92,000,000	Expansion
Yes	I-19: TI #5 @ Irvington Rd	I-19 / Irvington Rd	Reconstruct Traffic Interchange	\$49,800,000	Modernization
Yes	SR 210: Barraza-Aviation Pkwy Extension	I-10 to Palo Verde Rd	Construct new corridor	\$167,600,000	Expansion
Yes	SR 210: Golf Links Rd TI Stage 1	SR 210 / Golf Links Rd / Palo Verde Rd	Reconfigure Traffic Interchange	\$50,000,000	Modernization
Yes	SR 410: Sonoran Corridor	I-19 to I-10 in the vicinity of Rita Rd	New 4-lane freeway	\$600,000,000	Expansion
Yes	SR 86: Project #1	SR 86 / La Cholla Bl Intersection	Intersection Improvement	\$3,700,000	Modernization
Yes	SR 86: Project #2	SR86, La Cholla Bl to Holiday Isle Boulevard	Widen SR86 with intersection modifications	\$10,100,000	Expansion
Yes	SR 86: Project #3	700 feet east of Kinney Rd to Camino de Oeste Rd	Widen SR86 to six lanes (3 in each direction)	\$2,700,000	Expansion
Yes	SR 86: Project #4	Camino de Oeste to La Cholla Bl	Widen SR86 to six lanes (3 in each direction)	\$8,300,000	Expansion
Yes	Tortolita Bl TI	1.3 mi SE of Pinal Airpark TI	Construct Traffic Interchange south of County Line	\$75,000,000	Expansion
No	I-10 East #G: Rita Rd TI	I-10 / Rita Rd	Reconstruct Traffic Interchange	\$50,000,000	Modernization
No	I-10 East: Craycroft Rd TI	I-10 / Craycroft Rd	Reconstruct Traffic Interchange	\$44,568,000	Modernization
No	I-10 West Phase 2: Prince Rd to Marana Rd	Prince Rd to Marana Rd	Widen to 10-lanes	\$108,000,000	Expansion

Appendix B: Freeway Program in the PAG 2045 Regional Mobility and Accessibility Plan Update

Funded	Name	Location	Description	Estimated Project Cost	Type of Project: Preservation, Modernization, and Expansion
No	I-10 West Phase 3: Marana Rd TI to N. County Line	Marana Rd TI to N County Line	Widen to 10-lanes	\$24,000,000	Expansion
No	I-10 West: #H - Moore Rd TI	I-10 / Moore Rd	Construct Traffic Interchange	\$35,045,000	Expansion
No	I-10 West: #I - Marana Rd TI	I-10 / Trico-Marana Rd	Construct Traffic Interchange	\$40,000,000	Expansion
No	I-10 West: #J - Pinal Air Park Rd TI	I-10 / Pinal Air Park Rd	Reconstruct Traffic Interchange	\$15,000,000	Modernization
No	I-19 Mainline Widening #1	Continental Rd to El Toro Rd	Widen to 6-lanes	\$24,000,000	Expansion
No	I-19 Mainline Widening #2	El Toro Rd to Valencia Rd	Widen to 6-lanes	\$56,000,000	Expansion
No	I-19: TI #2 @ Pima Mine Rd	I-19 / Pima Mine Rd	Reconstruct Traffic Interchange	\$50,000,000	Modernization
No	I-19: TI #3 @ San Xavier Rd	I-19 / San Xavier Rd	Reconstruct Traffic Interchange	\$30,000,000	Modernization
No	I-19: TI #4 @ Drexel Rd	I-19 / Drexel Rd	Construct Traffic Interchange and bridge over Santa Cruz	\$19,050,000	Expansion
No	Regional Component of Tucson/Nogales Passenger Rail	Southern border of Pima County to Downtown Tucson	Construct rail transit system toward Nogales	\$604,188,000	Expansion
No	Regional Component of Tucson/Phoenix Passenger Rail	TIA to northern Marana boundary	Construct passenger rail transit system toward Phoenix	\$693,988,000	Expansion
No	Sandario Loop Bypass Project	I-10 to I-19	Limited access bypass	\$2,369,650,000	Expansion
No	SR 77 #1: Miracle Mile	I-10 to Oracle Rd	Widen to 6-lane roadway	\$24,035,000	Expansion
No	SR 77 #2: Oracle Rd	Rudasill Rd to Ina Rd	Widen to 8-lane roadway	\$22,104,000	Expansion
No	SR 77 #3: Oracle Rd	Ina Rd to Magee Rd	Widen to 8-lane roadway	\$15,696,000	Expansion
No	SR 77: Oracle Rd Parkway Project	Miracle Mile to County Line	Construct grade-separated intersections along corridor	\$115,000,000	Modernization