

# Ladders of Opportunity

## ACCOMPLISHMENTS REPORT



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SPRING 2017



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## Accomplishments Report

### Introduction

Pima Association of Governments (PAG), the metropolitan planning organization (MPO) for the Tucson metropolitan area, prepared this report to outline regional accomplishments that are consistent with the U.S. Department of Transportation's Ladders of Opportunities emphasis areas. With a planning area that encompasses the entirety of Pima County, the PAG region includes the cities of Tucson and South Tucson; the towns of Marana, Sahuarita and Oro Valley; unincorporated Pima County; and reservation lands of the Pascua Yaqui Tribe and the Tohono O'odham Nation. In total, approximately 1 million people live in the metropolitan region. Over 84 percent reside in the greater Tucson urbanized area, which covers 350 square miles in eastern Pima County.

The Tucson region has long been a relatively low-wage community, with the typical worker earning about 85 percent of the U.S. average.<sup>1</sup> This is reflected in the regional median household income, which at \$46,000 is 14.5 percent below the national median and 7.7 percent lower than the rest of Arizona (Figure 2.5).<sup>2</sup> A high percentage of residents live in poverty. In 2015, it was estimated that nearly 20 percent of all people in Pima County had incomes below the poverty level and 15 percent of households received Food Stamp/Supplemental Nutrition Assistance Program, or SNAP, benefits. Nationally, the poverty rate is closer to 16 percent for individuals, with 13 percent of households receiving SNAP benefits.<sup>3</sup>

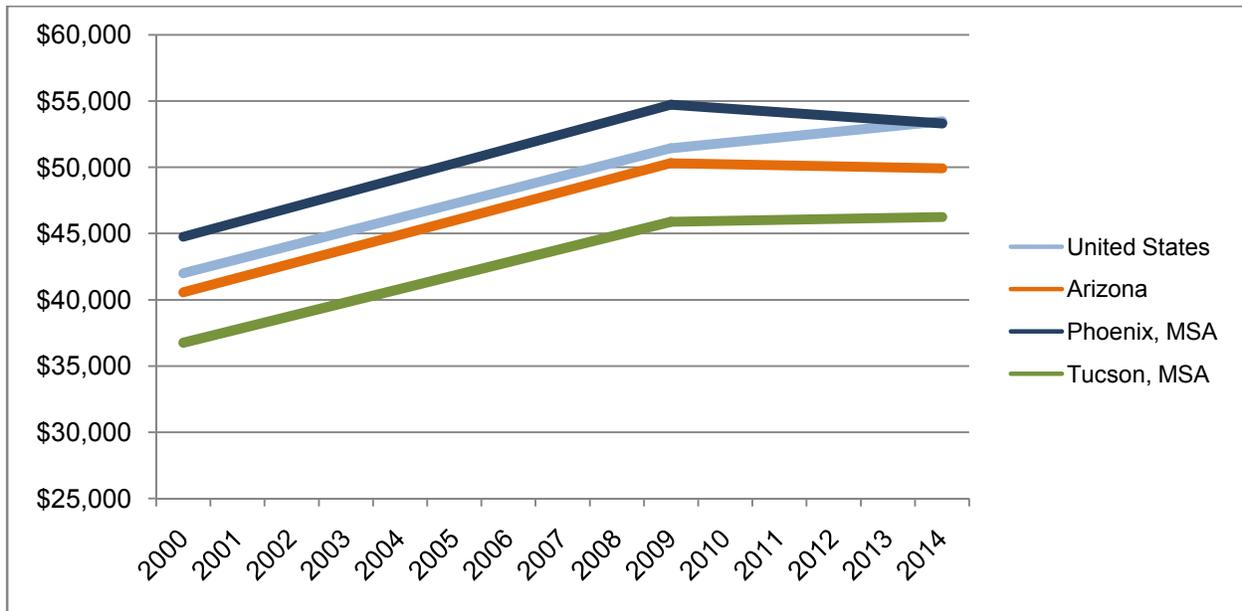
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<sup>1</sup> Sun Corridor Inc., 2014 Economic Blueprint Update

<sup>2</sup> <http://mapazdashboard.arizona.edu/economy/median-household-income>

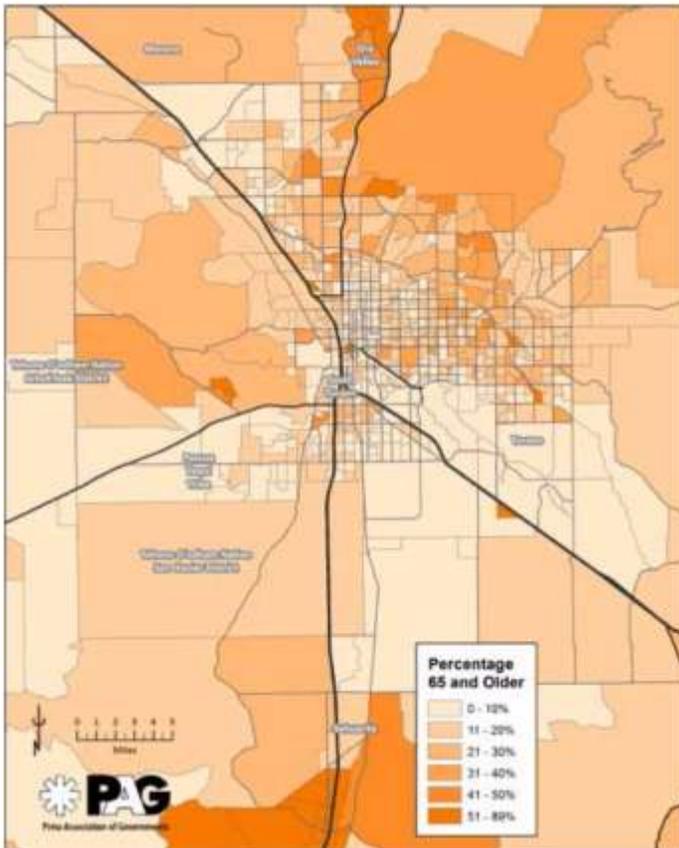
<sup>3</sup> U.S. Census Bureau, American Community Survey, 2011-2015 American Community Survey 5-year estimates, table DP03; generated using American Factfinder

Figure 1. Median household income by selected geography, 2000-2014



The Tucson metro is on the front end of the so-called “graying of America,” or the aging of America’s population. The median age in the Tucson metro region is 38.0, older than both Arizona (37.4) and the United States (37.6) overall.

Figure 2 Population 65 and older, eastern Pima County



Fully 17.1 percent of residents in Pima County are now 65 years of age or older, a number that is expected to grow to over 23 percent by 2030. As the population continues to age and people are able to live longer, there will likely be an increase in the number of people with ambulatory challenges, emphasizing the importance of ensuring that the region’s facilities and public spaces are accessible to all users.

The high percentage of seniors and low-income families and individuals in the PAG region has serious implications for transportation decision making. In order to improve access to essential services and ensure transportation challenges are not a barrier to success for Tucson’s residents, PAG has continued to pursue analytical methods, operational and

infrastructural solutions, and safety activities that improve opportunities in Pima County.

This report concludes that PAG has developed analytical methods and is committed to delivering transportation solutions to close connectivity gaps to essential services to meet the intent of the Ladders of Opportunity initiative.

## Evaluating compliance with Americans with Disabilities Act (ADA)

### **ADA Sidewalk Inventory Study Report (2012)**

Identifying gaps in the existing sidewalk network is crucial to ensuring that the sidewalk network in the Tucson region meets the needs of all citizens. Filling in the gaps is the first step in making the network accessible for all users, especially for persons with disabilities. To that end, PAG partnered with the City of Tucson in 2010/2011 to conduct an inventory of roadsides for pedestrian accessibility. The inventory focused specifically on the major roadway network, consisting of approximately 2,435 directional miles of arterials and collectors, as identified in Pima County's Major Streets and Scenic Routes Plan and the City of Tucson's Major Streets & Routes Plan. The roadway network was inventoried for sidewalks and accessible pedestrian routes regardless of any existing infrastructure. Sidewalks were inventoried between major street intersection points, on both sides of the street. The inventory was conducted using a mix of aerial photography, windshield surveys and field verification.

[Image 1. Example of roadway lacking pedestrian infrastructure](#)



The inventory revealed that, of roadsides within the Tucson metro area, roughly two-thirds of segments had incomplete or inaccessible sidewalks (representing about 1,200 miles).

The 2012 inventory report established the background for the more detailed City of Tucson Americans with Disabilities Act Transition Plan as well the PAG Regional Pedestrian Plan.

### **City of Tucson ADA Transition Plan Development Support (2016)**

PAG has assisted the City of Tucson in its required development of a comprehensive ADA Inventory and Transition Plan for infrastructure within City-owned rights-of-way. This infrastructure includes sidewalks, pedestrian paths, curb ramps, street crossings, driveway crossings, crosswalks, median crossings, public transit stops and pedestrian-activated signal systems. PAG staff participated in the creation of the Request for Proposals for a contractor to lead the plan and, more specifically, helped identify new technologies that were included in the scope of work to make the collection and analysis of infrastructure data more accurate, useful and economical. In addition, PAG staff served on the Technical Advisory Committee, helping to refine methodologies and improve data output delivery and conclusions for the final plan.

## Analytical Methods

### **Regional Pedestrian Plan (2014)**

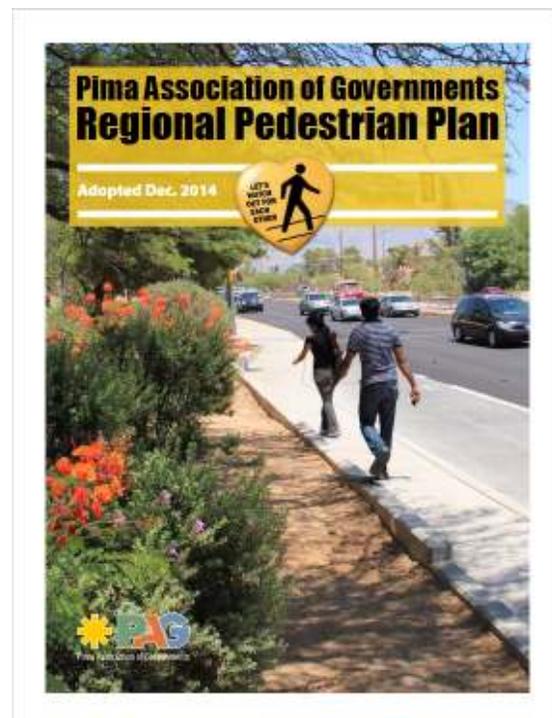
In December 2014, PAG completed and approved the Regional Pedestrian Plan. The primary purpose of the plan was to prioritize gaps in the pedestrian network discovered through the ADA Sidewalk Inventory Study Report using a quantitative analytical method. To do so, the Pedestrian Plan took the region's base conditions and applied a weighting system as a means of prioritizing locations for improvement. Given the extensive needs in the PAG region, this provided a more actionable approach for addressing pedestrian issues.

PAG employed a two-step approach to identify locations of high pedestrian need. In the first step, PAG identified areas of high potential

pedestrian demand using factors known to determine the level of pedestrian activity. These factors included:

- 1) the location of major pedestrian generators — such as schools, retail and bus stops
- 2) current walking and transit to work rates at the census block group level
- 3) population, employment, and intersection density
- 4) concentrations of traditionally underserved populations – this included high concentrations of seniors, youth, persons with disabilities, low-income households, households without access to an automobile, etc.

Image 2. PAG Regional Pedestrian Plan



A score was applied to each factor, and the results were summed up for each geography within the Tucson metropolitan region. The result was a heat map of high potential pedestrian demand areas.

In the second step, PAG overlaid base sidewalk conditions on top of the pedestrian demand map and applied a score to various factors relating to the existing pedestrian conditions. These factors included missing or inaccessible sidewalks, history of pedestrian-involved crashes, traffic volumes and speed, and others.

The final result was a scored and ranked list of pedestrian needs along major roadways which emphasized safety, ADA access, and filling gaps in high demand areas and traditionally underserved parts of the community.

## Title VI and Environmental Justice Analyses in PAG’s planning efforts (Ongoing)

PAG’s long-range transportation plan, known as the 2045 Regional Mobility and Accessibility Plan (RMAP), and short-range Transportation Improvement Program (TIP), both include an analysis that assesses the relative distribution of costs and benefits of transportation projects upon various segments of the community.

The analysis starts by identifying traffic analysis zones (TAZs) in which federally protected population classes reside in greater concentrations than the total regional percentage of that population group. PAG then uses sophisticated travel modeling and GIS mapping software packages to determine the average travel times for all populations compared to those of protected classes residing in concentrated TAZs. Additionally, maps are created to review whether transportation improvements are fairly distributed throughout the region. The analysis is conducted both for single occupancy vehicle trips and for transit.

**Table 1. Title VI Travel Time Analysis conducted for the 2045 RMAP**

Group	Travel Period	Average Travel Time 2015 (minutes/vehicle)	Average Travel Time 2045 No Build (minutes/vehicle)	Average Travel Time 2045 with projects (minutes/vehicle)	Comparison with and without RMAP projects
All	Peak	14.4	16.2	15.2	-0.9
	Off-Peak	12.4	13.2	12.8	-0.3
Black or African American	Peak	12.6	14.8	13.9	-0.9
	Off-Peak	10.6	11.7	11.4	-0.3
Asian	Peak	12.5	14.6	13.7	-0.9
	Off-Peak	10.5	11.7	11.4	-0.4
Persons with Disabilities	Peak	13.6	15.3	14.5	-0.8
	Off-Peak	11.5	12.2	12.0	-0.2
65 Years and Over	Peak	13.0	14.7	13.9	-0.8
	Off-Peak	11.1	12.0	11.7	-0.3
Hispanic or Latino	Peak	14.0	15.6	14.9	-0.7
	Off-Peak	11.9	12.8	12.5	-0.3
Low Income	Peak	12.2	13.5	12.9	-0.6
	Off-Peak	10.4	10.9	10.8	-0.2
American Indian	Peak	13.0	14.6	13.9	-0.6
	Off-Peak	11.1	11.9	11.7	-0.2

## Regional Mobility and Accessibility Plan – Accessibility Index (2016)

In addition to conducting a review of travel time impacts on protected populations, the 2045 RMAP also incorporated, for the first time, a transportation accessibility analysis in decision making.

The RMAP looked at accessibility in two ways. PAG first developed an accessibility index to use as a factor in comparing the travel impacts of various future land use scenarios and alternative transportation investment strategies. The Accessibility Index is a way of quantifying, for the purpose of comparison, how easily residents can travel to destinations, such as employment,

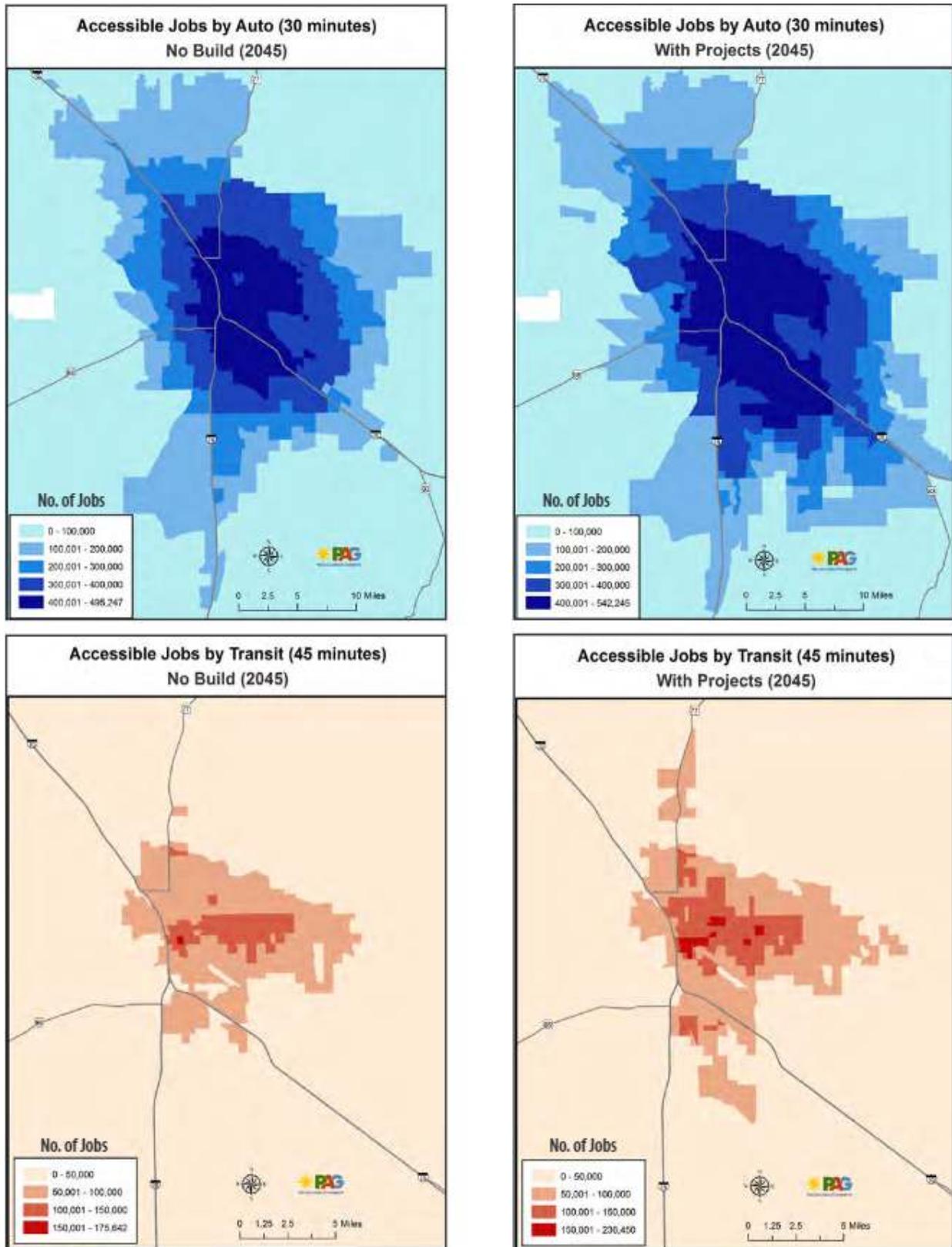
shopping and services. The higher the Accessibility Index value (see Table 2), the more destinations a resident can reach in a shorter amount of time by both automobile and by transit.

**Table 2. Example of the Accessibility Index being used to compare scenarios in the 2045 RMAP**

<b>Performance Measure</b>	<b>Current</b>	<b>2045 RMAP Scenario 1: Mostly Suburban</b>	<b>2045 RMAP Scenario 2: Mixed Urban and Suburban</b>	<b>2045 RMAP Scenario 3: Mostly Urban</b>
Average Daily Vehicle Miles Traveled per Capita	23.37	21.37	21.09	20.69
Average Daily Vehicle Hours/Minutes Traveled per Capita	35:42	35:12	35:32	35:52
Bike, Pedestrian, and Transit Mode Share	16.4%	16.2%	16.7%	16.7%
Percent of VMT Traveled in Heavy or Severe Congestion	1.25%	3.01%	4.06%	4.86%
Annual Transit Passenger Trips	19.7 million	20.7 million	22.6 million	27.8 million
Accessibility Index*	57,900	49,300	55,900	71,200

PAG next employed accessibility in the RMAP by measuring job access by automobile and transit. PAG used its travel demand model to create heat maps (Figure 3) comparing the number of jobs that could be reached within 30 minutes by automobile and 45 minutes by transit. The comparison enabled planners and stakeholders to evaluate the effectiveness of planned transportation investments in improving job access for the entire region.

Figure 3. Job access heat maps from the 2045 RMAP



## **Sun Tran On Board Survey (2016)**

In 2016, Sun Tran, in partnership with PAG, completed an on-board survey of the Sun Tran, Sun Express, Sun Link and Sun Shuttle transit systems. The purpose of this survey was to gather updated travel behavior data from transit users to be used in future transit system optimization planning. The survey also serves to meet the Title VI Civil Rights requirements as outlined by the Federal Transit Administration (FTA). Some important findings from the analysis of the average bus/streetcar riders are the following: (includes combined findings from Sun Tran, Sun Shuttle and Sun Link)

- Just over half (53.02%) of riders do not have a working vehicle in their household.
- Sixty nine percent of riders (69.38%) do not have a vehicle they could have used on their one-way trip.
- Forty seven percent (46.78%) of riders indicated that they do not have a valid driver's license.
- The majority, at 77.65%, of riders make less than \$35,000 per year for their overall household income.

The findings from the on-board survey demonstrate the important role transit plays as a public utility empowering vulnerable populations with flexible and functional transportation options.

## **High Capacity Transit Plan (2017)**

PAG is currently in the process of updating its 2009 High Capacity Transit System Plan. Once complete, the new High Capacity Transit Implementation Plan (HCTIP) will provide a road map for the development of enhanced transit service within major regional travel corridors.

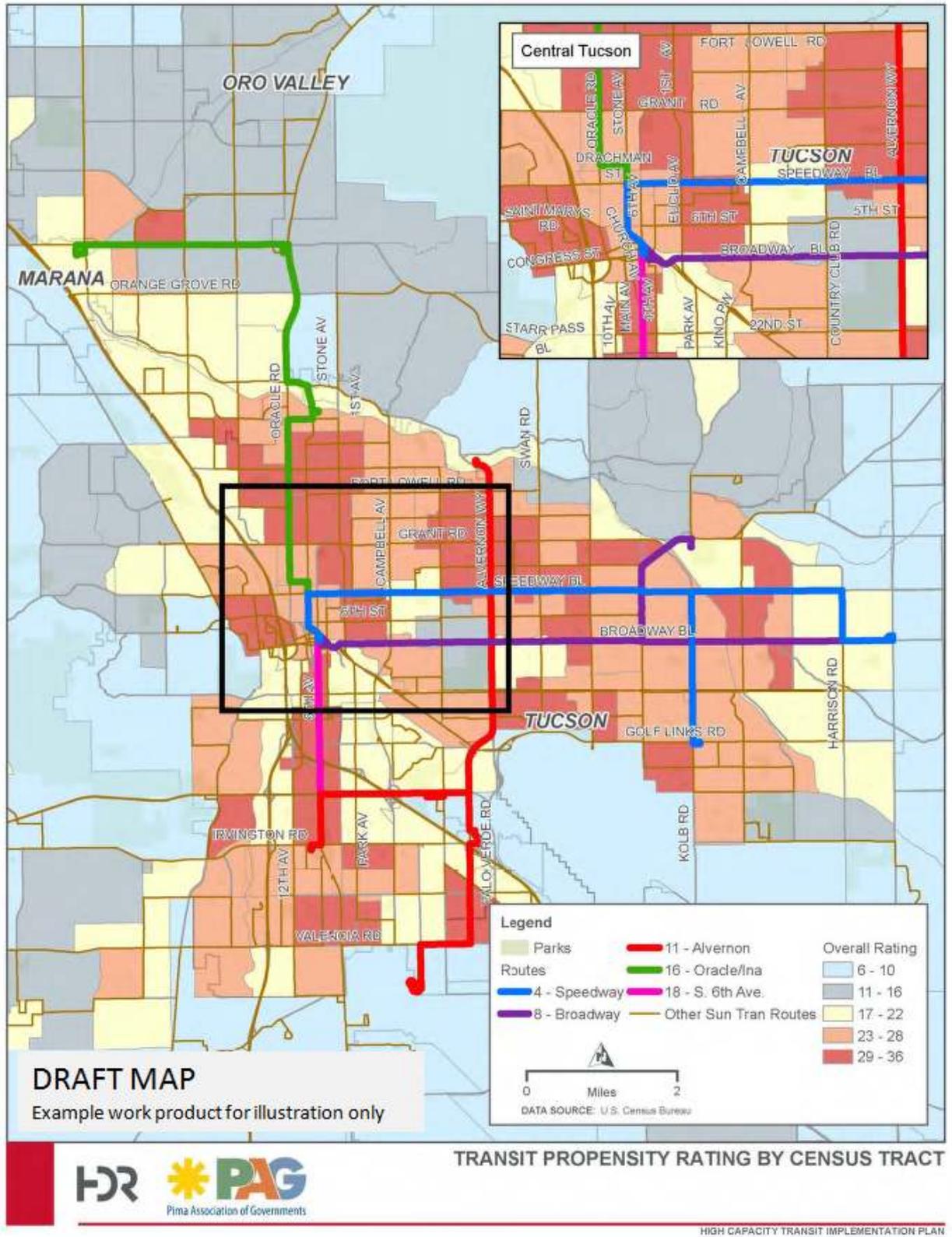
Measuring transit propensity, or the likelihood of strong transit ridership for a given route, begins with an understanding of the geographic location of potential riders within socioeconomic and demographic categories likely to use transit. These groups have traditionally been identified through on-board transit studies or industry research.

One method used in the current HCTIP development has been to overlay the socioeconomic and demographic categories using a GIS composite analysis for census tracts in Pima County. This analysis is a good indicator of transit propensity for potential HCT corridors.

For this effort, the following categories were rated using breakpoints for each category:

- Population Density
- Employment Density
- Disability Density
- Minority Population Density
- Youth Population Density
- Elderly Population Density
- Population Below Poverty Density
- Housing Units Density

Figure 4. Composite Map Showing Likely Transit Propensity



## **Transit Visioning Workshop (2015)**

PAG hosted several transit visioning workshops in 2015 for participants to discuss transit priorities to guide regional planning and future investments, provide input to guide the transit vision for the region and inform the development of PAG's 2045 Regional Mobility and Accessibility Plan. The workshops engaged stakeholders to explore the goals of transit service coverage and frequency. The major objective of this workshop was to collect input from people representing a broad array of organizations and constituencies on their visions for the future of transit in Tucson.

The Regional Transit Visioning Project facilitated a focused discussion about the Tucson region's transit needs and choices. The outcomes included:

- A prioritized list of future Frequent Transit Network improvements
- A set of potential study corridors for future High Capacity Transit investment
- Several study areas for future coverage expansion, where new service might be needed depending upon future development.

During the workshop, the stakeholders expressed a strong sense that transit should focus on ridership, and that it should do that by investing in a rich Frequent Network, providing a high level of service to the parts of Tucson where density and urban form suggest that it can be most competitive with other modes of transportation. Where it exists, frequent service is able to offer a high degree of freedom of movement, and thus access to opportunity, without requiring complete reliance on a personal automobile.

The existing Sun Tran network proves that in Tucson, frequent service to supportive land uses can generate high transit ridership, as people make the choice to use a travel option that is convenient and well-suited to their everyday life. A more extensive frequent network will help to grow ridership by making transit more useful and liberating, especially in areas where the pattern of development is favorable to transit's success. The benefits to the community are greater mobility with less congestion and emissions, increased access to jobs and education, and ultimately the potential to grow the city in a more sustainable form in which every resident, business or institution, at any price point, has the option to reduce their dependence on cars by choosing to locate on the Frequent Transit Network.

## **Infrastructure and operational solutions that provide the public with adequate access to essential services**

### **Regional Transportation Authority Plan (2007-present)**

Pima County voters approved the 20-year, \$2.1 billion Regional Transportation Authority (RTA) plan in May 2006. The plan is funded by a half-cent excise tax. The RTA is managed by Pima Association of Governments through a memorandum of understanding. The RTA completed more than 700 multimodal projects through the end of the 2015-16 fiscal year, the 10th year of the RTA plan. Since its inception, the RTA has been a major funding source in the region for

improving workforce access, modernizing corridors, and filling gaps in the regional bike and pedestrian networks.

To date, over 26 roadway corridor projects have been completed using RTA funding. Not only do these projects increase access by adding capacity for motor vehicles, they are also upgrading corridors by adding bike facilities and fully ADA-compliant sidewalks or shoulders. Typically, upwards of 25 percent of total roadway project cost is used to improve bike and pedestrian conditions and to add other enhancements.

The RTA also has assisted in funding over 220 bike and pedestrian specific projects. RTA funded projects have included filling sidewalk gaps, installing 58 HAWK pedestrian signals and other safety improvements at crosswalks, and constructing shared use paths, among other things.

Between corridor projects and stand alone bike and pedestrian improvements, over 160 miles of sidewalks and 274 miles of bikeways have been built through the RTA. This funding has been critical in expanding the bike network and in enabling the region to address the inherited shortage of safe, comfortable and accessible pedestrian walkways.

### **Sun Tran Night and Weekend Service Expansion (2007 – Present)**

In 2007 and 2008, the first RTA transit improvements were initiated, expanding transit options for Sun Tran customers with the introduction of late night and weekend services as well as additional peak-hour buses for crowded routes. The routes chosen for enhancement are heavily traveled routes serving corridors that are expected to grow significantly in population and employment.

These enhancements to the Sun Tran system were a response to the expansion of service industry employment, which does not follow the traditional weekday schedule. The improvements also help meet the general basic needs of the transit dependent by strengthening the existing core transit network as service offered later in the day can boost ridership on earlier trips by ensuring a guaranteed return trip to origin.

**Table 3. Sun Tran Evening and Weekend Enhancements**

Route/Service	Route Name	2007				2008
		FEB	MAY	AUG	NOV	AUG
1	Glenn/Swan		Weekday Evening		Weekend	
2	Cherrybell/Country Club			Weekday Evening		Weekend
3	6th St./Wilmot	Weekday Evening		Weekend		
4	Speedway	Weekday Evening		Weekend		
6	S. Park Ave./N 1st Ave.	Weekday Evening		Weekend		
7	22nd St.	Weekday Evening		Weekend		
8	Broadway/6th Ave.	Weekday Evening		Weekend		
9	Grant	Weekday Evening		Weekend		
10	Flowing Wells		Weekday Evening		Weekend	
11	Alvernon	Weekday Evening		Weekend		
15	Campbell					
16	12th Ave./Oracle	Weekday Evening			Weekend	
17	Country Club/29th St.		Weekday Evening		Weekend	
19	Stone		Weekday Evening		Weekend	
20	W. Grant/Ironwood Hills					Weekend
21	W. Congress/Silverbell			Weekday Evening		Weekend
22	Grande		Weekday Evening		Weekend	
23	Mission			Weekday Evening		Weekend
26	Benson Highway			Weekday Evening		Weekend
27	Midvale Park			Weekday Evening		Weekend
29	Valencia			Weekday Evening		Weekend
34	Craycroft		Weekday Evening		Weekend	
37	Pantano					Weekend

**Sun Shuttle (2007-present)**

Begun in 2009 as part of the RTA Plan Transit Element, the Sun Shuttle Neighborhood Circulator System consists of 10 fixed-route transit lines and two general public dial-a-ride areas. The introduction of the Sun Shuttle system expanded access to the larger Sun Tran transit network by extending fixed-route coverage to outlying jurisdictions. Sun Shuttle extends opportunities for suburban residents to access work in central Tucson, and also allows Tucson residents to access work opportunities in suburban areas. In addition to work opportunities, Sun Shuttle also functions as a transportation safety net to rural communities surrounding the Tucson area providing a vital life line for many customers needing urban services. See Figure 5 for a map of the Sun Shuttle fixed-route system.

**Optional paratransit service area (2007-present)**

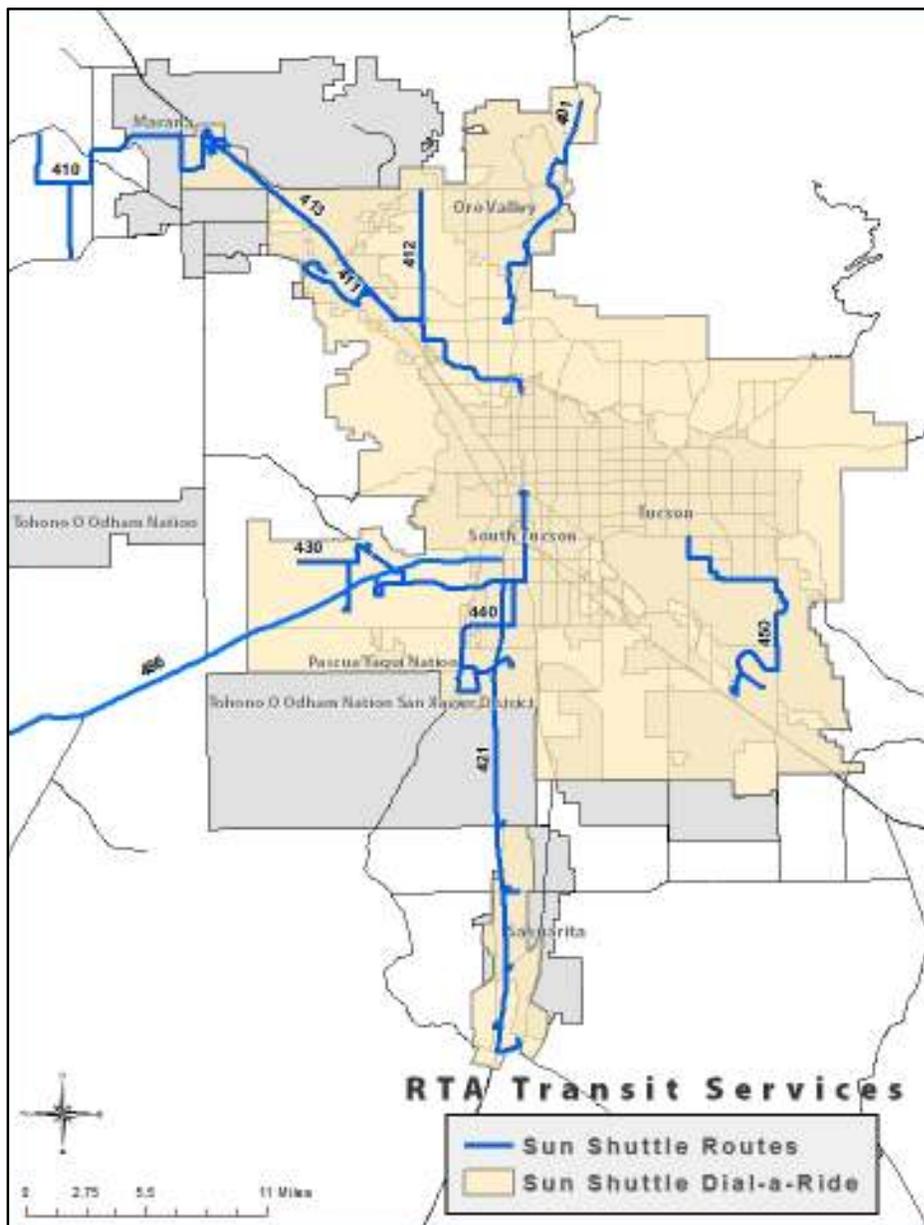
The Americans with Disabilities Act (ADA) requires any public entity operating fixed-route transit service to also provide transportation services to individuals who cannot ride a fixed-route bus due to a disability. This requirement, called ADA Complementary Paratransit service, must be offered within a 3/4 mile area around all fixed-route bus lines. Service offered beyond the 3/4 mile required area is called Optional ADA Paratransit Service.

In 2011, the RTA assumed paratransit services in the former Pima County Special Needs Transit service area, expanded the service area by 220 square miles, and reintroduced the service as RTA Special Needs Transit. This service was rebranded as Sun Shuttle Dial-a-Ride in 2014. By assuming former Pima County service and expanding further, the RTA has

extended the geographic area of regional Optional ADA Paratransit Service to cover nearly the entire Tucson urbanized area.

Forty-three percent of customers who are eligible to use Sun Shuttle Dial-a-Ride ADA services also qualify for low-income assistance and 60 percent are over 65 years old. Sun Shuttle Dial-a-Ride's expanded Optional ADA service provides these Tucson area residents transportation access to work, medical and shopping trips that might otherwise be out of reach. As demographic trends continue to indicate an aging population, the RTA anticipates demand for these services will continue to grow. See Figure 5 for a map of the Sun Shuttle dial-a-ride areas.

Figure 5. Sun Shuttle Fixed-route system and Dial-a-Ride Areas



## **Travel Reduction Program (Ongoing)**

Sun Rideshare is a commuter services program of PAG that is available free of charge to all Pima County residents. The objective of this program is to help people with employment and those seeking employment find affordable, reliable, accessible and convenient transportation to their place of work. Sun Rideshare offers an online interactive matching system where commuters can find a carpool partner, a convenient transit route, an open seat on a vanpool, or a nearby park-and-ride lot.

Another free service available to Sun Rideshare registrants is the Guaranteed Ride Home (GRH) program, where free taxi service is provided when a worker has an emergency while at work. GRH allows workers to feel comfortable using an alternative mode of transportation and removes the fear of being stranded at work.

The Sun Rideshare Vanpool Program fills the transportation gap for commuters without access to transit. It is also a cost effective means of commuting when your commute distance exceeds 15 miles one way. Commuters are able to lease various sized vans for the purpose of commuting to work. PAG provides a sizable subsidy to reduce the monthly cost and make this an affordable means of commuting.

Many people who commute from Tucson to Sells, Ariz., each day to work for the Tohono O'odham Nation take advantage of the Sun Rideshare vanpool program. There are eight vans traveling 120 miles round trip on a daily basis. Each van pool receives the full PAG subsidy of \$500 per month. One of the spa/resorts located on the far north side, recently started a vanpool for their housekeeping staff. With the \$500 per month subsidy, Miraval employees now have a very affordable and reliable transportation option for their commute trip.

PAG's Travel Reduction Program brings all these services directly to the major employers in Pima County. PAG works with the major employers and their work site coordinators to educate their employees about the available transportation options, Sun Rideshare services, and the benefits and cost savings of alternative transportation. PAG also tries to get employers to provide transportation subsidies and tax savings that reduce the cost of transit and vanpooling.

## **Updating the Section 5310 Coordinated Human Service Public Transportation Plans**

### **Mobility Management activities (Ongoing)**

PAG provides local planning support for the FTA Section 5310 program for both urban Tucson and rural Pima County. PAG's primary responsibilities of this program include:

- Completing annual updates of the *Public Transit-Human Services Coordinated Transportation Plan*

PAG's regional Social Services Committee provides oversight to this process, along with partners in the transportation community from both the public and private sectors. Human service agencies are actively involved in identifying regional needs and developing strategies to

meet these needs through participation in meetings, focus groups, surveys and engaging their clients in a dialogue about how transportation options contribute to their ability to connect to the places and people they most care about.

- Scheduling and running quarterly coordination meetings of 5310 providers
- Conducting a competitive process to make funding decisions for both urban and rural 5310 projects for Pima County
- Providing technical support to 5310 sub-recipients
- Working with ADOT to ensure program compliance
- Leading efforts to enhance coordination among 5310 providers
- Developing a Mobility Management program for Pima County

FTA Section 5310 provides capital and operational transit funding for seniors and individuals with disabilities. The purpose of the Section 5310 program is to improve mobility for seniors and individuals with disabilities by removing barriers to transportation service and expanding transportation mobility options. The program supports transportation services planned, designed, and carried out to meet the special transportation needs of seniors (65+) and individuals with disabilities in all areas – large urbanized (over 200,000), small urbanized (50,000-200,000), and rural (under 50,000).

PAG's objective in undertaking the development of a regional mobility management program is to maximize the effective use of 5310 funding. Specific goals for the program include:

- Supporting operational effectiveness of non-profit organizations in human-services transit delivery
- Assisting with improving program compliance among participant agencies
- Identifying barriers and opportunities in improving service coordination
- Expanding technical capacity of program participants
- Improving regional understanding of different human-services transit models
- Creating a needs assessment and short-range plan for establishing an effective Mobility Management program in the PAG region

In 2015, PAG hired Nelson Nygaard Consulting Associates to assist with the development of PAG's Mobility Management program. Nelson Nygaard Consulting Associates conducted site visits with Section 5310 program grant recipients as well as other transportation providers in the Tucson area. The consultant collected and analyzed information about specialized transportation services in the county to evaluate the feasibility of several mobility management strategies. In 2016, the consultant delivered the final drafts of three technical memos which included 1) Summary of existing services and key findings 2) Summary of Capacity Building Training 3) Mobility Management Plan with final mobility management strategy recommendations.

## Assessing the safety and condition of pedestrian and bicycle facilities

### **Road Safety Assessment Program (Ongoing)**

In 2011, PAG began implementation of a regional Road Safety Assessment (RSA) Program, largely modeled after the ADOT RSA Program in operation since 2006. RSAs are formal examinations of particular intersections or roadway corridors done from a safety perspective, and can be performed on existing facilities or on facilities that are still in design. Starting in 2015, PAG undertook RSAs that examined design plans for roadways not yet built. These 'Design RSAs' help reduce costs by identifying safety issues and correcting them before projects are built.

All RSAs are performed by an independent, multi-disciplinary team and are led by a person trained in performing RSAs. The RSA team considers the safety of all roadway users, estimates and reports on potential road safety issues, and identifies opportunities for safety improvements. Benefits of a RSA include reduced crash frequency, severity and increased awareness of safe design practices. The goal of the PAG RSA Program is to make available RSAs at intersections and roadways for all PAG-member jurisdictions.

### **Regional Transportation Alternatives Grants (Ongoing)**

With its regional partners, PAG refers to the federally funded Transportation Alternatives Program (TAP) as the Regional Transportation Alternatives Grant (RTAG) to emphasize the regional scope and competitive nature of the program. The process of developing a prioritized list for programming recommendations supports multiple Ladders of Opportunity elements. A set of selection criteria is used by regional representatives and citizens to help develop the prioritized list of RTAG projects. Merit scores are added to projects that improve affordable connections to employment, education, healthcare and other essential services creating the potential to revitalize neighborhoods. Moreover, projects that demonstrate a significant potential to reduce bicycle and safety concerns receive additional points. Resolving an identified network gap also receives additional prioritization points.

These are assessed using a multi-tier process initiated with the project application that identifies improved access to significant regional destinations, such as employment and healthcare centers. This is followed by a performance report of existing conditions including a screening of all crashes in the project vicinity and bicycle and pedestrian crashes separately. Sponsor agencies are then asked to provide a short presentation where they clarify how the proposed project helps improve affordable connections, safety and network gaps in addition to other criteria areas.

### **Strategic Transportation Safety Plan (2016)**

In May of 2016, PAG completed the first Strategic Transportation Safety Plan (STSP) for the Tucson metropolitan region. The plan establishes regional goals, objectives, strategies, countermeasures and safety performance measures for transportation safety in the PAG region, consistent with those set forth by the Arizona State Highway Safety Plan (SHSP). The purpose

of the safety plan is to reduce the risk of death and serious injury to all transportation users in the PAG region.

Crash rates for contributing factors were calculated and compared to the statewide crash rates using the total number of crashes. Five contributing factors had higher crash rates regionally compared to statewide: Intersections, Young Drivers, Older Drivers, Pedestrians, and Bicycles. Crash rates for each contributing factor for the region also were analyzed separately for non-state and state facilities.

The PAG STSP serves as a tool for recommending projects for inclusion in PAG’s Regional Mobility and Accessibility Plan and discusses project implementation strategies and tools. The project benefitted greatly from oversight and guidance provided by the PAG Transportation Systems Subcommittee along with participation from law enforcement, transit, bicycle and pedestrian safety specialists among other key stakeholders. The group was challenged to build a transportation safety culture that includes a broad range of experts and user groups across the four E’s of safety. Continuation of this group and growth of a transportation safety culture in the implementation phase of this Plan will be essential to achieving lasting impacts in transportation safety.

Table 4. Crashes by contributing factor

Contributing Factor	Total Crashes		Crashes per 100 MVMT		Percentage of Total	
	PAG	State	PAG	State	PAG	State
Intersections	1,286	9,161	3.08	3.04	41%	41%
Young Drivers	1,101	7,319	2.64	2.43	35%	33%
Speeding and Aggressive Driving	851	7,291	2.04	2.42	27%	33%
Occupant Protection	699	6,075	1.68	2.02	22%	27%
Impaired Driving	673	4,852	1.61	1.61	21%	22%
Older Drivers	631	3,873	1.51	1.29	20%	17%
Road/Lane Departure	544	7,979	1.30	2.65	17%	36%
Motorcycles	542	4,298	1.30	1.43	17%	19%
Pedestrian	397	2,376	0.95	0.79	13%	11%
Distracted Driving	316	4,311	0.76	1.43	10%	19%
Bicycles	210	1,189	0.50	0.40	7%	5%
Heavy Vehicles	142	2,276	0.34	0.76	5%	10%
Weather - All	85	706	0.20	0.23	3%	3%
Weather - Precipitation	81	618	0.14	0.21	3%	3%
Work Zone	26	296	0.06	0.10	1%	1%
Animals	7	99	0.02	0.03	0%	0%
Weather - Dust/Wind	4	88	0.01	0.03	0%	0%
<b>Total</b>	<b>3,138</b>	<b>22,289</b>	<b>7.52</b>	<b>7.41</b>	-	-
Urban Areas	2,605	16,434	6.27	5.46	83%	74%
Rural Areas	533	5,855	1.28	1.95	17%	26%
Tribal Lands	113	965	0.27	0.32	4%	4%

## PAG Bike Program (Ongoing)

The Tucson/Eastern Pima County Region is designated a Gold Level Bicycle Friendly Community by the League of American Bicyclists. The award reflects the exceptional level of cooperation among the nine regional jurisdictions, and acknowledges the depth and breadth of programs, policies, facilities and outreach that make the Tucson-Pima Eastern Region the premier bicycle friendly region in the country.

PAG has long been a partner to the region's jurisdictions, public safety departments and community organizations in supporting educational, encouragement, engineering, enforcement and evaluatory efforts that make bicycling a safer and more enjoyable transportation option for residents and visitors alike. These efforts include, but are not limited to:

- Regularly participating in open streets events, such as Cycloviva Tucson, that encourage greater bike and pedestrian travel
- Organizing the annual PAG regional volunteer bike and pedestrian count
- Hosting four annual Light the Night events, where bike lights and other safety equipment are distributed free of charge
- Submitting applications to the League of American Bicyclists for Gold Level designation
- Developing the Tucson Regional Plan for Bicycling
- Creating and updating the Tucson Bikeways pocket map and phone app showing enhanced bike routes, safe crossings, and bike boulevards (Image 3)

Image 3. Tucson Bikeways map cover



The RTA has been a major fund source for expanding the availability and enhancing the quality of bike infrastructure, both through a dedicated funding category and as part of corridor projects. As of this writing, RTA funds have assisted in increasing bike facility coverage by over 270 miles since 2007.

The next major project for the PAG Bike Program will be to work with the region's jurisdictions to evaluate the state of the existing bike system and update regional priorities through the next iteration of the Tucson Regional Plan for Bicycling.

## FHWA Pedestrian and Bike Safety Focus City Activities (2013-present)

The City of Tucson has been designated a Focus City by the Federal Highway Administration (FHWA) for both Pedestrian and Bicycle Safety. These designations enable the jurisdiction to receive additional technical support from FHWA. PAG plays a support and coordination role for the Focus City designation in terms of data, analysis and partnership with the City of Tucson.

In 2016, the City of Tucson conducted a three-day workshop to launch the development of a Pedestrian Safety Action Plan (PSAP). PAG participated in the coordination with FHWA and the City of Tucson in developing the three day workshop. Prior to the PSAP workshop, PAG provided data and other content for the plan outline. During the multiday event, PAG staff regularly contributed to the regional nature of many of the pedestrian safety concerns and gathered concerns from participants. The PSAP now has a robust draft with contributions from the interdisciplinary workshop team. Further refinement of the plan will include input from the City's Pedestrian Advisory Committee, where PAG personnel regularly attend and contribute.

Another feature of the Focus City program is the peer city coordination call. PAG regularly participates in these coordination calls. These calls enable the exchange of ideas, best practices and problem solving among a network of professionals dedicated to improving pedestrian and bicycle safety in urban areas.

## Other Programs

### **Social Services Block Grant Planning (Ongoing)**

Title XX of the Social Security Act, also referred to as the Social Services Block Grant, funds states to help them achieve a wide range of social policy goals. The purpose of the Title XX Social Services Block Grant Program (SSBG) is to provide assistance to states to enable them to furnish services directed at one or more of five broad goals:

- Achieving or maintaining economic self-support to prevent, reduce or eliminate dependency
- Achieving or maintaining self-sufficiency, including reduction or prevention of dependency
- Preventing or remedying neglect, abuse, or exploitation of children and adults unable to protect their own interests, or preserving, rehabilitating or reuniting families
- Preventing or reducing inappropriate institutional care by providing for community-based care, home-based care, or other forms of less intensive care
- Securing referral or admission for institutional care when other forms of care are not appropriate, or providing services to individuals in institutions

States are given wide discretion to determine the services to be provided and the groups that may be eligible for services, usually low income families and individuals. In Pima County, PAG serves as the coordinating body for the Social Services Block Grant Planning Committee, which makes recommendations for locally planned services. The Committee consists of representatives from each jurisdiction within Pima County, the United Way, as well as subject area experts who are responsible for the development of a regional plan for the allocation of the Title XX funding in general categories of eligible services. The Committee holds a series of public meetings which provide an exchange of relevant information by community experts and key informants on the eligible SSBG service categories, current funding issues, current and emerging needs and discussions on community priorities. These social service agencies often provide transportation to clients and/or offer services to home-bound individuals.

## **Green Infrastructure Planning and Stormwater Management (Ongoing)**

PAG works with member jurisdictions and other interested parties to incorporate green infrastructure into areas of greatest need using criteria such as demographics that rely on active/alternative modes of transportation. PAG developed a Green Infrastructure (GI) Prioritization Tool which highlights bus stops, biking corridors and pedestrian generators to increase safety for these use groups since studies have shown that these types of improvements help calm traffic and protect vulnerable demographics from heat illness. Heat-related deaths and injuries are the No. 1 weather-related threat to Arizona residents and those with limited mobility have been found to be a vulnerable demographic.

The GI tool also highlights storm flow patterns so that infrastructure designs can be improved to reduce flooding hazards on roads. PAG has initiated a Green Infrastructure Regional Plan to recommend policies that use an integrated planning approach when designing roadways by capturing runoff to help improve desert streetscape through increased tree shade. By planning for green streets regionally, PAG improves connectivity and accessibility of safe routes for alternate modes of transportation.

## **Pima Association of Governments Youth Training and Opportunity (Ongoing)**

The work of PAG provides a diverse offering of opportunities for students to engage, learn and acquire real life experience in a public agency environment. Students from educational institutions within the Pima County area from The University of Arizona, Pima Community College and local high schools are able to apply for internship positions with PAG. The PAG Internship program is designed to engage students in PAG projects, grants and programs which impact the region, while enabling the interns to acquire knowledge, skills and abilities that can be used in future work experience. A partnership with the San Miguel High School work study program is representative of PAG's efforts in this area is. The High School employs a nationally proven model where students from families with limited financial means work and earn their tuition.

As the regional planning organization for the nine member agencies within the Tucson metropolitan region, PAG has a wide variety of programs which impact various aspects of environmental and social sustainability. These include supporting regional transportation planning, air quality, water quality, land use and human services. There are internship opportunities to support the programs within transportation planning, the Travel Reduction Program (TRP), Conserve to Enhance, (C2E) and the Tucson Regional Clean Cities alternative fuels program.

## **Conclusion**

PAG is committed to continue using analytical methods and delivering transportation solutions that expand access and opportunities for all residents of Pima County, including those who have traditionally been underserved or who have special challenges.

In the future, PAG will strengthen considerations of these underserved populations by conducting gap analyses to determine where infrastructure is lacking or other barriers exist to equal access to regional opportunities. These analyses will be incorporated into future planning efforts and may also result in a specific Ladders of Opportunity Plan. In the meantime, PAG will continue to provide opportunities for all residents to participate in the planning process and to ensure we are delivering a transportation system for everyone.