

CENTRAL ARIZONA GOVERNMENTS  
**STRATEGIC TRANSPORTATION  
SAFETY PLAN**

*TECHNICAL MEMORANDUM #3*

February 3, 2015

ENGINEERING

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# CAG STRATEGIC TRANSPORTATION SAFETY PLAN

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Task 3 of the Central Arizona Governments (CAG) Strategic Transportation Safety Plan (STSP) has three objectives. The first is to identify transportation and safety planning stakeholders to participate in the safety planning workshop as well as identify opportunities to engage these agencies and individuals in safety initiatives over the long term. The second is to document current statewide, regional, and local planning efforts as they relate to safety. The purpose is to identify opportunities to integrate planning efforts in the region, incorporating relevant safety policies, programs, and projects in the STSP. Lastly, identify and document funding sources available to CAG for safety planning and implementation. This technical memorandum summarizes the key results for all three objectives.

## **1.0 Stakeholder Identification**

Every traveler, whether in car, by foot or bicycle, or via public transportation, expects to arrive safely at their destination. However, crashes occur in a number of ways, every day – a drunk driver could run off the road, a young person could be speeding down a rural two-lane road, a collision might occur at a heavily traveled intersection, or a pedestrian might be struck on a shoulder. The types of possible crashes are numerous and expertise from multiple disciplines is necessary to identify the best possible solutions. For example, additional enforcement may have stopped that young driver from speeding; education may have encouraged the drunk driver to call a cab; engineering improvements could have addressed the intersection crash; and safer routes to school would have prevented a young pedestrian from being struck. No one agency or individual has the expertise to address all of these issues, but combined, transportation and safety stakeholders can work together to plan for and implement projects that create a safer transportation system.

The primary goal of transportation safety planning is to help every traveler arrive safely by identifying current and potential safety issues and needs and determine ways to address them. Stakeholders in the CAG region, who represent the various disciplines, including engineering, enforcement, education, and emergency response will be invited to participate in the STSP planning process and are discussed in more detail below.

### **1.1 Transportation Stakeholders**

CAG, in its role as a Council of Government (COG), coordinates with representatives from counties, municipalities, and tribal governments in the region to identify transportation solutions that represent common interests. The map shows a portion of Arizona with the CAG planning area shaded in blue. To achieve consensus and identify priorities for this area, CAG constantly communicates with stakeholders, the public, and elected officials through its committees. CAG has six standing committees, including, Regional Council, Management, Executive Committee, Transportation Technical Advisory Committee (TTAC), Comprehensive Economic Development Strategy Committee, and Environmental Planning Committee.

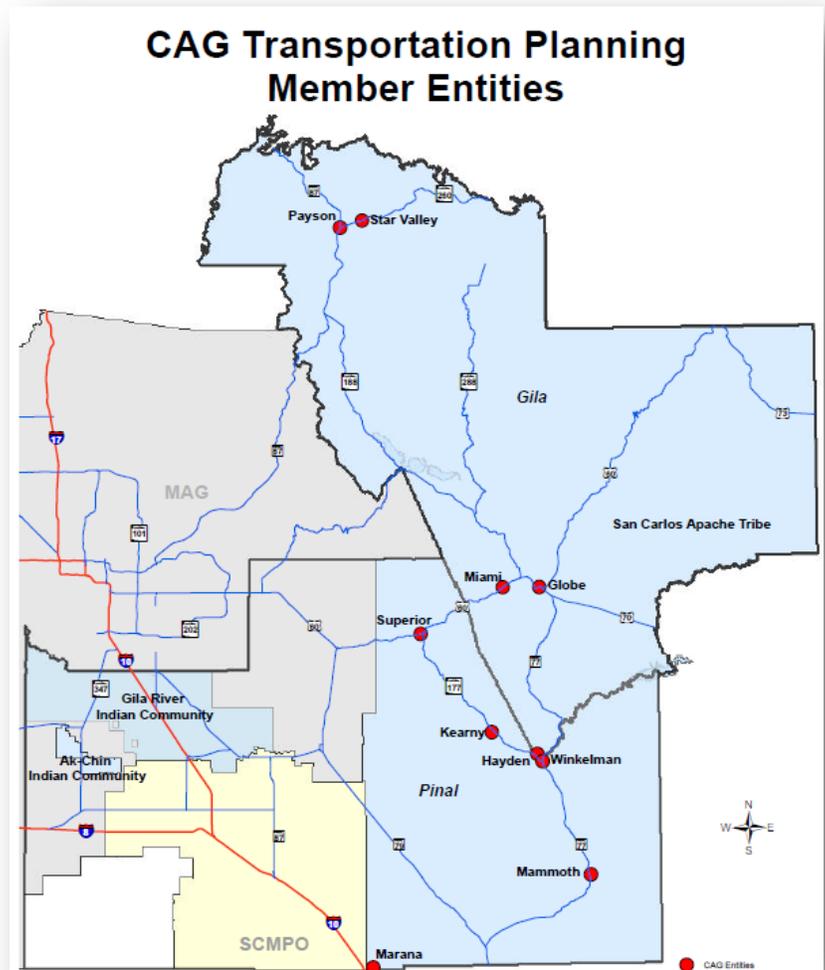
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Stakeholders engaged in these committees represent the transportation interests for each jurisdiction in the CAG planning area and include elected officials (mayors, chairmen, and council members), public interests, transportation planners, and engineers. Representatives from Arizona DOT (both headquarters and the district office) also participate in the committees to provide input from the statewide perspective, understand regional needs, and share information. As CAG embarks on its first STSP, the individuals and agencies from all six committees will be asked to represent transportation interests at the CAG STSP Workshop.

## 1.2 Safety Stakeholders

The STSP will be a data-driven, strategic plan that considers engineering improvements and behavioral solutions. Typical CAG agency representatives such as transportation planners and engineers may not be as versed on these issues, so representatives from education (e.g., driver education, citizen advocacy groups, educators, prevention specialists), enforcement (e.g., state and local law enforcement agencies), and emergency medical services (EMS) (e.g., first responders, paramedics, fire, and rescue) will be included in the STSP planning process. Each of these disciplines brings a unique perspective to the STSP – law enforcement focuses on road user behavior; education concentrates on prevention; and emergency response personnel handle post collision care. The transportation stakeholders, identified through the existing CAG committees, will be invaluable for identifying infrastructure solutions. However, safety stakeholders will add behavioral (and potentially infrastructure) solutions to the emphasis areas (i.e., impaired driving, speeding, occupant protection) in the STSP. Individuals and agencies representing these disciplines will be asked to represent safety interests at the CAG STSP Workshop, and will hopefully play a critical role in the implementation program.

Figure 1: Map of CAG Planning Area



Source: Central Arizona Governments

## 1.3 *Additional Stakeholders*

In addition to roadway/highway/engineering and safety expertise, modal and special interest stakeholders can also provide valuable input into the STSP. They evaluate safety issues and needs from a modal or issue-area perspective and can share that information for consideration during plan development. At a minimum, this would include representatives from railroad, economic development, bicycle and pedestrian, and advocacy or community groups. However, depending on the crash data evaluation results, stakeholders from other areas, such as mining, tourism, transit, freight, environment, and health, may also be identified to participate.

## 1.4 *Stakeholders in CAG Region*

Our approach to stakeholder identification for this STSP is to research, seek out and facilitate the participation of those who have knowledge of transportation safety issues, are potentially interested in safety or directly affected by it, and can be part of the solution. The team will make every effort to involve those who have not historically been engaged or those who may have previously been overlooked. Our approach is to be fully inclusive, allowing those who aren't interested to opt out.

The following stakeholders, represent transportation, safety, and additional interests in the CAG region, and will be invited to the CAG STSP Workshop.

**State and Federal Agencies:** The U.S. Federal Government funnels transportation safety planning funds to Arizona regional agencies such as CAG and others, through the State of Arizona Department of Transportation. It is important to include Federal and State transportation and safety related agencies as stakeholders. The CAG area includes various large tracts of land owned and controlled by Federal and state agencies that require connectivity and are accessed by users and wildlife as they cross roadways and other transportation facilities.

**Stakeholders:** Arizona Department of Transportation, Arizona Game and Fish Department, Arizona State Land Department, Federal Highway Administration, U.S. Fish and Wildlife Service, U.S. Forest Service, and U.S. Postal Service

**CAG Jurisdictions/Committee Members:** CAG is governed by and receives input on technical planning matters from its various committees. The regional and executive committees consist of elected officials, representing the counties, municipalities and tribes in the region. They will approve and adopt the final STSP. The management and transportation technical advisory committees are made up of engineers and planners from the jurisdictions and will review and provide input into technical memorandums and draft iterations of the STSP. Members of all of these committees will be invited to the safety workshop.

**Stakeholders:** CAG committee members representing the Regional, Executive, Management, and Technical Advisory committees

**Emergency Services and Law Enforcement:** These personnel respond to transportation related accidents and issues every day and as such are intimately familiar with and have a wealth of knowledge to share on problems areas and the nature of accidents.

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**Stakeholders:** Arizona Department of Public Safety/State Police, representatives from every municipal police department, Native American law enforcement, Pinal and Gila county sheriffs, representatives from every municipal fire department, and Ambulance services

**Education:** In order to increase understanding of safety in the CAG area, it will be important to connect with youth to both learn of potential trouble spots and to provide connection for future education. School district transportation departments in particular usually have experience and knowledge of where accidents occur and how they might be prevented. This stakeholder group may have particularly strong knowledge of pedestrian issues.

**Stakeholders:** Gila Community College, Central Arizona Community College (Aravaipa campus), public school transportation departments, and student councils

**Bicycle/Pedestrian:** A priority identified at the statewide level in the STSP and in a number of the regional transportation plans is the safe movement of bicyclists and pedestrians. The CAG region has a low number of fatal and serious injury crashes for bicyclists and pedestrians, but it is important to continue to keep these numbers low by proactively addressing safety for these modes of transportation. There are no known organized street bicycling or pedestrian advocacy groups in the area so ADOT will represent their interests at the safety workshop.

**Stakeholders:** ADOT Bicycle and Pedestrian staff

**Economic Development:** In order for businesses and communities to flourish in the CAG region, it is important for developers and other economic interests to provide safe roads, sidewalks, access points, and paths.

**Stakeholders:** Pinal Partnership, Copper Basin Chamber of Commerce (Kearney Hayden, Winkelman, Mammoth, Superior), Queen Creek Chamber of Commerce, Marana Chamber of Commerce, Superior Chamber of Commerce, Globe-Miami Regional Chamber of Commerce, Payson Rim County Chamber of Commerce, Pinetop/Lakeside Chamber of Commerce, Rim County Regional Chamber (Payson, Star Valley, Tonto Village), Southern Gila County Economic Development Corporation, Copper Corridor Economic Development Coalition, CAG Economic Development Strategy Committee

**Environmental:** CAG is a region with vast amounts of undeveloped and protected land that is rich with wildlife. The placement of transportation infrastructure has impacts on wildlife mortality and crash rates as well as creating hazards for drivers. Although the CAG region has a low amount of animal related crashes, it is important to keep these numbers down.

**Stakeholders:** Wildlife conservation organizations, International Dark-Sky Association, Sky Island Alliance, Arizona Wilderness Coalition (hunters), CAG Environmental Planning Committee members.

**Freight:** Freight travels through the region on a daily basis and although commercial vehicle crashes are rare, when they do occur, they can be much more catastrophic than an accident between two personal vehicles.

**Stakeholders:** FedEx, United Parcel Service

**Railroads:** Railway crossing safety projects are part of transportation safety planning. It will be important to gain input on the frequency and characteristics of collisions with motorists, pedestrians and cyclists.

**Stakeholders:** Arizona Eastern Railway, Copper Basin Railway, San Manuel Arizona Railway Company (Hayden), Union Pacific Railroad

**Transit:** Transit infrastructure, coupled with education, can improve safety for passengers waiting at roadside bus stops or walking to and from transit locations. Although transit-related fatalities and serious injuries are not a major concern in the CAG region, proactive safety planning can ensure access to transit facilities remains safe for all users.

**Stakeholders:** Central Arizona Regional Transit, Cobre Valley Community Transit, San Carlos Nnee Bich'o Nii Transit, Valley Metro

**Health:** Health care providers can play significant roles in identifying transportation barriers or gaps to health care access and can also provide general information on the transportation related injuries.

**Stakeholders:** Kennecott Copper Corporation Hospital (Kearny), Magma Hospital (Superior), Banner Ironwood Medical Center (near Queen Creek), Indian Health Service (Federal Program)

**Industries:** Industries engaged in or dependent on transportation of materials, goods or personnel may be able to provide information on the prevention of accidents and unsafe transportation conditions.

**Stakeholders:** Agriculture – Pinal County Farm Bureau; Arizona Farm Bureau Mining – ASARCO (Hayden), Freeport-McMoRan (Miami), Resolution Copper

**Recreation:** An emerging crash trend in the CAG region is with towed vehicles/boats and overturning/rollover crashes on the winding roads.

**Stakeholders:** Boat retailers, representatives from the boating community

**Other:** As discussions are initiated, other stakeholders may be identified.

## ***1.5 Transportation and Safety Stakeholder Engagement Efforts***

Transportation, safety, and additional stakeholders will be asked to contribute to STSP development by participating in the CAG STSP Workshop. It will also be important, moving forward, to continuously engage stakeholders with implementing the STSP. The following approaches will be used to engage stakeholders now and in the future to continue momentum on safety planning efforts.

**CAG STSP Workshop.** A crucial part of STSP development will be a one-half-day safety workshop. The workshop will provide baseline information on transportation safety in the CAG region, including crash data, suggested emphasis areas, and sample goals and targets. Participants also will be asked to engage in “working sessions,” to identify strategies and actions that will reduce fatalities and serious injuries in the key emphasis

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areas. Invited participants will include the transportation, safety, and additional stakeholders documented in Section 1.4.

**Multidisciplinary Safety Team.** Technical oversight of the STSP will be driven by a Multidisciplinary Transportation Safety Team (MDST) and the CAG Transportation Technical Advisory Committee (TTAC). The MDST will be formed during Task 1 activities and engaged throughout the STSP planning process. It will include safety leaders from the key emphasis areas in the CAG region and one to four members of the TTAC (as directed by CAG Transportation Planning Manager). This mix of stakeholders will represent both behavioral and infrastructure interests. The MDST will be responsible for providing input on deliverables during four key milestones. The group will be asked to review data, draft emphasis areas and performance measures in advance of the one-half-day safety workshop; provide comments/edits on the draft STSP; review and provide input to the safety policies, programs, and projects identified during the planning process; and conduct a final review of the implementation elements of the STSP. Upon completion of the STSP, CAG staff may wish to continue meeting with the members of this committee (or some version of the committee) to participate in STSP implementation or other activities. For instance, this group could participate in road safety audits, develop an annual safety report, focus on safety implementation programs, and act as liaisons between CAG and the local jurisdictions on safety needs.

**CAG Institutional Committees.** If it is not feasible to continue meetings of the MDST, another option is to incorporate safety discussions into the established CAG committees. Any of the six standing committees could benefit from regular conversations about safety or updates on the STSP.

## 2.0 STATEWIDE, REGIONAL, AND LOCAL PLANNING EFFORTS

A review of statewide safety programs/plans as well as those in the CAG region was conducted. It will be critical to ensure a coordinated planning effort, so the STSP does not duplicate any ongoing safety efforts, but more importantly to support the safety policies, programs, and projects already identified in the state and region. Many plans, either in progress or completed will impact safety in the CAG region and are described below. In the event a key document is not captured, stakeholders will have the opportunity to share their safety issues and needs during a regional safety workshop.

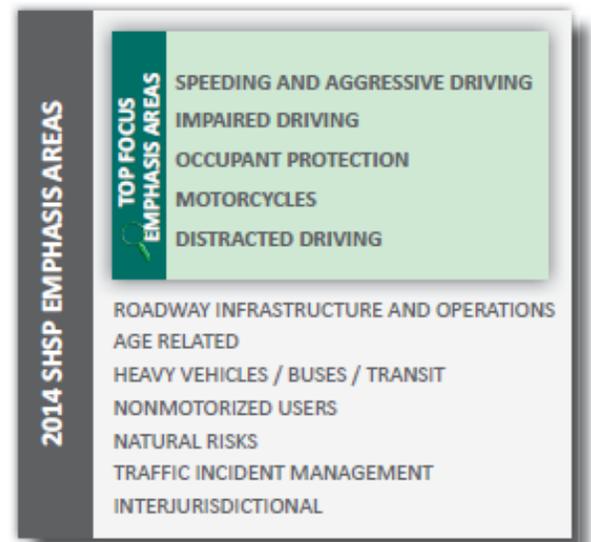
### 2.1 Statewide Plans

#### ADOT Strategic Highway Safety Plan, 2014

As described by the Federal Highway Administration Office of Safety, a SHSP “is a statewide-coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and serious injuries on all public roads. An SHSP identifies a State’s key safety needs and guides investment decisions towards strategies and countermeasure with the most potential to save lives and prevent injuries. It is a data-driven, multi-year comprehensive plan that establishes statewide goals, objectives, and key emphasis areas and integrates the four E’s of highway safety....”

The Arizona SHSP was updated in August 2014 through a collaborative effort with Federal, state, local and tribal safety stakeholders representing the 4 Es. For this effort, fatal and serious-injury crashes on state roads from years 2005 and 2012 were reviewed to identify the top transportation safety issues, or emphasis areas, in the State. Strategies and actions intended to have the greatest impact on reducing fatalities and serious injuries in many emphasis areas were also identified. The emphasis areas, strategies, and actions direct resources in Arizona (e.g., manpower, expertise, and Highway Safety Improvement Program (HSIP) funding) to reduce crashes and save lives. Over the next five years, starting from 2013, the statewide safety objective is to reduce fatalities and serious injuries in Arizona by three to seven percent. This is an achievable goal, but with 825 fatalities and 4,462 serious injuries in Arizona in 2012, ADOT will need support from the MPOs, COGs, and local jurisdictions to accomplish it.

Figure 2: Arizona SHSP Emphasis Areas



In developing the STSP, CAG has opportunities to coordinate with the emphasis areas, strategies, and actions in the SHSP to support the objective of reducing fatalities and serious injuries in Arizona. Similar to the SHSP planning process, CAG staff will review crash data to identify roadway and behavioral characteristics where crash frequencies are the highest. Preliminary data for the CAG region show the

Source: <http://azdot.gov/about/transportation-safety/arizona-strategic-highway-safety-plan>

majority of fatalities and serious injuries occur in crashes when a car departs the road, when occupants are unbelted, when the driver is impaired, when the driver is speeding, when the driver is young, or for people on motorcycles. These issues align with emphasis areas in the SHSP. As a result, CAG could review the strategies and actions outlined in the SHSP to identify which can be incorporated into the STSP or customized to better address regional concerns. This will save CAG from reinventing strategies, but it also better positions CAG to apply for HSIP funding, administered by the state. Another opportunity to align the plans is to adopt the SHSP performance target of reducing fatalities and serious injuries by three to seven percent over a five-year period.

Moving forward active coordination among State and regional safety partners will continue to be critical for linking the emphasis areas, strategies, actions, and performance measures in the SHSP with the STSP. The CAG Region had some representation during the recent SHSP update, but ADOT is now moving towards implementation and it would be beneficial to designate staff from CAG or the jurisdictions to participate. The benefits of participation include: a better understanding of statewide data; the opportunity to meet statewide safety and transportation stakeholders; an understanding of the safety planning process (development of goals, objectives, performance measures/targets, strategies, priorities); and the ability to influence the implementation of statewide safety priorities. ADOT is planning a safety summit for 2015 and emphasis area teams will be meeting at least quarterly for the next couple of years. Both present opportunities for CAG staff or local jurisdictions to participate.

### **CAG Participation in the AZ SHSP**

Representatives from Gila River EMS, Gila River Indian Community, Gila River Indian Community Department of Transportation, Pinal County, and Pinal County Air Quality participated in the SHSP update process either through attendance at the 2013 SHSP Launch, Safety Summit, and/or Task Force meeting.

## **Long-Range Transportation Plan, What Moves You Arizona 2010-2035**

A statewide Long-Range Transportation Plan (LRTP) is often a high-level policy document, outlining a State's vision, goals, performance measures, policies, and investment options over the next 20 to 25 years. ADOT maintains a 25-year plan, *What Moves You Arizona*, which discusses existing conditions, future priorities, and the programming and investment needs to maintain and improve Arizona's state multimodal transportation system. It does not recommend specific transportation projects. *What Moves You Arizona* has the goal of enhancing safety and security, which will be measured by number of fatalities and serious injuries by mode. These two performance measures are consistent with MAP-21 and the AZ SHSP. Other statewide safety priorities discussed in the plan include bicycles and pedestrians, the consideration of safety improvements concurrently with system modernization, safe routes to school, education on behavioral issues (i.e., distracted driving and seat belt use), the use of access management techniques, and implementation of complete streets and context sensitive solutions, where applicable. The performance measures as well as high level policies guiding transportation safety can be considered during the development of the STSP.

## AZ Governor’s Office of Highway Safety Highway Safety Plan, FFY 2014

Annually, highway safety offices must submit a Highway Safety Plan (HSP) to the National Highway Traffic Safety Administration (NHTSA) to secure funding for safety programs and projects in the upcoming year. Contained in the HSP must be a set of clear and measurable highway safety goals, descriptions of the process used in determination of the highway safety problems, and the programs/projects that will address the highway safety problems. HSPs typically address behavioral safety concerns. The Arizona Governor’s Office of Highway Safety (GOHS) produces an annual HSP to serve as the implementation guide for highway safety projects throughout Arizona.

**Figure 3: Behavioral Safety Priorities in Arizona**

**Table 1.1 Arizona Crash Conditions as Percent of Total Fatalities 2012**

Unrestrained Vehicle Occupant	Alcohol Impaired Driving	Speeding Related	Motorcycle	Drivers Age 20 and Younger	Pedestrians
38%	34%	34%	17%	12%	16%

Source: ADOT.

Source: <http://www.azgohs.gov/about-gohs/FFY2014HSP.pdf>

Similar to the SHSP planning process, GOHS reviews crash and other data to identify the top safety priorities in Arizona. Speeding, unrestrained occupants, and alcohol impairment are the three factors contributing most to crash fatalities, but to a lesser extent motorcyclists, bicyclists, pedestrians, infrastructure, accident investigation, traffic records, and emergency medical services are also considered. Included in the HSP are strategies to address each of these safety areas and performance measures to track progress. Both the strategies and performance measures can be reviewed for possible inclusion in the STSP, where emphasis areas overlap.

## 2.2 CAG Plan

### Regional Transportation Plan

A regional LRTP guides investments for a region’s transportation system for at least the next 20 years. It defines an overarching vision of the region’s future transportation, establishes goals and objectives that will lead to achieving that vision, and allocates projected revenue to transportation programs and projects consistent with the goals. It also informs development of the short-range Transportation Improvement Program (TIP), which is a set of transportation improvement projects that are expected to be implemented during the next four years. Agencies typically consider several issue areas during the long-range planning process, called planning factors. These factors are intended to be guidelines for developing strategies and programs/projects. One of the factors is to improve safety.

CAG is in the final stages of developing its first Regional Transportation Plan (RTP), which serves as the long-range transportation plan for the region. Safety policies, goals, objectives, or projects were not defined in this plan since the STSP will be used to identify those. However, the plan did include a safety chapter, discussing the connection between the SHSP and the RTP; the framework for the STSP; and most notably, recommendations for moving forward. The recommendations include 1) establishing a transportation safety committee to help guide

current and future safety decisions, and 2) additional investigations related to high risk rural roads. Both of these priorities can be addressed in the STSP in the form of policies, strategies, and/or projects.

As part of the STSP process, recommendations will be made to fully integrate safety into future iterations of the RTP, as well as into CAG's institutional structure.

## 2.3 Comprehensive Plans

Comprehensive plans are used to determine community (local) goals and aspirations for transportation, utilities, land use, recreation, and housing. Comprehensive plans typically encompass large geographical areas, a broad range of topics, and cover a long-term time horizon. The two counties in the CAG region, Gila and Pinal counties address transportation safety priorities in their comprehensive plans.

### Gila County Comprehensive Plan

Gila County includes the towns of Payson, Star Valley, San Carlos Apache Tribe, Miami, and the City of Globe. The County comprehensive plan outlines an approach to provide for the health, safety, and general welfare of the citizens in the county. The Plan includes a transportation chapter, describing the goals and objectives for the future and the policies that will be used by the county government to accomplish the visions, goals and objectives. The following comprehensive plan goals and policies can be considered during the development of the STSP.

**Transportation Goal #5. A safe, efficient and cost effective multimodal circulation system that provides for adequate mobility and access.**

**Policy 5.1c:** The County shall incorporate safe crossing points for major non-vehicular circulation routes along major and minor arterial traffic routes within the County.

**Policy 5.2e:** The County shall allocate roadway resources based upon existing and proposed levels of use, existing roadway conditions, public safety and economic development objectives.

### Pinal County Comprehensive Plan

Pinal County includes the towns of Superior, Kearny, Hayden, Winkleman, and Mammoth. The County Comprehensive Plan, updated in 2014, outlines an approach to provide for the health, safety, and general welfare of the citizens in the county. The Plan includes a multimodal circulation element, which describes goals, objectives, and policies to provide a safe and efficient transportation system. Other elements, Open Spaces and Places, and Quality Education Opportunities also discuss how transportation safety can be integrated into Pinal County. The following transportation safety priorities can be considered during the development of the STSP.

**Goal 4.2:** Create a comprehensive Multimodal System

**Policy 4.2.1.9:** Provide safe and efficient connections between modes to maximize opportunities for Pinal County.

**Goal 4.3:** Provide Non-Motorized Transportation Option

**Policy 4.3.1.1:** Update design standards for bicycle and pedestrian pathways and equestrian trails, including guidelines for safe trail crossings of parkway, arterial and collector roadways.

**Goal 6.2:** Develop a safe, multi-use trail system that provides connectivity throughout the County and to adjacent recreational areas.

**Policy 6.2.1.2:** Encourage a safe separation of non-motorized and motorized trail networks and corridors.

**Policy 6.2.1.3:** Develop trail standards that ensure compatibility with the natural environment, existing land uses and a variety of users, as well as provides for the safety of all.

**Goal 9:** Expand educational quality and opportunities at all levels.

**Policy 9.1.1.5:** Work to develop safe and convenient pedestrian, bicycle and transit access for students to existing and new schools.

## 2.3 Other Transportation Plans

### Gila County Small Area Transportation Study, 2006

In late 2006, CAG, ADOT, and Tonto National Forest worked cooperatively with Gila County residents and stakeholders to develop a 20-year transportation plan for Gila County. The plan identifies roadway and multimodal improvements to address deficiencies and needs to improve mobility and safety in the County. Included is a detailed summary of crashes, highlighting the following: most crashes occur on state highways; speeding is often the reason for crashes; and most crashes are single vehicle and include a collision with a fixed object. The Plan also addresses other safety considerations, making note that highway rail crossings are not a major concern; bicycle safety on alternate rural arterial and collector cross-sections is important; safe trail crossings in high traffic volume areas for the Arizona Trail and other local trails should be considered; and pedestrian safety is also a priority, particularly along higher speed or busier arterials. Although the plan is eight years old, the safety deficiencies and needs that were identified could still bear relevance on the STSP and will be discussed with Gila County representatives during stakeholder outreach, specifically the CAG Safety Workshop.

## Gila County Transportation Study, 2014

The Gila County Transportation Study identifies the most critical transportation infrastructure needs in the County and recommends improvements. For the study, crash data from 2008 to 2012 was reviewed and revealed that speed and impaired driving were the primary contributing factors to fatal and serious injury crashes in the study area. In addition, four segments were identified for further review because of high crash numbers, including Broadway Street/El Camino Street intersection; Young Road (FS 512) east of FS 202; Russell Road (FS 55) between Roberts Drive and Kellner Canyon Road; and Houston Mesa Road between SR 87 and Control Road. The results of the crash data led to a road safety assessment (RSA) for the Broadway Street/El Camino Street intersection. Recommended countermeasures for consideration were identified and included in the Transportation Study. The high crash locations will be reviewed upon completion of the network screening process to identify if any address sites with the highest potential for safety improvements. The results of the RSA will also be reviewed to identify whether the recommendations could be applied to other high crash locations in the CAG region.

The Study also established a prioritization process for all of the identified capital improvements, which included roadway, bicycle, and pedestrian improvements. Projects were evaluated based on a number of criteria, including the impact the recommended improvement project was expected to have on safety. This prioritization approach will be reviewed as part of the STSP planning process since the prioritization methodology could be customized for the CAG TIP.

## The Payson Transportation Study, 2011

The Town of Payson collaborated with the Town of Star Valley, Tonto Apache Tribe, Gila County, CAG, Tonto National Forest, and ADOT to identify key transportation issues, and examine ways to support alternative modes of transportation. The safety objectives for the Town are to reduce vehicle, pedestrian, and bicycle collisions; enhance alternate emergency routes; and reduce emergency response times. To address the safety objectives, roadway improvement options were evaluated for the short-, mid-, and long-term, and a number of projects were identified to address the identified safety deficiencies. In addition to roadway priorities, the plan identifies pedestrian and bicyclist safety improvements as a priority, especially connections between the commercial corridors and the residential neighborhoods. Safety projects will be reviewed upon completion of the network screening process to identify if any address sites with the highest potential for safety improvements.

### Town of Payson Safety Issues and Deficiencies

SR 87/Manzanita Drive has high crash rate.

SR 87 between Bonita Street and SR 260 has high crash rate.

At least one leg for several intersections on SR 87 approaches the intersection at a skewed angle resulting in sight distance issues.

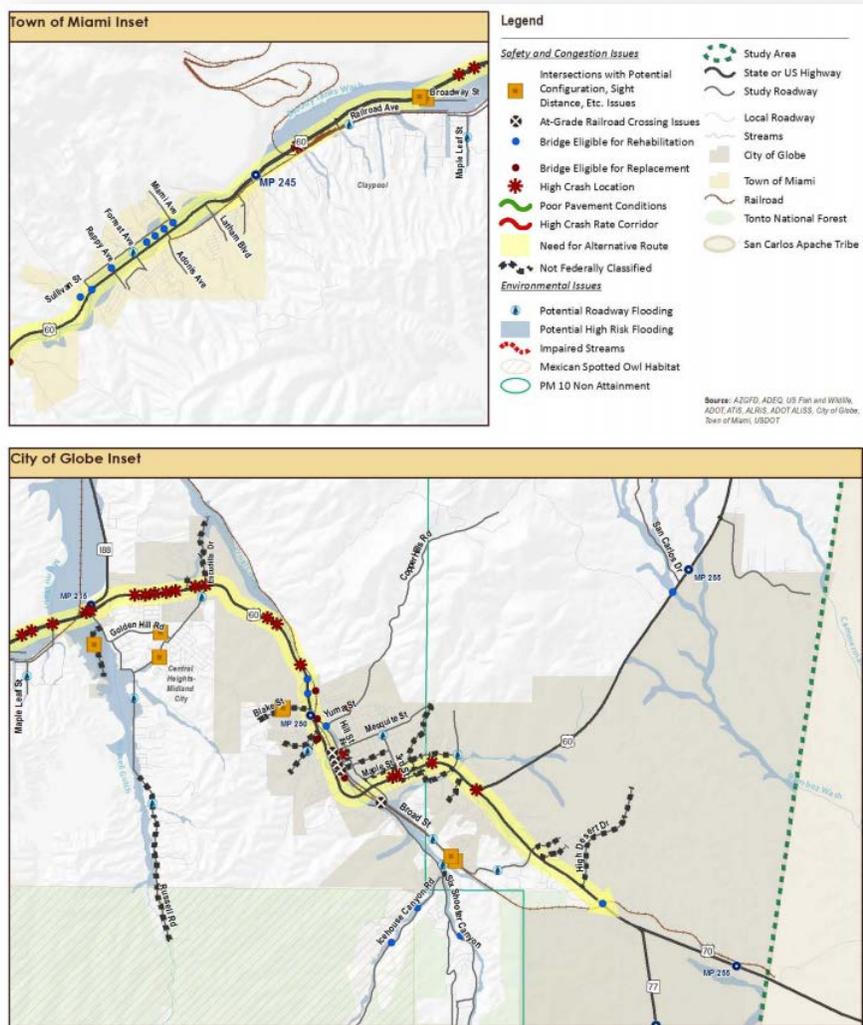
## Cobre Valley Comprehensive Transportation Study, 2013

The Cobre Valley Comprehensive Transportation Study is a joint effort by the City of Globe, Town of Miami, ADOT, Gila County, and CAG to identify and address the most critical current and future transportation needs of

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the Cobre Valley Region. The Study lists the short-, mid-, and long-term improvements for Cobre Valley, Miami, and Globe, many of which are safety improvements or transportation projects that include safety considerations. Both short- and mid-term investments will be reviewed upon completion of the network screening process to identify if any address sites with the highest potential for safety improvements. The map shows the high crash locations for the Town of Miami and City of Globe.

**Figure 4: High Crash Locations Identified in Cobre Valley Comprehensive Transportation Study**

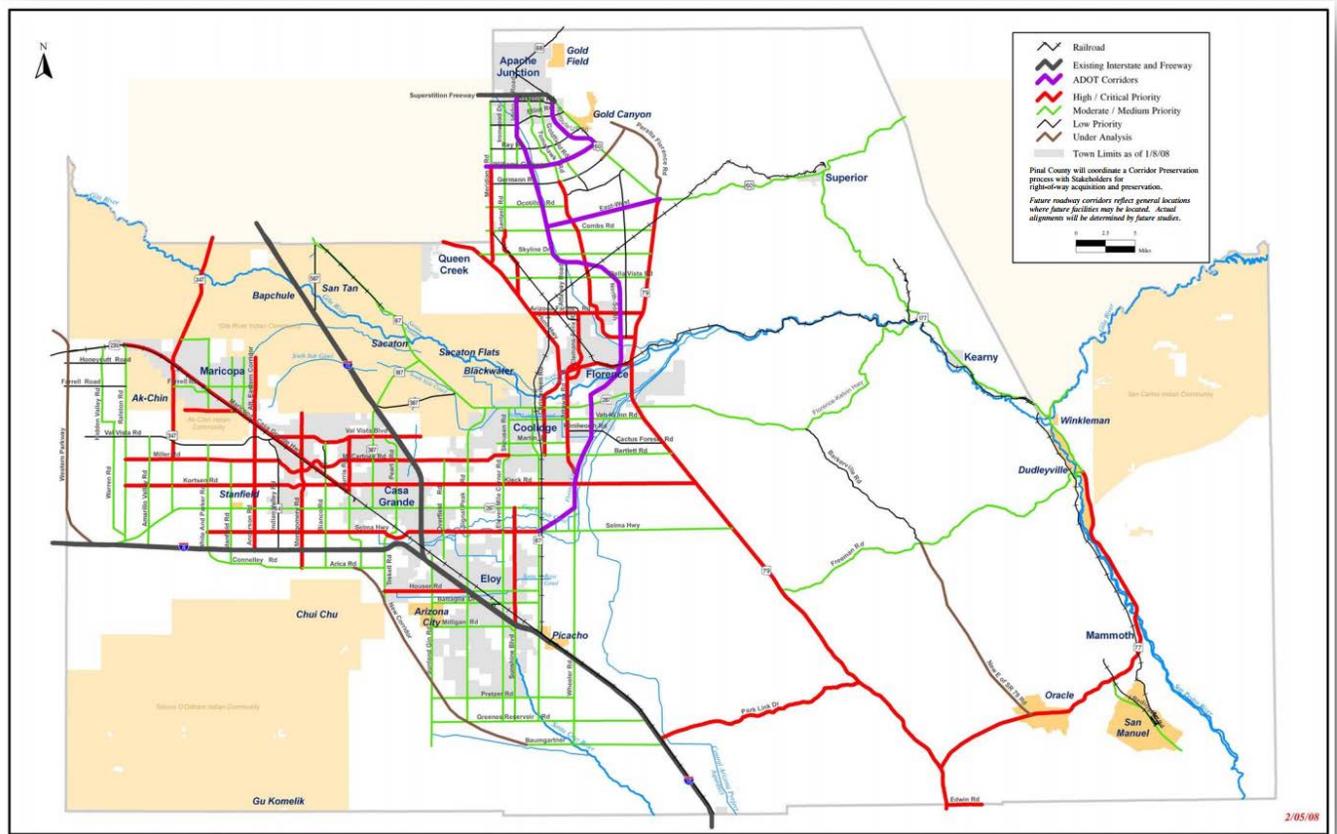


Source: <http://repository.asu.edu/attachments/109342/content/Cobre%20Valley%20Comprehensive%20Transportation%20Study%20Executive%20Summary.pdf>

## Pinal County Regionally Significant Routes for Safety and Mobility Plan, 2008

Over several years, Pinal County experienced increases in growth and congestion, bringing about mobility and safety issues. The Pinal County Regionally Significant Routes for Safety and Mobility (RSRSM) Plan describes the process to identify regionally significant routes for parkways and principal arterials in the County, as well as the prioritized list of routes. The routes will be reviewed upon completion of the STSP network screening process to identify if any include priority sites for safety improvements. The map depicts the regionally significant routes for all of Pinal County. The routes on the far right side of the map, including State Routes 77 and 60, are in the CAG region and are medium and high priority corridors.

**Figure 5: Regionally Significant Routes in Pinal County**



Source: <http://www.pinalcountyaz.gov/PublicWorks/TransportationPlanning/Documents/RSRSMFinalReport.pdf>

## **Gila River Indian Community Multimodal Pedestrian Safety Study, 2014**

The Gila River Indian Community (GRIC) Multimodal Pedestrian Safety Study evaluates the pedestrian safety needs in the area and makes recommendations to address key priorities. Some of the issues resulting in this plan include the lack of sidewalks and shared use paths, and the inability to commute by walking during bad weather events because of saturated corridors and flooding. The Plan identifies the short-, mid-, and long-term pedestrian improvements for each of the seven district region in the GRIC. Although the area lies within the jurisdictions of both Maricopa Association of Governments and CAG, the identified projects will be reviewed during the STSP planning process. In addition, the approach taken to identify projects as well as the prioritization methodology could be customized for the CAG STSP.

## **Ak-Chin Indian Community Transit and Non-Motorized Transportation Study, 2011**

The Transit and Non-Motorized Transportation Study identifies improvements for transit and bicycle/pedestrian facilities for the Ak-Chin Indian Community. Many of the projects address safety issues and concerns, specifically installing transit infrastructure to improve safety for passengers waiting at roadside bus stops and options for people to walk and bike safely on trails and paths. Bicycle and pedestrian projects will be reviewed upon completion of the network screening process to identify if any are located in priority sites for safety improvements. In addition, transit safety, although not a major issue in the CAG region, should be proactively addressed so transit-related fatalities and serious injuries do not increase. The suggestions in this plan can be considered during STSP development.

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## 3.0 Funding Sources

This section describes current and potential future funding sources for application toward infrastructure and behavioral safety improvements. The resources listed are those specifically directed to safety projects (i.e., highway safety improvement program), as well as those that can be leveraged to fund safety elements of transportation projects (i.e., surface transportation program).

### 3.1 Funding Opportunities in the CAG Region

Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), consolidated highway and transit funding programs, focusing resources on a limited number of core programs. The flow charts, produced by Transportation for

**Figure 6: MAP-21 Highway and Transit Funding Programs**



Source: <http://t4america.org/maps-tools/map-21/>

America, depict the MAP-21 programs and show how previous programs were incorporated into the consolidated areas. The highway programs are shown on the left and the transit programs on the right.

Of these Federal programs, HSIP is most directly related to safety; however safety can be a consideration for funding in many of the other program areas, including the Surface Transportation Program, Transportation Alternatives, Transit, and other programs not listed on these diagrams. In addition to the funding allocated to DOTs, NHTSA receives Federal funds to provide safety grants to eligible agencies, which can include DOTs, MPOs, COGs, and local jurisdictions.

The following describes the Federal funds available to CAG for purposes of safety planning, programs, or projects.

## Highway Safety Improvement Program

The HSIP program funds safety improvement projects to reduce the number and severity of crashes at hazardous locations. As described by FHWA, HSIP funding is guided by the data-driven SHSP that defines state safety goals, ranks dangerous locations, and includes a list of projects. Any project on a public road, trail or path that is included in a state's SHSP and corrects a safety problem is eligible for HSIP funding. A full list of eligible projects is listed in United States Code (<http://www.law.cornell.edu/uscode/text/23/148>), but includes a wide range of activities from transportation safety planning, systemic safety analyses, intersection improvements, improvements for bicycle and pedestrian safety, construction of a traffic calming features, to pavement and shoulder widening.

ADOT is responsible for administering the state program with oversight from FHWA. ADOT receives an annual apportionment of HSIP funds and divides the money into three categories; local and tribal governments, state highways, and flexible funds for non infrastructure projects. The local and tribal government set-aside provides each MPO and COG with annual funding to plan and identify safety programs and projects. In the FY 2015 to 2024 TIP, CAG programmed three HSIP projects for FY 2015 including, Phase 1 of the STSP, a sign and pavement marking inventory in Winkelman, and U.S. 70 high school turn lanes in San Carlos. Data driven programs and projects identified in the STSP will be eligible for HSIP funding.

## High Risk Rural Roads

A high risk road (HRRR) is defined by MAP-21 as, "any roadway functionally classified as a rural major or minor collector or a rural local road with significant safety risks, as defined by a State in accordance with an updated State strategic highway safety plan." Unlike previous legislation, MAP-21 does not set aside funding for HRRRs; however, it does require States to monitor fatality rates on rural roads and if this rate increases, obligate a specified amount of HSIP funds on HRRRs. CAG currently has one HRRR project programmed in its TIP for FY 2017. The majority of fatal crashes in the CAG region occur on rural roads, so they may continue to be eligible for HRRR funding in the future.

## Surface Transportation Program

The Surface Transportation Program (STP) provides the greatest flexibility in the use of funds. It may be used for projects that preserve or improve conditions and performance on any Federal-aid highway, bridge projects on any public road, facilities for nonmotorized transportation, transit capital projects and public bus terminals and facilities. ADOT distributes STP funds to the MPOs and COGs in the state based on population. Some of the eligible activities include highway and bridge construction and rehabilitation, transit capital projects, surface transportation planning, bicycle, pedestrian, and recreational trails, and intelligent transportation systems. Agencies have the flexibility to incorporate safety improvements into transportation projects funded with STP. For instance, the scoring sheet shows how local jurisdictions in Minnesota rank their STP projects. Safety accounts for 20 out of 100 points towards the overall score. CAG funds a number of projects with STP and in Task 7, the project team will explore opportunities to incorporate safety into a project prioritization process for STP and other projects.

Figure 7: STP Project Evaluation Criteria

Unit Feature	Submitters Pts Assigned	Examples	X this Factor	Total Pts (Ranking)	Max Pts Available	Comments
Traffic Safety and Hazard Elimination	10	Prevent deaths with documented accident history	2	0	20	
	5	Proactive safety with no accident history (incl. new roadway)				
	3	Reconstruction – no safety improvement				
	1	Reconditioning – no safety improvement				
Traffic Volume * Existing/estimated ADT for new constr/reconstr and reconditioning	10	> 18,000 ADT	1	0	10	
	9	16,000 – 18,000				
	8	14,000 – 16,000				
	7	12,000 – 14,000				
	6	10,000 – 12,000				
	5	8,000 – 10,000				
	4	6,000 – 8,000				
	3	4,000 – 6,000				
	2	2,000 – 4,000				
	1	< 2,000 ADT				
RQI (Ride Quality Index) – or equivalent rating system	5	Less than 2.5	4	0	20	
	3	2.5 - 3				
	1	Greater than 3				
Economic Development	10	Leads to new business opportunities	1	0	10	
	5	Creates opportunities for existing businesses				
	1	Maintains status quo				
Recent or Prior Project	5	Do not have a project in the current STIP	3	0	15	
	4	Have a project in Year 1 of the STIP				
	3	Have a project in Year 2 of the STIP				
	2	Have a project in Year 3 of the STIP				
	1	Have a project in Year 4 of the STIP				
Multi-jurisdictional	10	3 or more entities (each contributing financially toward the required match)	1	0	10	
	5	2 entities (both contributing financially toward the required match)				
	1	Stand-alone project				
Multi-modal/Complete Streets	10	Promotes safe and convenient access and travel for all users	1	0	10	
	5	Provides limited access to some modes/users				
	1	Addresses motor vehicle traffic only				
Identified in a local, regional, or state plan	5	Project has been identified in a plan that involved a robust public input process	1	0	5	
	3	Project has been identified in a plan, but the plan did not include public input				
	1	Project has not been identified in a plan				
TOTAL POINTS (100 points possible)				0	100	

Source:

<http://www.dot.state.mn.us/d7/atp/pdfs/2015solicitation/cityrankingform2016-2019.pdf>

## Transportation Alternatives Program

The Transportation Alternatives Program (TAP) is a competitive grant program created by MAP-21. TAP provides funding for a variety of transportation projects types, including transportation enhancements, recreational trails, and safe routes to school programs. MAP-21 requires TAP funding be suballocated to urbanized areas over 200,000, but the remaining funds can be used anywhere in Arizona. CAG does not receive a suballocation of TAP

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funds, but could work in coordination with ADOT to identify transportation projects inclusive of safety improvements to leverage these funds.

## **NHTSA Funds**

GOHS provides Section 402 (State and Community Highway Safety Program) and Section 405 (National Priority Safety Programs) funds annually for safety programs and projects that address the key safety needs in the State. For example, in FFY 2014, the three leading causes of death from vehicular collisions in Arizona were impaired driving, speeding and aggressive driving, and unrestrained vehicle occupants. Consequently, the majority of grant funding that year was devoted to projects that addressed these emphasis areas. Other safety programs and projects in Arizona that have consistently received GOHS funding include those that address accident investigation, emergency medical services, pedestrians and bicyclists, roadway safety/traffic records, and motorcycles.

Every November GOHS sends a letter to political subdivisions, state agencies, and nonprofits regarding the GOHS Proposal Process and priority program areas. Applications for funding are due in mid to late February and programs/projects are selected in May. The STSP will likely identify behavioral programs/projects within the GOHS priority areas and an application could be submitted as early as FFY 2017. Applications do not need to come directly from CAG, but could be sponsored by a local law enforcement agency or other agencies, participating in the STSP development process. Materials related to these grant opportunities can be found at <http://www.azgohs.gov/grant-opportunities/>.

## **Transit Funding**

Transit providers operate services in the CAG region and are encouraged to coordinate with the COG on planning activities to enhance the multimodal options in the region. A number of transit funding sources can be used for planning, capital improvements, or operating services, including Sections 5307, Urbanized Area Formula Grants; Section 5310, Enhanced Mobility of Seniors and Individuals with Disabilities; Section 5311, NonUrbanized Area Program; Section 5311(b)(3), Rural Transportation Assistance Program; and Section 5339, Bus and Bus Facilities Program.

## **Planning Assistance for Rural Areas Program**

The Planning Assistance for Rural Areas (PARA) Program is sponsored by the ADOT Multimodal Planning Division (MPD) and provides Federal funds, up to \$250,000 per project, to assist tribal governments and counties, cities and towns located outside Transportation Management Area (TMA) planning boundaries with multimodal transportation planning needs. The funding is not for construction or design, but instead to assist rural planners to better understand transportation issues through studies and plans. The network screening and data analyses conducted for the STSP will reveal locations and factors that need to be addressed, but some of these will require further study. This would be an eligible use of PARA funds. Recent PARA grants in the CAG region include the Gila County Transportation Study and Gila River Indian Community Multimodal Pedestrian Safety Study.

## **Tribal Transportation Program Safety Funds**

Each year under MAP-21, two percent of the available Tribal Transportation Program (TTP) funds are set aside to address safety issues in Native America. Funding is available in four categories including safety planning, engineering improvements, enforcement/EMS, and education. All three tribes in the CAG region, Ak-Chin Indian Community, Gila River Indian Community, and San Carlos Apache Tribe are eligible to apply for this funding. More information is available at: <http://flh.fhwa.dot.gov/programs/ttp/safety/ttspf.htm>.

## **Community Development Block Grants**

These funds are managed by the Federal Office of Housing and Urban Development and can be used for projects that address community development needs because existing conditions pose a serious threat the health or welfare of the community. Funding can be dedicated to construction or reconstruction of streets, neighborhood centers, recreation facilities, and other public works; and planning activities. Safety evaluation criteria can be considered during the selection process for these grants.