

MOBILITY 2050

AAMPO



THE FUTURE OF TRANSPORTATION

MOVING PEOPLE CONNECTING PLACES



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3. THE FUTURE OF TRANSPORTATION

As the Alamo Area recovers from the pandemic, the future is bright for advancing mobility improvements and programs. With the recent passage of the Infrastructure Investment and Jobs Act (IIJA) additional and new funding sources will be becoming available for the region. These funds have the potential to advance a multitude of traditional transportation improvements as well as new and emerging mobility solutions. The ability to develop a comprehensive multimodal network is largely dependent on a number of factors. While adding new lanes and making operational roadway improvements are part of a larger comprehensive strategy to improve the overall system, the future of mobility in the Alamo Area will be much more expansive. The proposed guidelines below outline the factors to consider to promote a Complete Street planning approach and encourage additional mobility choices.

- Support the development and maintenance and operations of a transportation network that is **compatible with the needs of all modes** including bicycles, public transportation, truck and rail freight and pedestrians.
- Use performance measures to **monitor the functionality of the regional network**.
- Use the goals of the **State Highway Safety Plan and the crash data** as criteria for project selection.
- **Optimize the use of existing public transportation assets and leverage asset management data and tools** to make informed, cost-effective program decisions.
- **Incorporate technology**, such as intelligent transportation systems and signal prioritization to optimize system operations.
- Require land developers to **preserve the necessary rights of way** in future travel corridors.
- Require **private developer contributions** for network and roadway improvements in undeveloped areas.
- Ensure a process exists for **maintaining all system assets and network facilities** to optimize investment.
- Support travel demand management techniques, that **reduce single occupancy vehicle trips and vehicle miles traveled**, such as ride/car share, parking policies and demand pricing, land use policies, and employer trip reduction programs.
- Support the **integrated development and implementation of transportation, land use, and economic development plans** by facilitating consistent collaboration between local, regional, and statewide transportation partners.

With these guidelines in mind, AAMPO will work with its partners and the public to further develop a safe and efficient transportation network for all users.

In this section, information regarding the IIJA guidance to date, the *Mobility 2050* public involvement process, equity and environmental justice, and a recap of the predicted regional growth will be highlighted. Additional information includes what's on the horizon for multimodal projects and congestion management, emerging technologies, and safety, security, and network resilience. The section concludes with environmental and air quality considerations.

3.1 Infrastructure Investment and Jobs Act (IIJA)

The IIJA, also known as the Bipartisan Infrastructure Law, was passed on November 15, 2021. The Act contains provisions to continue all FAST Act highway programs along with new funding opportunities for projects and programs that meet the prescribed requirements. This section will focus on the types of programs and projects eligible for funding. **The Funding the Future** section will provide specific funding

information related to the Act and what is known to date on how it may be distributed to the Alamo Area. This Act is a once-in-a-generation investment in infrastructure intended to make the United States more competitive in the world-wide arena by creating better jobs and making the economy more sustainable, resilient, and equitable. It will provide the largest investment in US history for public transit, passenger rail, bridge reconstruction and development, clean drinking water and wastewater infrastructure, electric vehicle (EV) infrastructure, and access to reliable high-speed internet.

For highway programs, the provisions focus on safety, bridges, climate change, resilience, and project delivery. It includes more funding opportunities for local governments and other non-traditional entities, such as non-profits. The following are examples of programs specific to MPOs:

- Safe Streets and Roads for All
- Promoting Resilient Operations for Transformative, Efficient and Cost Saving (PROTECT) Grants
- Charging and Fueling Infrastructure
- Congestion Relief
- Bridge Investment
- Reconnecting Communities
- Nationally Significant Freight and Highway Projects (INFRA)
- National Infrastructure Project Assistance (Mega-projects)
- Local and Regional Project Assistance

Currently, and as part of the IIJA provision that continues the FAST Act programs, AAMPO projects are awarded funds through the Surface Transportation Block Grant (STBG), Transportation Alternatives Program (TA), and Congestion Mitigation and Air Quality Improvement Program (CMAQ). The IIJA creates new programs for additional projects including Safe Streets for All (Road to Zero and Vision Zero initiatives), Wildlife Crossings Pilots, and increasing safe and accessible transportation options. Below is summary of eligible projects under the FAST Act and additions under the IIJA.

Table 11: AAMPO Eligible FAST and IIJA Federal Funding Opportunities

AAMPO Eligible Federal Funding Opportunities (FAST Act and IIJA)	
Program	Requirement Highlights
Surface Transportation Block Grant (STBG) – (IIJA Section 11109) Most flexible in terms of project selection criteria;	<ul style="list-style-type: none"> FAST: Preserve and improve condition and performance on any Federal-aid highway, bridge on any public road, pedestrian and bicycle infrastructure, capital transit projects; IIJA: EV charging infrastructure, protective features to enhance resilience, and wildlife crossing projects; adds low water crossing bridges to eligible bridges;
Transportation Alternatives Program (TA) (IIJA Section 11109)	<ul style="list-style-type: none"> FAST: safe routes to schools IIJA: vulnerable road user safety assessments
Congestion Mitigation and Air Quality Improvement Program (CMAQ) – (IIJA Section 11115) Limited to areas of nonattainment (Bexar County)	<ul style="list-style-type: none"> FAST: Designed to reduce traffic congestion and improve air quality. Transit, EV and natural gas infrastructure, and active transportation projects. IIJA: Shared micromobility (bikeshare, shared scooters) programs, expands diesel vehicle replacement program, purchases of medium//heavy-duty zero emission vehicles and related equipment
Safe Streets and Roads for All Grants (IIJA Section 24112)	<ul style="list-style-type: none"> IIJA (New) – Initiatives that prevent transportation-related death and serious injury on roads and streets, comprehensive safety action plans and associated implementation of these projects and strategies Available to local governments
Wildlife Crossings Pilot Grants (IIJA Section 11123)	<ul style="list-style-type: none"> IIJA (New) – Projects that seek to reduce the number of wildlife-vehicle collisions and improve habitat connectivity
Increasing Safe and Accessible Transportation Options (IIJA Section 11206)	<ul style="list-style-type: none"> IIJA (New) – Defines Complete Streets standards and policies, requires planning activities related to Complete Streets or multimodal travel.

New MPO eligible grant programs under the IIJA include PROTECT grants, Charging and Fueling Infrastructure, Congestion Relief, Bridge Investment, Reconnecting Communities Pilots, Strategic Innovation for Revenue Collection, and Mega-Projects. Below is a summary of these programs. Additional information on IIJA requirements and programs are also included in their respective sections throughout the rest of this document. The Act also requires TxDOT to develop strategies, in coordination with MPOs, related to carbon reduction and EV infrastructure deployment. As additional guidance is developed and disseminated to MPOs, AAMPO will continue to review and determine the impact on regional planning and local government and non-profit efforts.

Table 12: AAMPO Eligible IIJA Federal Funding Opportunities

AAMPO Eligible Federal Funding Opportunities (IIJA)	
Program	Requirement Highlights
PROTECT Grants (IIJA Section 11405)	<ul style="list-style-type: none"> • Planning, resilience improvements, community resilience and evacuation routes • Efforts can include highway, transit, intercity passenger rail and port facilities; resiliency planning activities and associated construction • Increased funding opportunities for MPOs with a resiliency improvement plan incorporated in the long-range transportation plan • Available to local governments
Charging and Fueling Infrastructure (IIJA Section 11401)	<ol style="list-style-type: none"> 1 Deployment of EV charging and alternative fueling infrastructure 2 Available to local governments
Congestion Relief (IIJA Section 11404)	<ol style="list-style-type: none"> 3 Planning, design, implementation, and construction activities that advance innovative, integrated, and multimodal solutions related to the economic and environmental costs of congestion. 4 Examples: HOV lanes, mobility services, carpooling programs, programs that encourage travel during nonpeak hours 5 Available to local governments
Bridge Investment Grants (IIJA Section 11118)	<p>Improve bridge and culvert condition, safety, efficiency, and reliability Available to local governments</p>
Reconnecting Communities Pilot (IIJA Section 11509)	<p>Remove, retrofit, or mitigate transportation facilities that create barriers to community connectivity including mobility, access, or economic development Available to local governments</p>
Strategic Innovation for Revenue Collection (IIJA Section 13001)	<p>Test feasibility of road-usage fees and other alternative revenue tools Available to local governments</p>
INFRA - Mega-Projects Grants (IIJA Section 21201)	<p>Single or multi-year grants for highway/bridge projects, intermodal freight and rail, rail-highway grade separation or elimination, intercity passenger rail, and other public transportation projects. Available to local governments</p>

3.2 Public Involvement

Public involvement is one of the cornerstones of the transportation planning. The community that surrounds a project, and the public that traverses the area, are the ultimate beneficiaries of the mobility improvements. AAMPO's mission is to provide a continuous, comprehensive, and coordinated ("3C") regional transportation planning process to further develop a safe and efficient network for the movement of people and goods consistent with the community's overall economic, social and environmental goals.. To this end, AAMPO engages in proactive involvement of the community, affected stakeholders, transportation agency representatives, private transportation providers, and other interested parties during planning activities and plan updates. Effective public involvement is integrated throughout the entire process. A proactive approach to an effective public involvement process requires several elements:

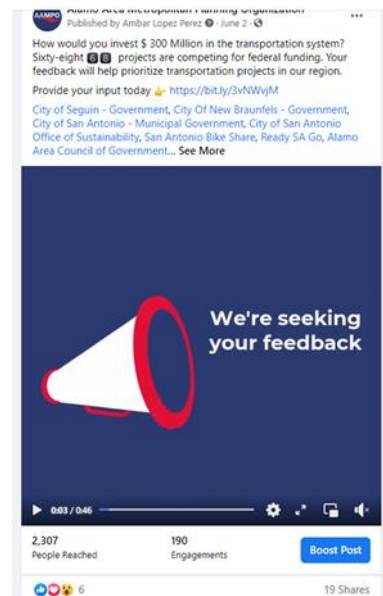
- Early, continuous, and meaningful public involvement;
- Reasonable public access to technical planning information;
- Collaborative input on transportation alternatives, evaluation criteria, and mitigation needs;
- Transportation planning meetings that are open and easily accessible to the public; and
- Access to the planning and decision-making process prior to policy board action.

AAMPO's goal is to inform, involve, and engage with people in two-way conversations (in-person and virtual) about transportation needs, challenges, and most importantly – solutions. In December 2017, AAMPO adopted an updated Public Participation Plan (PPP) that aligns with the FAST Act requirements. The PPP outlines AAMPO's strategies and procedures for public engagement. Outreach strategies include partner agency coordination, local and regional media outreach, publishing meeting notices and posting flyers, social media outreach, and community organization briefings and presentations. Additionally, information is disseminated using various avenues. These avenues include AAMPO's e-newsletter, online videos, and community presentations and staffing public events.



Additional outreach and engagement focus on fair and meaningful information dissemination and engagement with traditionally underserved populations. AAMPO adheres to the Department of Transportation environmental justice (EJ) guidelines through conducting specific outreach in underserved communities. This outreach includes hosting public meetings in strategic locations, coordinating with organizations to get on their meeting agendas (take the information to them), considering access to transit when deciding meeting locations, providing materials in Spanish and bilingual staff at all meetings, and publishing meeting notices and disseminating information through a mixture of print media, targeted outreach, and grassroots organizations. AAMPO adopted and utilizes a Limited English Proficiency Plan and is taking steps to access equity and access issues in the region. For more information, see the [Environmental Justice and Equity](#) section of this document.

AAMPO also uses virtual engagement as a means to facilitate public engagement. Virtual engagement opportunities allow participants to take part in the planning process at their convenience, 24 hours a day,



7 days a week. AAMPO has a solid history of using virtual tools to solicit and engage participation to further transportation planning efforts. The agency's online public involvement strategies were recognized as part of FHWA's On Ramp to Innovation – Every Day Counts 5 initiative. Virtual meeting elements include videos of the in-person presentations along with viewable and downloadable documents and exhibits. Virtual opportunities provide an avenue for public comment similar to the in-person experience.

Section 11201 of the IIJA encourages MPOs to use social media and other virtual tools to foster public participation and solicit public feedback during transportation planning process. As guidance continues regarding the IIJA, the PPP will be revised accordingly and AAMPO will continue to seek innovative ways to reach regional partners and the community. This section focuses on the outreach conducted as part of the long-range, *Mobility 2050*, planning process and provides a snapshot of additional public involvement efforts in the region.

On-Going Public Information and Engagement Efforts

AAMPO continues to have a strong public participation program by taking advantage of technology and leveraging opportunities with community partners. It continues to develop English and Spanish language videos and public service announcements as well as English and Spanish language brochures and planning materials. AAMPO continues to publish its e-newsletter, *FastTrack*, and is active on Facebook, Instagram, Twitter and YouTube. AAMPO personnel continually strive to improve the agency website format and content to ensure it is mobile friendly and easily navigated. All policy board and committee agendas and meeting materials are posted on the website prior to meetings. During, and as part of its regular practice, committee meetings are held in hybrid formats for members as well as the public. Transportation Policy Board meetings are livestreamed in accordance with state law and archived on the agency's website.



The AAMPO team continues to take advantage of opportunities to host and participate in partner agency efforts where information is shared and transportation-related events are cross-promoted. The agency also participates in various events with other organizations. These events include health fairs, Earth Day, grade-school and college/university assemblies and gatherings, and other events focused on sustainability, multimodal mobility, and transportation planning. Additional public engagement efforts include outreach to school age children through the annual GIS Day event and active transportation safety classes. Outreach efforts include social media posts with videos, website postings, and e-mail notices highlighting upcoming events and activities.

Mobility 2050, FY 2023-2026 TIP, and the 2023 Conformity Document Public Involvement

AAMPO completed successful public outreach efforts in the development of Mobility 2050, the FY 2023-2026 Transportation Improvement Programs (TIP), and the Transportation Conformity document. Each document included a mix of in-person and online participation opportunities by the community, other stakeholders, the Policy Board and AAMPO's committees. During each phase, the Policy Board was briefed and encouraged to consider public input and feedback in the development of the various components of each of the documents. The following is a brief summary of each public involvement phase related to three documents.

Phase 1 (June 2021): The public had the opportunity to give input on the full list of projects submitted for funding consideration and eventual inclusion in the TIP and *Mobility 2050*. Public input was also solicited to garner input and feedback on the *Mobility 2050* vision and goals.

Public Involvement activities included the Transportation Mode Lib Game. This activity used the Mad Libs approach to garner community ideas and desires for the future of transportation. Participants completed various story lines about the ideal transportation system. They were also provided descriptions and maps on the proposed TIP projects and given an opportunity to share their top four projects that should be selected for funding.



Figure 26: Transportation Improvement Program (TIP) Public Engagement Exercise

Outreach efforts included presentations (virtual and in-person) to neighborhood associations and other community groups, virtual participation opportunities, social media engagement, and in-person outreach at VIA Transit Centers. Eighteen in-person and virtual events were conducted with community groups and public events and an in-person public meeting and a virtual public meeting was held. These efforts yielded 821 individuals providing comments and input on the TIP projects and the *Mobility 2050* Vision and Goals.

Of the top four projects selected by the public, two were selected by the policy board for funding in the FY 2023-2026 Transportation Improvement Program (TIP). General themes related to what the community imagines and desires for the future of transportation included being able to transport by train, trails, bike, monorail, and walking. Additional comments included the desire for an easier, less congested, convenient, and fun way to get around the Alamo Area.

Figure 27: MTP Input – Virtual Engagement

Figure 28: Mobility 2050 Mode Libs Public Exercise

Phase 2 (Fall/Winter 2021): The Future of Transportation Survey was deployed specific to *Mobility 2050* engagement. The informal survey asked respondents which technologies and services they currently use, which technologies they see themselves using in the future, and what excites and concerns about transportation technology. Surveys were available in English and Spanish, online, and hard copy at in-person events. Outreach included twelve events, social media, email notices, partner agency collaboration and AAMPO website notices and access. These efforts resulted in 758 respondents participating.

During this same timeframe, the policy board was presented the initial Phase 1 and 2 public involvement findings. Thereafter, taking into these findings into consideration, they revisited and revised the vision and goals for this plan.



Figure 29: Mobility 2050 Surveys and Events

Phase 3: During this phase, AAMPO conducted a series of public meetings throughout the planning region and provided an online portal that mirrored the in-person effort. The effort was supported by the virtual and in-person outreach strategies outlined in the PPP. The public meetings and online offerings provided the public with an opportunity to review the Mobility 2050 draft plan and long-range projects, review the TIP and the associated projects slated for federal funding, and preview the Transportation Conformity Document.



Figure 30: Mobility 2050 Public Meeting Schedule

Phase 4: AAMPO conducted a two-step approval process leading to the policy board's adoption of Mobility 2050 (the long-range plan). The process included a 30-day document review and comment period followed by consideration and incorporation of public comments into the document, and board approval. During the two-step board approval process, information on the requested action (adopting Mobility 2050 in this case) is presented in the first month for information and discussion and presented again in the second month for discussion and appropriate action. Additional opportunities for the public to provide input on Mobility 2050 and the Transportation Conformity document occurred during AAMPO Technical Advisory Committee meetings and Transportation Policy Board meetings between June 2021 and May 2022.

3.3 Title VI, Environmental Justice, and Equity

As mentioned in the Public Involvement section above, AAMPO continues to take strides to inform and engage underserved and traditionally marginalized communities. Section 601 of the Civil Rights Act of 1964 prohibits discrimination “on the basis of race, color, or national origin” in any “program of activity receiving federal financial assistance.” Further, the United States Department of Transportation (USDOT) Title VI regulations prohibit, among other things, actions that would have the “purpose or effect” of discriminating against individuals on the basis of race, color, or national origin. Thus, rather than only prohibiting intentional discrimination, Title VI regulations also prohibit actions that have a *disparate effect* on minorities. Title VI applies to all programs and activities of federal-aid recipients as well as subrecipients and contractors whether those programs and activities are federally funded or not.

In 1994, President Clinton signed Executive Order No. 12898: Federal Action to Address Environmental Justice (EJ) in Minority Populations and Low-Income Populations. This Executive Order expands on the Title VI Civil Rights legislation and promotes nondiscrimination in federal programs that substantially affect human health and the environment. In addition, the order provides minority and low-income communities access to public information and opportunity for public participation in related matters. All programs that receive funding from federal agencies require Environmental Justice consideration in accordance with federal law.

While Title VI and Environmental Justice overlap, they are not one in the same as shown in Figure 31

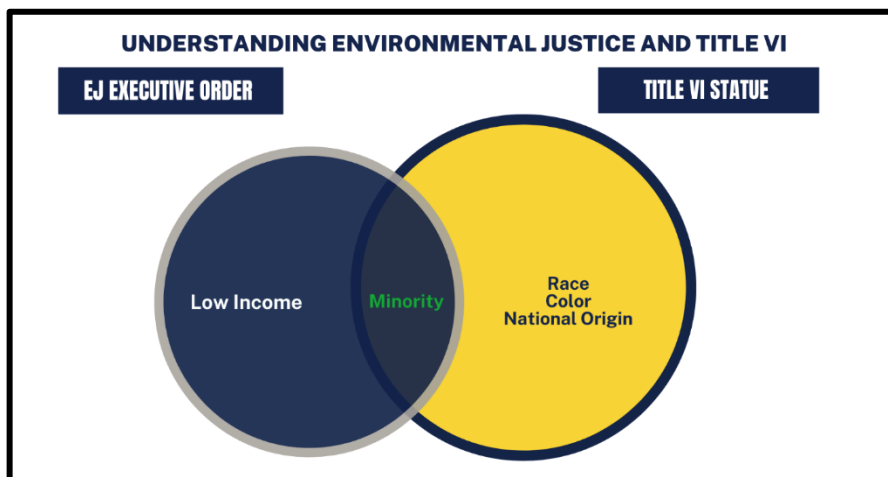


Figure 31: Understanding Environmental Justice and Title VI

AAMPO’s public involvement activities work to meet and exceed both Title VI and Environmental Justice requirements which seek to:

- 6 Avoid, minimize or mitigate disproportionately high and adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- 7 Ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- 8 Prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.
- 9 Avoid discrimination of any kind against individuals on the basis of race, color, or national origin.

In addition to the definition above, the USDOT issued specific guidelines to MPOs regarding Environmental Justice. MPOs are required to:

- 10 Explore needs within minority communities.
- 11 Involve minority communities and disabled persons in the transportation planning process.
- 12 Include minorities/disabled persons on boards and committees in leadership roles.
- 13 Document Title VI efforts.
- 14 Advertise public meetings in places where minorities/disabled persons go.
- 15 Hold meetings at times and places convenient for the minority community.
- 16 Communicate in languages other than English.
- 17 Consider special needs in public accommodations.
- 18 Follow up with the minority community after public meetings, when decisions are made and after project implementation.

AAMPO adheres to the Department of Transportation guidelines by:

- 19 Conducting specific outreach in underserved communities by hosting public meetings in strategic locations;
- 20 Using the ‘go to them’ meeting approach with staff conducting outreach in familiar spaces or getting on established organizations’ agendas;
- 21 Taking into account available transit service in determining meeting locations;
- 22 Translating information into Spanish;
- 23 Having Spanish speaking staff members available at all meetings;
- 24 Including minorities/disabled persons on committees;
- 25 Advertising public meetings and information in a variety of print media; and
- 26 Documenting efforts.

Moving forward AAMPO will build on these efforts, as needed, to meet new requirements and consider federal goals for improved transportation planning processes and project decisions. USDOT, Executive actions, and IIJA guidance is instructive. Executive Order (EO) 13985, Advancing Racial Equity and Support for Underserved Communities and EO 14008 Tackling the Climate Crisis at Home and Abroad, both signed into law along with the current administration’s Justice40 initiative (signed into law in January 2021) seeks to advance the efforts of the Title VI and EJ regulations. EO 13985 defines the term “equity” as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. The term “underserved communities” refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the preceding definition of “equity.” The goal of Justice40 is to provide a whole-of-government approach (joint activities performed by diverse ministries, public administrations and public agencies to provide a common solution) to advancing environmental justice by stating that 40 percent of Federal investments flow to disadvantaged communities.

The USDOT, through FHWA and FTA, issued the 2021 planning emphasis areas (PEAs). One of these PEAs is specific to environmental justice and brings equity into the fold. The FHWA/FTA PEA highlights Equity and Justice40 in Transportation Planning. Specifically, state DOTs, MPOs, and providers of public transportation are strongly encouraged (not required) to advance racial equity and support for

underserved and disadvantaged communities. The encouragement is intended to ensure public involvement in the planning process and that plans and strategies reflect various perspectives, concerns, and priorities from impacted areas. As such, FHWA and FTA encourage the use of strategies that:

- Improve infrastructure for non-motorized travel, public transportation access, and increased public transportation service in underserved communities;
- Plan for the safety of all road users, particularly those on arterials, through infrastructure improvements and advanced speed management;
- Reduce single-occupancy vehicle travel and associated air pollution in communities near high-volume corridors;
- Offer reduced public transportation fares as appropriate;
- Target demand-response service towards communities with higher concentrations of older adults and those with poor access to essential services; and
- Consider equitable and sustainable practices while developing transit-oriented development including affordable housing strategies and consideration of environmental justice populations.

Another IJJA provision, section 11509, Reconnecting Communities Pilot Program seeks to repair the harm to low-income population and underrepresented areas that resulted from transportation facilities creating barriers by reducing access to mobility and economic development opportunities. Funding grants will be available for projects that restore these community connections by removing, retrofitting, or mitigating such facilities. The IJJA (section 11201) also requires MPOs to consider equitable and proportional representation of population of metropolitan planning area when MPO designates officials or representatives for the first time. The current structure of the policy board accurately reflects the Alamo Area region demographically and politically. It is a diverse board made of elected officials and policy makers. As the board cycle progresses, AAMPO staff will inform and remind board members of this requirement.

Beginning in 2021, AAMPO's GIS section, with support from the Planning and Travel Demand Modeling sections and regional partners, initiated the effort to expand EJ and Title VI research to include equity. This effort will further examine the challenges related to demographics and socioeconomic and technological opportunities in the AAMPO region. The associated deliverable will be an application tool to show regional equity related observations. This information will be shared and made available to transportation planners, public and private, to better guide decisions to meet federal rules and initiatives.

AAMPO's current programs, studies, policy board vision and goals and policies and its composition, as well as efforts by regional transportation partners are already advancing several of the federal goals and requirements outlined above. AAMPO's Commute Solutions and Active Transportation programs seek to promote viable alternatives to single-occupancy vehicles and promote safety for vulnerable road users. AAMPO's public involvement policies (and efforts), as previously noted, have specific strategies for underserved communities. The policy board vision highlights the importance of increasing equitable accessibility for all users and have endorsed AAMPO's forthcoming Regional Equity Analysis initiative. Public transportation partners, ART and VIA are also evolving their services to underserved and overlooked communities by providing service to older adults, people with disabilities, and improved service in lower-income areas. While these commitments are key to advancing regional equity, the project selection process will be further improved to consider the various equity indicators, environmental justice requirements, and Title VI.

3.4 Planning for Growth

As shown in Section 1 of this plan, the projected growth for this area is exponential. Between now and 2050, the area counties are expected to see between 60 and 198 percent population and employment growth (see images below). In addition to growth, the continued evolution of emerging transportation technologies along with the issues of climate impact and environmental degradation, system resiliency, and safety and security are all topics to consider. These topics coupled with the growth scenario create a host of opportunities and challenges. AAMPO is committed to the continued improvement of the transportation network to leverage opportunities and mitigate for the challenges.

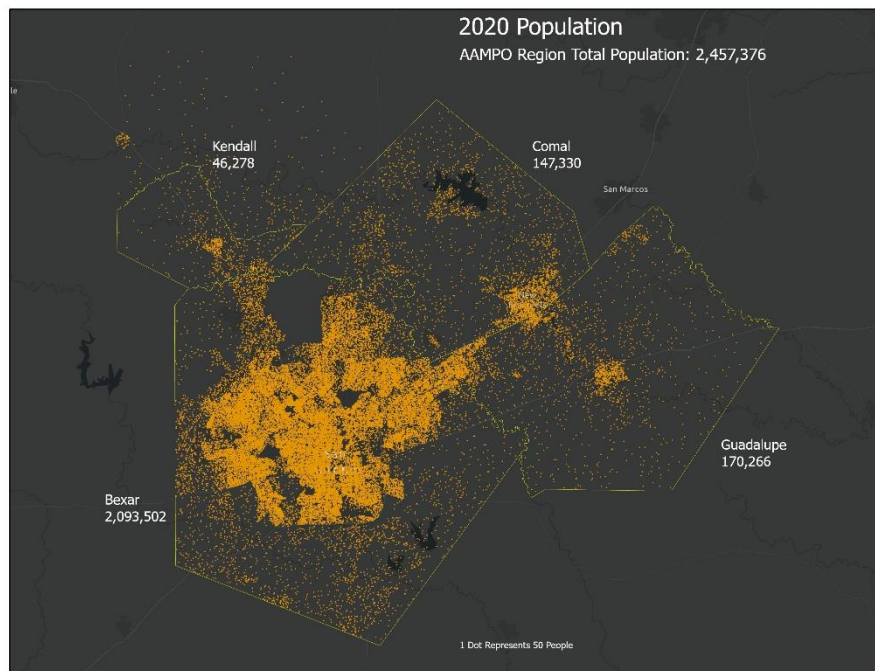


Figure29: AAMPO Region: 2020 Population

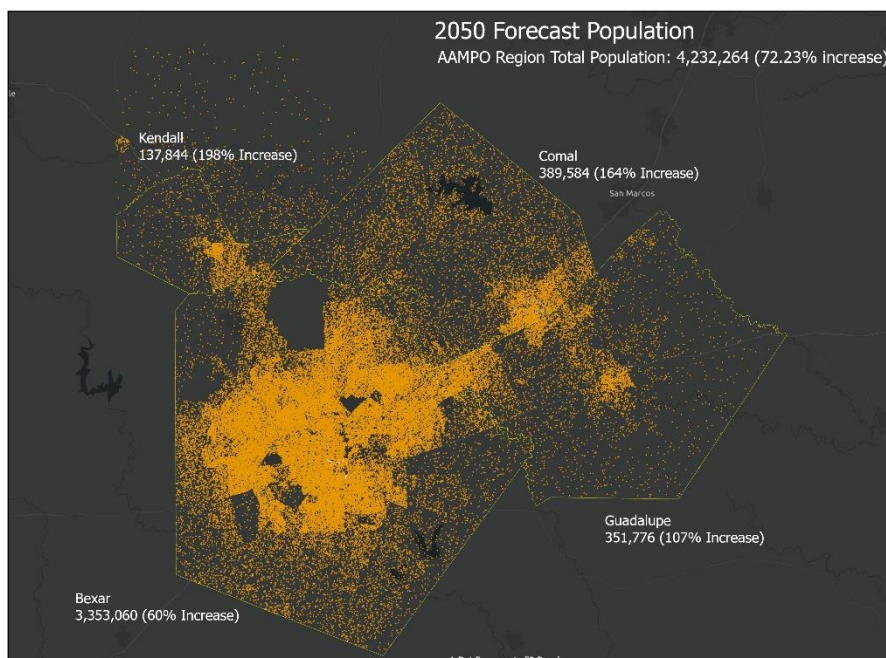


Figure30: AAMPO Region: 2050 Forecast Population

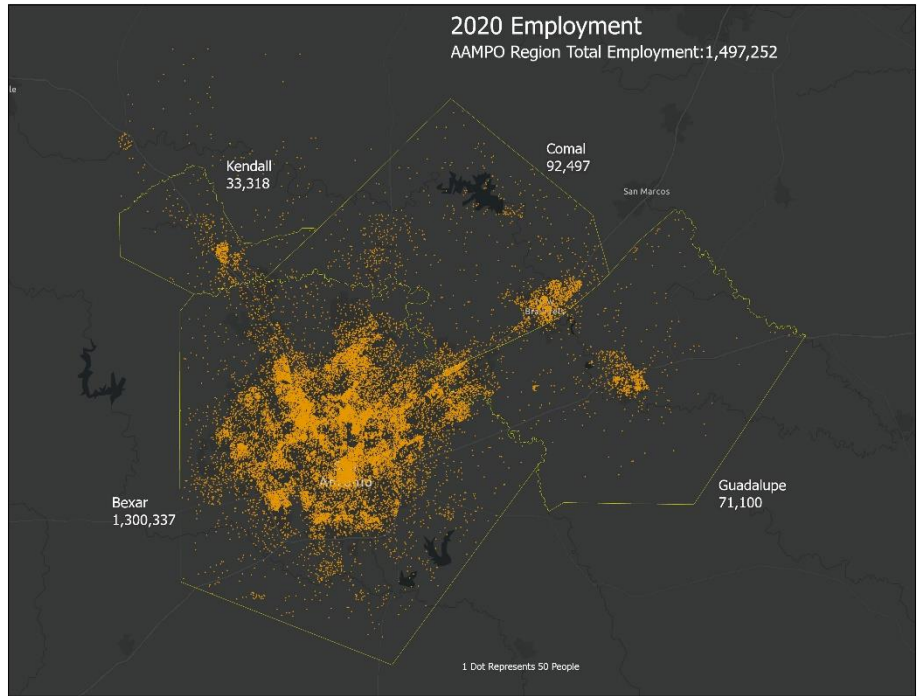


Figure 31: AAMPO Region 2020 Employment

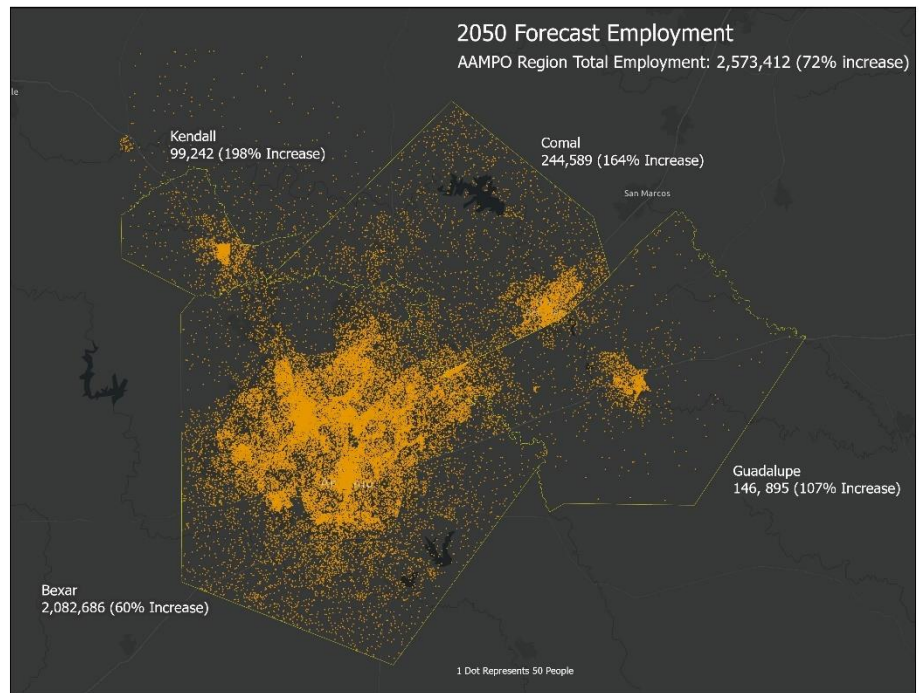


Figure 32: AAMPO Region: 2050 Employment Forecast

As previously noted, land use decisions will impact the ability to fully develop a regional multimodal transportation network. In their role as part of the AAMPO Policy Board, members do not institute land use regulations. However, the roles each member plays outside of AAMPO has the ability to influence land use policies and regulations. The Board understands that decisions related to mobility projects do affect land use and, as stated in Section 1 of this plan, many of AAMPO's goals involve land use considerations. Therefore, AAMPO's Policy Board is ever mindful of how projects connect and interact with the overall built and natural environment.

The current Unified Planning and Work Program (UPWP) outlines the agency's direction for fiscal years 2022 and 2023. The UPWP is a two-year road map outlining the agency's programs and studies. It also contains plans and studies of AAMPO's federally-funded mobility partners. The efforts seek to take study findings and program efforts to help inform policy decisions and project selection. The following AAMPO studies and programs are part of the FY 2022-2023 UPWP and are explained in more detail throughout the Future of Transportation Section.

- Performance Measures and Targets
- Safety Planning
- Regional Equity Analysis
- Regional Lighting Study
- Air Quality Planning
- Active Transportation Planning
- Curb Management Study
- Travel Demand Modeling
- Resiliency Study
- Alamo Commutes Program
- Regional Freight Study

Additional efforts outlined in the 2022-2023 UPWP include activities by regional transportation planning partners as they are federally-funded as a part of the AAMPO's efforts. These efforts include:

- VIA's Origin and Destination Survey
- AACOG Air Quality Planning
- VIA's Transit Oriented Development Planning Pilot
- City of San Antonio Multimodal Planning Study
- VIA's Rapid Transit Corridor Study

Finally, planning partners who are leading efforts and/or projects or programs outlined in AAMPO's TIP include:

- UTSA's Transportation Equity for All Program
- Great Springs Alamo to Capital Trails
- TxDOT's HERO Traffic Incident Management Program
- TxDOT's Statewide Freight Plan Update
- Regional Added Capacity (lanes) Projects
- Regional Operational Improvement Projects
- Active Transportation Projects and Programs
- VIA's Mobility Hub Study
- City of San Antonio Bike Map Update
- Congestion Mitigation and Air Quality Projects
- VIA's Advanced Rapid Transit Program
- City of San Antonio 2022-2027 Bond Program
- City of New Braunfels 2023 Bond Program

Regional projects, listed above, include projects led by TxDOT as well as local governments. Active transportation projects are led by AAMPO as well as other entities. These efforts are highlighted in each of the respective sections below.

3.5 Multimodal Forecast



In 2009, AAMPO adopted a Complete Streets Policy, aimed at ensuring people of all ages and abilities are able to use public rights of way and roads safely and comfortably, regardless of mode. The Complete Streets policy advances the concept that public rights of way can be transformed to accommodate a variety of modes including bikes, pedestrians, micromobility, automobiles, and transit. In support of advancing this policy, a variety of plans, programs, and studies will be continued, initiated, and implemented over the next four years. Alamo Commutes, presented in Section 1, will continue to offer services and suggestions for multimodal travel in the Alamo Area. In order to be as successful as possible, AAMPO will leverage the committee structure to coordinate efforts between state and local partners as well as across mobility options. Additionally, Section 11206 of the IJA requires MPO's to conduct activities to increase safe and accessible options for multiple travel modes for people of all ages and abilities. This requirement legitimizes what AAMPO has been doing for years. Additional funding may be flowing to the AAMPO's active transportation programs, plans, and projects as a result.











Several local planning partners are advancing their own multimodal projects and programs. Local partners advancing their own plans is key to leveraging federal funding and being competitive during AAMPO TIP project calls. AAMPO has dedicated federal funding identified for some projects and programs and will seek to leverage funding and coordination opportunities to support future efforts to the greatest extent possible. The City of New Braunfels and the City of San Antonio have bond initiatives that will be going to voters in the very near future. Both of these bond programs have elements to improve multimodal connections and mobility as well as drainage and stormwater management. The City of San Antonio also has federal funding, committed through AAMPO's TIP, to conduct additional multimodal studies. Additionally, The University of Texas at San Antonio (UTSA) will be implementing a program, partially funded through AAMPO's CMAQ funding source, to advance transportation equity for all. While these efforts specifically call out multimodal measures, there are several proposed improvements and programs throughout the region that support advancing all mobility choices in an integrated way.



City of New Braunfels 2023 Bond Program

The City of New Braunfels 2023 bond program, as it relates directly to transportation improvements, consists of 15 transportation projects, including two citywide efforts for intersection improvements and street improvements. The transportation elements of the bond package is estimated at \$160.8 million. AAMPO has committed to funding some of this effort through the STBG and TA funding sources. Every project listed has some element to support the safety and/or infrastructure improvements for pedestrians and bicyclists. The proposed transportation projects also include at least eight drainage improvements, three railroad crossing improvements, one heavy truck route improvement, and one bridge connectivity improvement. The City of New Braunfels bond package also includes four drainage and watershed (stormwater runoff area) projects. These projects will mitigate for flooding and improve accessibility. The City of New Braunfels is also revisiting their Drainage Area Master Plan and anticipate a project list being developed in 2025. The City continues to solicit public comments and has yet to finalize the package going to voters. For more information on the bond package, visit the City of New Braunfels website at <https://www.nbtexas.org/3246/Proposed-2023-Bond>, call 830-221-4275, or email bond@nbtexas.org

The City of New Braunfels is also working to implement their Hike and Bike Trail Plan, adopted in 2020. For more information on this plan, please see the Active Transportation Section below.

Table 13: City of New Braunfels 2023 Bond Program

City of New Braunfels 2023 Bond Program – Transportation Priority Ranking		
Priority	Project	Estimated Cost
1	Barbarosa Rd/Saur Ln Phase 1 (FM 1101 - Saengerhalle Rd) Common	 \$ 17,940,000
2	Street Pedestrian Improvements (Liberty Ave - Loop 337) Common Street	 \$ 2,207,000
3	(Loop 337 - FM 306)	 \$ 17,600,000
4	Conrads Ln (Goodwin Ln - City Limit)	\$ 8,804,000
5	Citywide Intersection Improvements	 \$ 18,562,000
6	Kohlenberg Rd (FM 1101 - IH 35)	 \$ 7,826,000
7	Gruene Rd (New Braunfels St -Rock St)	 \$ 2,845,000
8	Orion Dr (Goodwin Ln - City Limit)	\$ 5,648,000
9	Citywide Pedestrian Improvements	\$ 9,350,000
10	S Kowald Lane (FM 1101 - IH 35)	 \$ 6,917,000
11	North-South Collector Phase 1 (IH 35 - FM 1101)	 \$ 4,080,000
12	Solms Rd (IH 35 - FM 482)	\$ 10,916,000
13	River Rd (Lakeview Blvd - Loop 337)	\$ 3,638,000
14	Waterway Ln (Gruene Rd - Common St)	 \$ 14,468,000
15	Hill Country Dr (SH 46 - City Limit)	 \$ 135,801,000
Total (1-15)		\$ 25,000,000
Citywide Street Improvements		\$ 160,801,000
Total Transportation		


 Indicates previous or ongoing project work

City of San Antonio 2022 Bond Program

The City of San Antonio 2022 bond program, as it relates to streets, bridges, and sidewalks consists of 62 projects totaling \$471.6 million. Of this amount, \$100.5 million is proposed for the reconstruction (extensive rehabilitation) of failing streets. Another \$115.5 million includes proposed citywide pedestrian mobility improvements (\$12 million) and continued development of the Howard W. Peak Greenway Trail System and other hike and bike trails. The citywide pedestrian projects will be prioritized based on proximity to schools, medical/wellness facilities, libraries and parks, pedestrian safety, and transit access. While the proposed trail improvements element consists of preserving open space for new multi-use trails and increased connectivity and access. Additionally, City of San Antonio staff and Community Bond Committees evaluated and recommended projects that will improve connectivity, enhance multimodal options, improve safety, and increase mobility. Projects located with the regional centers as outlined in the

City of San Antonio’s 2040 Multimodal Long Range Transportation Plan, *SA Tomorrow*, include the following:

- MEDICAL CENTER: Floyd Curl Drive (Huebner Road to Charles Katz Drive) - \$12 million
- CENTRAL BUSINESS DISTRICT: Hemisfair Boulevard Phase 3 - \$9 million
- JBSA-LACKLAND/PORT SAN ANTONIO: Port San Antonio Area Streets - \$15 million
- BROOKS: Sidney Brooks Drive (City Base Landing Drive to South New Braunfels Avenue) - \$15 million
- TEXAS A&M UNIVERSITY SAN ANTONIO/TOYOTA: Texas A&M University San Antonio Area Streets - \$10.6 million

Additional City of San Antonio drainage and flood control (23 projects), parks and recreation (82 projects), public safety facilities (6 projects), library and cultural facilities (9 projects) and an affordable housing program estimated at \$150 million. The complete bond package is valued at \$1.2 billion, the largest bond program in San Antonio’s history. The City of San Antonio has estimated infrastructure needs at over \$6 billion. Election Day is set for May 7, 2022. For more information, visit the City of San Antonio website at www.sanantonio.gov/2022bond, call 210-207-8022, or email using the contact portal on the Public Works webpage. The City of San Antonio will be updating their Bike Master Plan (see Active Transportation Section) and continuing to study ways to advance multimodal efforts (see below).

Table 14: City of San Antonio Bond Program



KEY PROJECTS	ESTIMATED AMOUNT
Failed "F" Streets	\$ 100,500,000
Pedestrian Mobility	\$ 12,000,000
Culebra Road (IH10 to Callaghan Road)	\$ 18,000,000
Marbach Road Area Streets (Loop 410 to Horal Drive)	\$ 15,000,000
Toepperwein Road (Nacogdoches to Raintree Forest)	\$ 14,500,000
Floyd Curl Drive (Huebner Road to Charles Katz)	\$ 12,000,000
Port San Antonio Area Streets	\$ 15,000,000
Sidney Brooks Drive (City Base Landing to S. New Braunfels)	\$ 15,000,000
Texas A&M University Area Streets	\$ 10,600,000
Citywide Bicycle Facilities	\$ 10,000,000
Citywide Bridge (Leveraged with ARPA Funding Totaling \$3M)	\$ 1,157,000

City of San Antonio Multimodal Planning Study

As outlined in AAMPO’s FY 2022-2023 UPWP, the City of San Antonio Multimodal Planning Study is funded using STBG funds. The effort will include studies related to arterials planning to address safety, congestion, multimodal transportation, and economic impacts to specific corridors. *SA Tomorrow* and VIA’s 2040 Vision Plan envision transforming arterial corridors to better accommodate multimodal uses. The City of San Antonio will coordinate study efforts with VIA and other transportation partners. The effort is intended to better prepare future, large scale multimodal corridor projects.

Bexar County Capital Improvement Program

Bexar County's proposed 10-year Capital Improvements Program includes 57 projects. These projects range from added capacity on arterial roadways to drainage and hike and bike trails. The total program is estimated to cost approximately \$540 million. More specifically, the program kicked-off in FY 2021-2022 and the following projects are currently programmed:

- 32 Road and Flood Control Projects: 11 arterial added capacity projects with the majority including pedestrian and bicycle improvements; 10 flood control projects addressing low water crossings and drainage improvements; and 11 subdivision projects to include ADA accommodation improvements.
- 25 Hike and Bike Trail Projects: Addition of trails throughout multiple river and creek areas in Bexar County. These projects are being developed in partnership with the San Antonio River Authority.

For more information, visit <https://www.bexar.org/1502/Projects>.

Alamo Commutes

AAMPO programs will remain a mainstay for informing, engaging, and assisting the community as the agency looks to the future. The key program to help shift behavior from single-occupancy vehicles to multimodal travel is Alamo Commutes. As described in Section 1, AAMPO's program coordinator helps commuters select and plan an affordable, sustainable and convenient commute to work or school. The coordinator also helps employers determine how best to support diverse transportation modes, take advantage of tax benefits, and promote mobility alternatives. The Alamo Commutes program is funded with STBG funds and is free to all participants.

As participation in the program picks back up in 2022, Alamo Commutes plans to understand, identify, and reach out to three target groups in the Alamo Area:

1. Those who recently moved to the area;
2. Those who have a high propensity to change their commuting behavior; and
3. Those who lack digital access to Alamo Commutes.

The projects and programs listed above have specific multimodal elements. All facets of transportation, whether specifically multimodal in nature or part of the larger network, must consider connectivity. Connectivity, at its best, is accomplished by developing modal improvements to contribute in a systematic manner to achieve optimal mobility. The following sections highlight the forthcoming efforts to further improve the Alamo Area multimodal transportation network by continuing planning and programming to maintain an adequate level of mobility. The AAMPO board, committees, and staff will continue to emphasize and promote bringing these modes together to form an enhanced regional network.

Roadway Forecast

Located on two major freight corridors, I-10 and I-35, our region is fortunate to have relatively good mobility as compared to other Metropolitan Statistical Areas with comparable populations. However, with another 1.8 million new residents expected by 2050, resiliency and reliability of the roadway system will increase in priority as we work to maintain current levels of congestion and the region's quality of life. This section will highlight what is known about the IJA highway funding and roadway improvements regulations and provide information on roadway classification, and regionally significant roadways. It also covers AAMPO's thoughts about efforts to improve the planning to keep roadways in the region flowing and safe for all users. Efforts and changes to project funding requirements related to resiliency and freight can be found in these respective sections of this document.

IIJA Highway and Roadway Overview

While the IIJA maintains significant elements of the FAST Act, current guidance includes new eligibility considerations for projects seeking federal funds. More specifically, the Act includes revisions to the Highway Safety Improvement Program (HSIP section 11111) and a new bridge funding program (Division J). It also includes new grant opportunities for wildlife crossings (section 11123), “mega-projects” (section 21201), and a local and regional project assistance program (section 21202). Changes to the HSIP now includes funding eligibility criteria for safety improvement projects that include railway-highway grade-separated projects, traffic control devices for pedestrians and cyclists, and roadway improvement that separate vehicles from bicycles and pedestrians. In order to be eligible, the State DOT has to complete a vulnerable road user safety assessment. The new bridge funding program allows for bridges on public roads (not just highways) to be eligible for federal funds for replacement, rehabilitation, preservation, protection, and construction efforts.

The three grant funded programs listed above require a competitive federal process to get funding. The wildlife crossings projects eligible for application must demonstrate improved wildlife habitat connectivity and potential to reduce the number of wildlife-vehicle collisions. The mega-projects grant program, also known as the National Infrastructure Assistance Program, lists eligible projects as those that are on-system (part of the national network) or part of the national freight network for highway/bridge projects; includes intermodal freights and freight rail projects that provide a public benefit; allows opportunities for projects that eliminate railway-highway at-grade intersections or are designed to be grade-separated; and considers intercity passenger rail projects and certain public transportation projects for discretionary funding. Lastly the IIJA, thus far, provides for local and regional project assistance for projects that have a significant local or regional impact by improving infrastructure. This grant program expands the existing RAISE grant program. It has a wide-range of potential. Projects specific to roadway improvements include certain highway/bridge projects, surface transportation elements of an airport, and any other surface transportation projects considered necessary to advance the program goals. These funding opportunities, specifically for intercity passenger rail projects may finally open the door to making rail in the Alamo Area a reality. This component is included in the roadway section since the Alamo Area does not have an intercity rail program, it is not covered in this document. AAMPO will continue to monitor the federal guidance, and specific definitions for eligibility, for these programs.

Roadway Functional Classification

The MTP is primarily concerned with those roadways that will be built or expanded using federal funding sources. These roadways are part of the “functionally classified roadway system.” A functionally classified roadway system allows for urban streets to be grouped by their purpose or function. There are three main functions for urban streets: 1) movement of traffic, 2) distribution or collection of traffic, and 3) provide access to terminal points. Freeways provide maximum movement of vehicles, but allow limited access to the adjacent land use. Arterial streets have lower vehicular capacity and speed, but allow for direct access to surrounding land use. Collector and residential streets primarily provide access to larger facilities, as each class of urban street serves as a collection device for the next lower class of street. The functional classification system is further defined in Table 15

Functionally classified roadways describe the various levels of vehicular mobility. Using functional class in the transportation planning process ensures that general land use and local development are considered in evaluation of both existing and future transportation needs. Another purpose for using the functional classification system is to help determine which roadways should be included in a regional transportation system.

Table 15: Functional Classification System Description

Functional Classification System Descriptions and Examples				
Functional Classification	Level of Mobility	System Access	Level of Accessibility	AAMPO Example
Freeway	Connects all urban subregions together; connects urban and rural service areas with metro major activity centers; connects to other cities.	To other freeways, principal arterials, and selected arterials; no direct land access.	Long trips at high speed within and through the metro area; express transit trips.	I-35 I-10 Loop 410 1-37 Loop 1604
Principal Arterial	Connects two or more subregions; provides secondary connections outside cities; complements freeways in high volume corridors.	To freeways, other principal arterials, and high-volume collectors; no direct land access except major traffic generators.	Medium distance to long trips at high to moderate speeds within the urban area; express transit trips.	Wurzbach Road (San Antonio) Continental (New Braunfels) FM 1101 (Comal County)
Arterial	Connects adjacent subregions and activity centers within subregions.	To freeways, principal arterials, other arterials, and collectors; restricted direct land access.	Medium to short trips at moderate to low speeds; local transit trips.	Watson Lane (Comal County) Lookout Road (Schertz) Blanco Road (San Antonio)
Collector	Connects neighborhoods within and between subregions.	To arterial, other collectors, and local streets; direct land access.	Primarily serves collection and distribution function for the arterial system at low speeds; local transit trips.	Continental (Seguin) Bulverde Road (Comal County) Cordova (New Braunfels)
Local	Connects blocks within neighborhoods and specific activities within homogeneous land use areas.	To collectors and other local streets; direct land access.	Almost exclusively collection and distribution; short trips at low speeds.	Neighborhood streets across the AAMPO region

Regional Throughfare Study Update

As the Alamo Area faces massive growth, roadway improvements will be vital to handling the influx of people and providing them with choices. One important piece to planning for improvements is identifying and ensuring major thoroughfares keep up with regional needs. The area’s major thoroughfare plans are composed primarily of principal and major arterial streets and provides the necessary transportation support and access to and from local land uses. Since many major expressway corridors are constrained from acquiring additional right-of-way, much of the additional out-year demand will likely have to be accommodated through a better connected and more efficient arterial street system. Many of the major and minor arterials are expected to be constructed by developers interested in expanding commercial and residential development outside of built portions of the cities within the AAMPO study area.

To help local partners plan for this and think about regional connections, the MPO commissioned the Regional Thoroughfare Plan Study. The purpose of the study was to review existing major thoroughfare plans to identify differences between plans within the region; determine constraints that impact the constructability of proposed thoroughfares; perform a needs study that used both capacity and connectivity criteria to identify areas in the region that should be the focus of further study; and develop a “bridge” to understand how individual jurisdictions’ existing classification system align with the regional system. Local jurisdictions were involved in this process and were given the tools they need to revise their major thoroughfare plans if deemed necessary.

The study noted above was completed in 2018 and AAMPO plans to update it in the next few years. The study will be conducted in a similar manner, working with local transportation and transit providers to develop the plan and assist with determining needs.

Regionally Significant Roadway Network

In anticipation of a nonattainment designation for ozone, the MPO began work in January 2016 to develop a definition for “regionally significant roadways”. Thereafter, AAMPO’s TAC and Policy Board adopted the following definition for regionally significant roadways:

- Those facilities federally functionally classified as interstate freeways, other freeways or expressways
- Those facilities federally functionally classified as principal arterials
- Roadways and intermodal connectors included in the federally adopted National Highway System
- Roads designated as SH or US routes
- Community connections that provide direct, continuously signed connections between nearby or adjacent census defined urbanized areas, urban clusters and population centers with more than 5,000 people
- Roadways between activity centers that serve as primary regional connectors to an otherwise unserved regional activity center
- Extensions of Regionally Significant Roadways to connect non-connecting termini

While not mapped because none currently exist, the MPO’s regionally Significant Roadways definition also includes the following:

- Fixed guideway transit facilities that offer an alternative to regional highway travel
- Tollways
- Grade-separated interchange projects on Regionally Significant Roadways where no access existed previously

The Regionally Significant Roadways system is shown in Figure 32. These roadways are serving the region’s transportation needs by providing access to major activity centers and employers that include military bases, Brooks, Port San Antonio, Toyota, major shopping malls, the South Texas Medical Center, colleges and universities and communities of 5,000 or more in population.

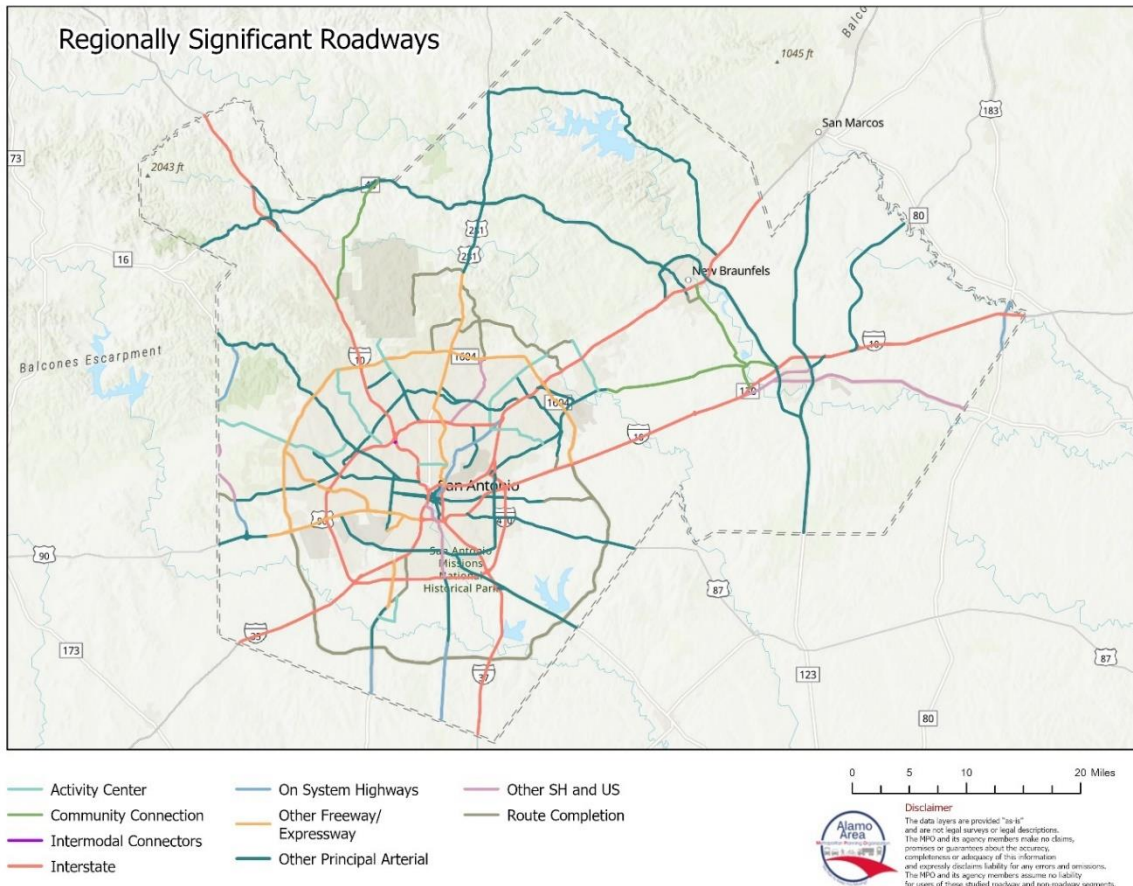


Figure 32: Regionally Significant Roadway Network 2021

Base Year and Future Year Roadway Systems

The future year (2050) roadway system was developed using an extensive technical and financial analysis and public input. Agencies' priorities and projected transportation usage were evaluated to develop a network of the future year highway and street system. The number of lane miles, vehicle miles of travel, and average speeds for facility types are summarized in Table 16 through Table 18. Also, Figure 33 through **Error! Reference source not found.** illustrates the volume over capacity for the years 2020 and 2050 for build and no build.

Table 16: Average Speed and Weekday Vehicle Hours

Comparison of Average Speed and Weekday Vehicle Hours (in thousands) by Facility Type										
Facility Type	2020 Speed*	2020 Veh Hrs**	2025 Speed*	2025 Veh Hrs**	2035 Speed*	2035 Veh Hrs**	2045 Speed*	2045 Veh Hrs**	2050 Speed*	2050 Veh Hrs**
Intestate Freeways	36.0	590	35.4	676	31.7	898	27.0	1,226	24.3	1,452
Other Freeways	34.6	221	34.3	278	33.2	358	30.5	442	29.1	493
Expressways	30.9	75	33.5	58	32.0	78	28.9	105	27.7	121
Principal Arterials	22.5	421	21.6	473	19.8	616	18.2	805	17.2	933
Minor Arterials	19.8	383	18.7	433	17.1	566	15.4	736	14.5	853
Collectors	19.8	343	19.1	397	17.5	545	15.9	753	15.1	893
Frontage Roads	20.3	162	19.3	192	17.7	249	16.3	317	15.4	363
Ramps	25.6	99	24.7	116	23.7	145	22.5	172	21.9	188
Totals	26.5	2,294	25.9	2,622	23.8	3,454	21.2	4,554	19.8	5,297
*Calculated as VMT/VHT **SAMM 5.0 Vehicle Assignment Summary										

Table 17: Number of Lane Miles by Facility Types

Number of Lane Miles by Facility Type											
Facility Type	2020*	% of total	2025*	% of total	2035*	% of total	2045*	% of total	2050*	% of total	
Intestate Freeways	1,372	11%	1,477	12%	1,601	12%	1,618	12%	1,618	12%	
Other Freeways	497	4%	631	5%	718	5%	718	5%	718	5%	
Expressways	358	3%	335	3%	389	3%	389	3%	389	3%	
Principal Arterials	1,841	15%	1,860	15%	1,878	14%	1,889	14%	1,889	14%	
Minor Arterials	2,420	20%	2,446	19%	2,530	19%	2,518	19%	2,518	19%	
Collectors	4,266	35%	4,328	34%	4,345	33%	4,370	33%	4,370	33%	
Frontage Roads	1,210	10%	1,245	10%	1,281	10%	1,281	10%	1,281	10%	
Ramps	330	3%	344	3%	360	3%	363	3%	363	3%	
Totals	12,293	100%	12,667	100%	13,102	100%	13,146	100%	13,146	100%	
*SAMM 5.0 Input Network Summary											

Table 18: Weekday Vehicle Miles of Travel by Facility Type

Comparison of Weekday Vehicle Miles of Travel by Facility Type (in Millions)										
Facility Type	2020*	% of total	2025*	% of total	2035*	% of total	2045*	% of total	2050*	% of total
Intestate Freeways	21.224	35%	23.887	35%	28.427	35%	33.039	34%	35.258	34%
Other Freeways	7.650	13%	9.532	14%	11.902	15%	13.460	14%	14.337	14%
Expressways	2.302	4%	1.951	3%	2.484	3%	3.029	3%	3.360	3%
Principal Arterials	9.479	16%	10.225	15%	12.208	15%	14.644	15%	16.091	15%
Minor Arterials	7.573	12%	8.095	12%	9.677	12%	11.334	12%	12.401	12%
Collectors	6.804	11%	7.597	11%	9.553	12%	12.011	12%	13.509	13%
Frontage Roads	3.290	5%	3.694	5%	4.411	5%	5.155	5%	5.598	5%
Ramps	2.538	4%	2.867	4%	3.421	4%	3.868	4%	4.116	4%
Totals	60.860	100%	67.847	100%	82.083	100%	96.540	100%	104.670	100%
*SAMM 5.0 Vehicle Assignment Summary										

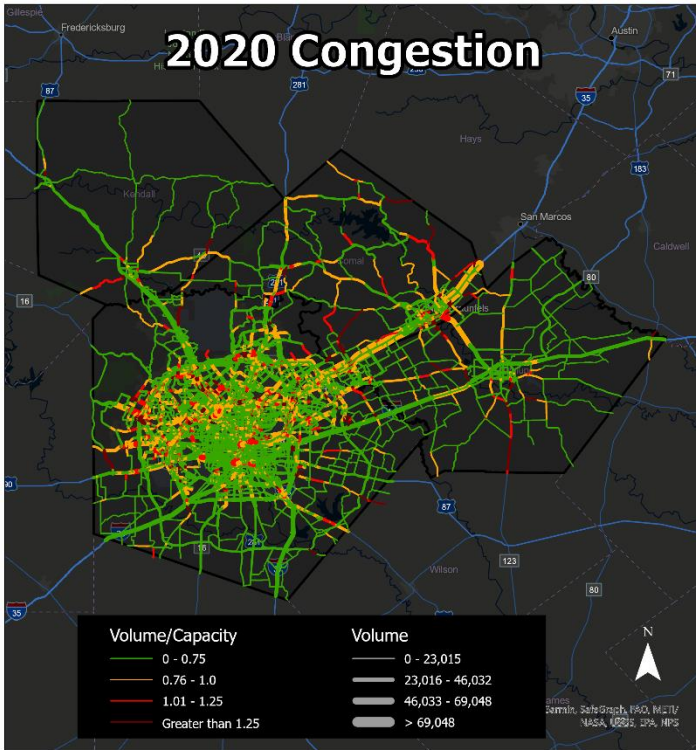


Figure 33: 2020 Congestion Based on Volume/Capacity

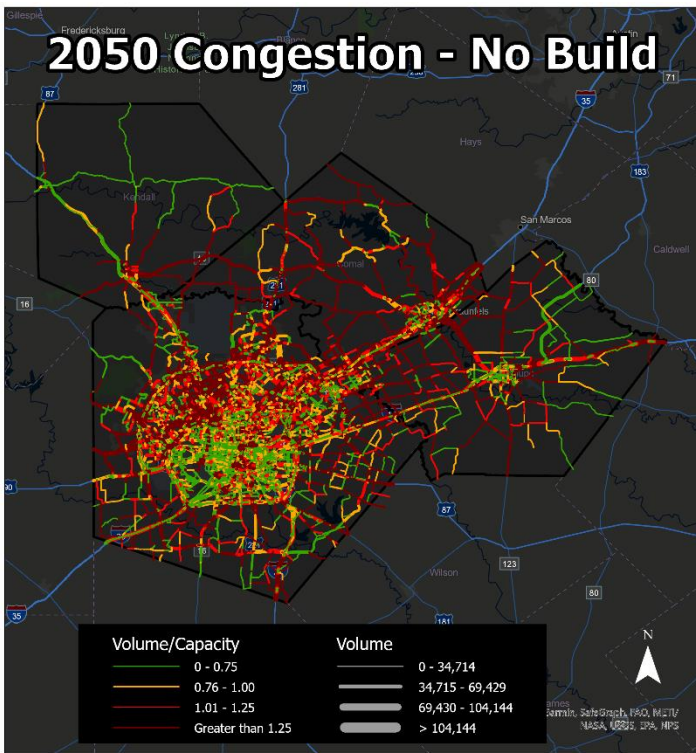


Figure 34: 2050 Forecasted Congestion Volume/Capacity- No Build

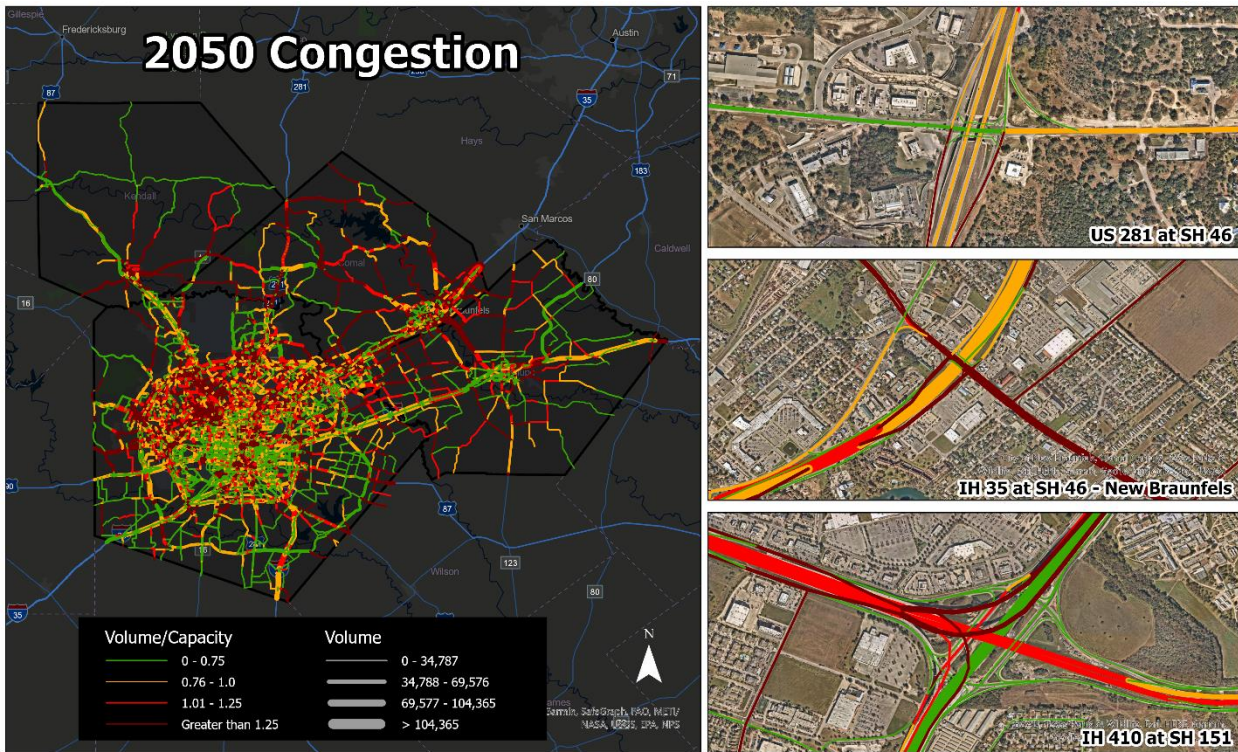


Figure 35: Forecasted Congestion Volume/Capacity- Build

Despite significant investment in roadway projects, congestion on the region’s roadways is expected to increase in the future. The roadway projects outlined in the funded project list begin to mitigate the expected growth in congestion. However, to accommodate the higher burden that will be placed on the transportation system, not just expansion of the roadways, but operational improvements (such as signal re-timings and intersection modifications) and enhancements to the transit, bicycle and pedestrian systems must occur. This includes exploring new and emerging technologies for their potential to help the existing roadway system run more efficiently and reliably. Other potential improvements to relieve congestion and improve quality of life are documented in the Congestion Management Process section. The system must be evaluated and planned for in a holistic manner to truly keep mobility on pace with the Alamo Area’s expected growth.

Public Transportation Forecast

The future of transit is bright in the Alamo region. As AAMPO continues to assist local public transportation providers to advance service and facility improvements, it also supports regional transportation partners in exploring the potential of transit. Specifically, AAMPO sponsored a City of New Braunfels Transit Study that was completed in 2021. The City is reviewing the recommendations and considering initial steps for implementation. The Alamo Regional Transit (ART) is exploring the opportunities and waiting for additional IJJA guidance for expanding services. VIA Metropolitan Transit (VIA) has advanced its Keep SA Moving efforts and, as mentioned in the Alamo Area Today section, is continuing to retrofit its fleet and improve facilities. VIA’s full fleet conversion will be complete in 2025. Beginning in 2026, VIA will collect an additional 1/8th cent Advanced Transportation District sales tax and anticipates new federal funding sources through the IJJA programs and grants.



Figure 36: Keep SA Moving

VIA's Advanced Rapid Transit

In March of 2022, VIA announced that its plans for San Antonio's first Advanced Rapid Transit (ART) corridor are progressing with a recommendation for \$158 million from the federal government, marking a historic funding opportunity for the region and a step forward for the project that's part of VIA's Keep San Antonio Moving plan. VIA's ART project is the only Texas project added to the President's funding recommendation list for Fiscal Year 2023. It marks the first time San Antonio and VIA have been able to access this type of funding, which requires transit service that operates in a dedicated lane.

The estimated capital cost for the North/South ART corridor is \$320 million in year of expenditure dollars. The nearly 12-mile corridor connects major employment and residential centers from the San Antonio International Airport, along San Pedro Avenue, through Downtown and south to the Missions area. In August 2021, VIA was granted permission to enter the ART North/South concept project into the Capitol Investment Grants (CIG) program, one of the largest federal funding programs in existence. The project earned an initial "Medium-High" rating in January 2022. Visit KeepSAMoving.com for more information about the project and public involvement opportunities.

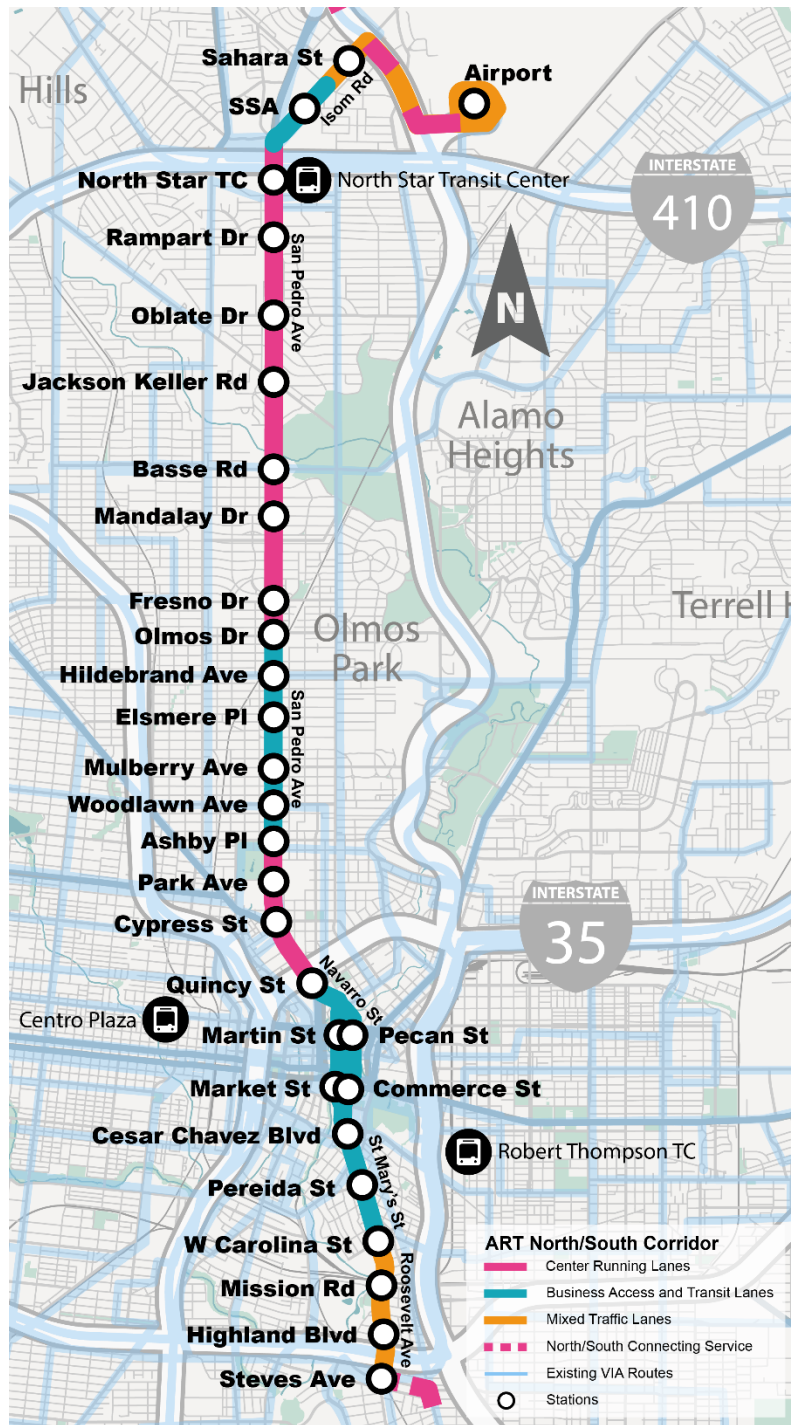


Figure 37: VIA Advanced Rapid Transit – North/South Corridor

VIA's Transit Oriented Development Planning Pilot

Land development patterns, the lack of an accessible pedestrian system, the relatively low cost of owning and operating a vehicle, and limited transit options continue to make travel by automobile the preferred mode of choice. However, future scenarios indicate, that by the year 2050, increases in population and employment, as well as the regional costs associated with increased congestion, reduced air quality and water sources, will affect an increase in demand for public transportation services.

One effort to address some of these barriers to increase transit's appeal to San Antonians, and related to the ART efforts, is VIA's Transit Oriented Development Planning Pilot. The pilot is made possible with \$825,000 in Federal Transit Authority funding. VIA will work with the City of San Antonio to plan for Transit Oriented Development along the Advanced Rapid Transit North/South project. The goal of the pilot is to enable Transit Oriented Development through the City of San Antonio Zoning/Development Code Amendments. This pilot is included in AAMPO's UPWP for fiscal years 2022 and 2023.

VIA's Origin and Destination Survey

While VIA continues to advance their system, the agency is continuing to study the makeup and travel patterns of their existing customers. These types of studies provide transit planners and decision-makers valuable information for improving routes, services, and programs. The primary purpose of the on-board origin and destination survey is to obtain accurate information on the fixed-route bus travel patterns of VIA bus riders, both system-wide and at route level. Information will be gathered at the linked trip level, which makes this research more useful than VIA's various routine, continuous methods of routine data collection which are at the unlinked trip level. A secondary purpose is to obtain matching information on rider demographics. VIA completed a similar survey in 2018 and will use those results as a baseline for comparison to the 2022 data. This project provides both information needed for modeling transportation demand and provides Title VI reporting information required for FTA. The survey is slated for completion in 2023.

VIA's Rapid Transit Corridor Study

Another important study included in AAMPO's UPWP and intended to advance VIA's ART efforts is the Rapid Transit Corridor Study. The purpose of this study is to perform advanced project definition for up to 6 rapid transit corridors (East, West, South, Northwest, Northcentral, and Northeast) connecting large regional activity centers identified in the City of San Antonio's SA Tomorrow plan. The identified corridors represent the full build out of VIA's high-capacity transit network and are strategically located to support the population growth of the San Antonio region. The results of the study will place the agency in a position to continue and enter more projects into the Project Development process in the federal Capital Investments Grant Program. The study includes conceptual plan development, traffic impacts analysis, operations and maintenance plan development, environmental constraints identification, and fatal flaw analysis. Advanced project definition on the first 4 corridors (North, South, East, and West) is expected to be completed in 2022. Study coordination will occur between the City of San Antonio, VIA Metropolitan Transit, AAMPO, and other transportation partners.

The plans and studies VIA is conducting will allow the agency to be competitive during funding application processes and determine what right of way is needed to bring the overall high-capacity system to fruition. VIA will continue collaborating with regional partners and stakeholders to implement the Keep San Antonio Moving to advance multimodal transit options for the region. The agency encourages community members, businesses and transit patrons to remain engaged and involved as this important community conversation continues. With the additional funding from the sales tax and the IJJA federal programs and grants, it is anticipated VIA will be able to make great strides over the next decade. For information on VIA's environmental efforts, see Air Quality Mitigation section of this document. For information on VIA's financial forecast, see the Funding Forecast section.

Active Transportation Forecast

The AAMPO planning region has made strides toward establishing active transportation as a viable travel mode. Regional partners are including and adding pedestrian and bicycling accommodations to their roadways and expanding the trail systems and improving connections. Looking toward the future, AAMPO and its partner agencies will continue to educate, encourage, engineer, and implement bicycle and

pedestrian facilities to increase the number of people riding bicycles and walking as a preferred mode of choice.

Specifically, as outlined in the FY 2022-2023 UPWP, AAMPO staff will continue to plan and lead activities related to active transportation modes. These activities, and potentially others as needed, include:

- providing technical assistance to local governments and other transportation agencies to identify bicycle and pedestrian issues, opportunities, needs and barriers for identifying potential projects;
- assistance in active transportation project planning and conceptual design;
- collaboration with local governments and other transportation agencies to improve the accuracy of existing pedestrian and bicycle mapping tools;
- support and/or coordination of the region's National Bike Month, including National Bike to Work Day activities that encourage multimodal commuting and educate community members about the benefits of bicycling to work, and Bicycle Friendly Business outreach and education;
- support and/or coordination of the region's Walk to School Day events that educate community members about safe walking habits;
- conducting the AAMPO's Active Transportation Program, which consists of safety classes, bike rodeos, and Walkable Community Workshops, to share multimodal transportation rules and practices while disseminating information about bicycle route planning and collecting input for the development of AAMPO plans and studies;
- continued implementation of the Regional Bicycle and Pedestrian Planning Study and Pedestrian Safety Action Plan.
- support for regional partners in Vision Zero and Road to Zero activities.
- staff coordination, support of and participation in AAMPO's Active Transportation Advisory Committee (ATAC).

With potentially new and more funding sources coming with the passage of the IIJA, and as the region continues to grow, active transportation planners will increasingly need to look for regional bicycle connections to improve interregional mobility. The Great Springs Project is one regional initiative to connect the Alamo Area and the greater Austin area with trails and connections. The City of New Braunfels is using their updated hike and bike master plan as a roadmap for some of their bond proposals. Additionally, AAMPO's Regional Bicycle and Pedestrian Planning Study and Bike Map and the City of San Antonio's Bike Master Plan are both slated for updates.

Great Springs Project

The Great Springs Project (GSP), created in response to the need for active transportation connections between the Alamo Area and the greater Austin area, envisions a greenway of contiguous protected lands over the Edwards Aquifer recharge zone. This green corridor will be connected by a network of spring-to-spring trails, linking the four iconic springs of Central Texas: San Antonio Springs, Comal Springs, San Marcos Springs, and Barton Springs. GSP works to unify existing local efforts and catalyze new efforts to

address the most critical water, land, wildlife, and public health challenges facing the Central Texas region.

GSP, the non-profit championing the project efforts, was formed to address two critical problems confronted by many Texans: 1) limited access to outdoor places and 2) the constant and growing threat of urbanization to our drinking and recreational water supplies. GSP addresses

Great Springs Trail in Bexar County

COMPLETED 2000-2020	EXISTING TRAILS
FUNDED IN 2021	COUNTY FUNDED TRAILS
TO BE FUNDED 2022-2030	LOCAL ADVOCATE PROPOSALS

● ACTIVITY CENTERS



Figure 39: Great Springs – Bexar County

Salado Creek, and Great Northern Trails in New Braunfels, Fort Sam, and Schertz, respectively, GSP looks holistically at trails and active transportation opportunities and works to align efforts between various governmental and non-profit entities.

With new eligibility requirements, the IJA is providing a viable path to seeing the Great Springs Project become a reality. The IJA allows non-profits to apply for grant funding and still maintains program funding for active transportation projects submitted to MPO’s for program funding. The non-profit’s goal is to have the trail complete by 2036, Texas’ Bicentennial. For more information, visit www.greatspringsproject.org.



Figure 38: Great Springs Project – San Antonio to Austin

these problems by working to create a national park-scale corridor of contiguous protected lands and a spring-to-spring trail along the rapidly urbanizing area between San Antonio and Austin. GSP has a unique vision and leadership team, a specific geographic focus, a new sense of urgency, and measurable goals. The non-profit operates by:

- Engaging in and collaborating with public entities, private organizations, and individuals whose work already includes parts of our project scope;
- Providing technical assistance to cities, counties, private landowners, and NGOs along the I-35 corridor in their development of trails and public-access open spaces;
- Developing new and innovative conservation financing tools and advocacy initiatives; and
- Acting as a catalyst for civic engagement outside of current environmental approaches.

GSP works closely with local Alamo Area organizations to support trail projects, parks initiatives, and major roadway redesigns to further connect the region’s robust trails network. From the Bexar County-funded projects, like the Mud Creek and Spirit Reach trails, to the ActivateSA-proposed Flyway Project in San Antonio, and the AAMPO-funded Dry Comal Creek,

City of New Braunfels Hike and Bike Trail Plan – 2020

The City of New Braunfels Hike and Bike Trail Plan was originally adopted in 2010. In the ten years since the area has experienced significant growth and increased interest in active transportation facilities. The 2020 plan update provides information on existing conditions and efforts to date, defines trail classifications, types, and standards, best management practices, and lists recommendations for prioritizing trails. It is intended to provide land use information and other elements to consider to provide a holistic review of the various opportunities outlined in the 2010 plan. For more information on this plan, visit the City of New Braunfels website at www.nbtexas.org and search “Hike and Bike Trail Plan” or call the City’s Parks and Recreation Department at 830-221-4350.

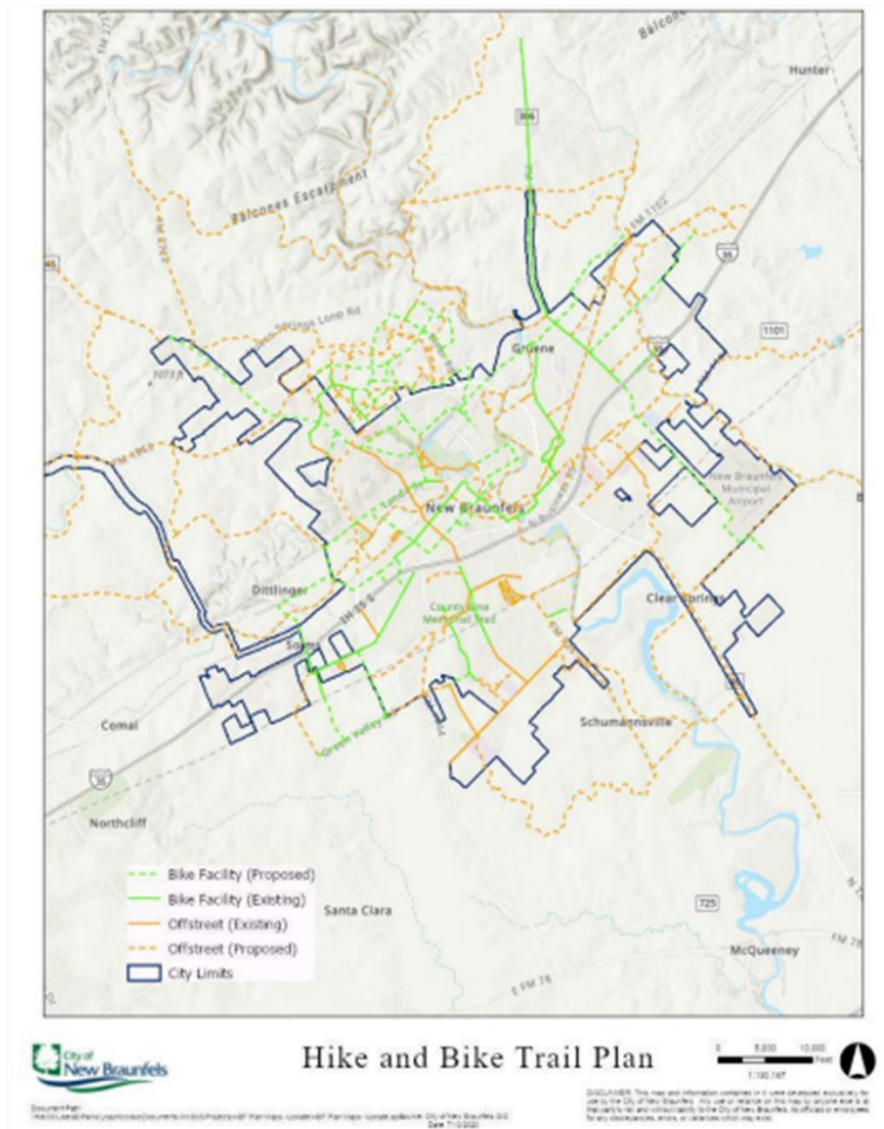


Figure 40: New Braunfels Hike and Bike Trail Plan

AAMPO Regional Bicycle and Pedestrian Planning Study and Bike Map

AAMPO completed the Regional Bicycle and Pedestrian Planning Study in 2016. With input from the community, transportation agency partners, and the AAMPO Bicycle and Pedestrian Mobility Advisory Committees (since then combined and now the ATAC), the study included a review of existing conditions and needs as well as bicycle and pedestrian infrastructure recommendations for five areas:

- City of San Antonio (pedestrian recommendations)
- San Antonio Missions National Historic Park
- City of Boerne
- City of New Braunfels
- City of Seguin

The final report documents the growing interest in bicycling in the region and provides guidance for implementing a safe, accessible, and comprehensive bicycle and pedestrian network for the MPO study area. Moving forward, AAMPO would like to update the study as part of the FY 2024-2025 UPWP.

Another related effort by AAMPO was the development of the Alamo Area's Bike Map. The Bike Map was created to help the public and other transportation agencies better understand people's experiences when cycling in the region by including the level of traffic stress (LTS), amount of discomfort that people feel when they bicycle close to traffic, on different roadways.

- The LTS score was calculated based on several factors:
- Number of travel lanes,
- Posted speed limit
- Traffic volumes
- Type of bicycle facility present

LTS maps help bike riders consider the full roadway context when choosing their route and enables them to select routes that are appropriate for their skill and comfort level. The last time this effort was completed was in 2016. AAMPO hopes to include an update to the map as part of the FY 2025-2026 UPWP. The current map may be found on the AAMPO website at https://www.alamoareampo.org/GIS/map_files/bike/LTSBikeMap2016.pdf.

City of San Antonio 2011 Bike Plan

In 2011, the City of San Antonio adopted its San Antonio Bike Plan & Implementation Strategy. The plan mapped the existing network of on- and off-street bicycle facilities in Bexar County, included recommendations for types and locations of new bicycle facilities, and prioritized network recommendations. The plan also listed opportunities for education and encouragement, as well as potential funding sources for expanding the existing bicycle network.

In total, the plan proposed 1,718 miles of new bicycle facilities. Some of these projects have already been implemented in the ten years since the plan was adopted. The City of San Antonio continues to explore and participate in interagency collaboration, funding, and public engagement and intends to update the plan in the next few years.

Freight

According to the American Transportation Research Institute's 2022 list of 100 most congested bottlenecks for truck freight, San Antonio does not rank. In order to keep this status, and with freight tonnage expected to nearly double over in the next two decades, it is critical to continue to integrate freight needs into transportation planning process. AAMPO will continue to participate in TxDOT's freight planning efforts and will continue to encourage local governments to participate and develop plans and projects of their own. With increased study and planning efforts, the freight improvement projects will be in a better position to compete for federal funds.

The Regional Freight Study, outlined in AAMPO's UPWP for 2022 and 2023, will be one such study. The purpose is to conduct a region-wide freight study and plan encompassing the entire AAMPO study area. The study effort will take into account current and projected freight trends in the region and across the state. The study will build off previous regional and statewide planning efforts including the Texas Freight Mobility Plan (2018), Statewide Truck Parking Study (2020), Texas Freight Network Technology and Operations Plan (2020), and San Antonio Region Freight Study (2008).

- The study will also include the following elements:
- an overview of previous plans, studies, legislation, and their recommendations;
- an economic and logistical analysis of freight flow in the region;
- an inventory of existing and planned assets including highway and rail as well as their condition and performance;
- a needs analysis of high demand areas, hotspots, and other deficiencies;
- policy and program recommendations
- freight performance measures,
- ITS and operational project listings,
- Proposed capital improvement projects and associated cost estimates, and
- development of a regional freight system leveraging Critical Freight Corridors, Truck Lane Restrictions, and NHS Intermodal Connectors.

AAMPO staff will facilitate a regional freight workgroup made up of AAMPO Policy Board and TAC members along with industry, manufacturing, transportation, and logistics professionals. This work group will provide guidance and study oversight and lead project implementation efforts.

In addition to and as part of the study listed above, AAMPO staff will continue to prioritize the following key actions to keep freight moving efficiently in the Alamo Area.

Solidify Links with Local Freight Stakeholders: Building a freight stakeholder database and attending meetings and events held by freight providers, manufacturing and warehousing stakeholders.

Gather, Review, and Organize State and Regional Studies and Plans: Streamlining lists of recommended and desired freight transportation improvements on AAMPO's public freight web viewer and webpage, <https://alamoareampo.org/Freight/links.html>.

Track Freight-Related Performance Annually: track the Truck Travel Time Reliability Index on the Interstate per federal performance measure requirements and participate in tracking other state-level performance measures.

Develop AAMPO Study Area Freight Portrait: updated annually. MPO staff will work with transportation agency partners, the private sector and evaluate Transearch and FAF4 data to develop a portrait of freight (ex. commodities, movements, generators and attractors). This effort may be part of preparing for

the regional freight study or included as part of the study effort. The portrait will be updated annually, as a stand alone item, or as part of the regional study.

3.6 Future Demand and Strategies

System Performance Measures and Targets

As noted in earlier sections of this document, performance-based analysis and planning are required as part of transportation planning. Performance measures are used to understand the current, anticipated, and desired level of performance and to illustrate tradeoffs between resource allocation scenarios and investment strategies. Current AAMPO area transportation systems and associated facilities are evaluated for performance based on safety, bridge and pavement condition, roadway system performance, and transit asset management (see AAMPO Adopted Performance Measures and Targets in Section 2.2 for details). For each measure, a targeted level of performance is determined. The target is determined based on past performance of similar improvements projects and used to predict the effectiveness of new transportation investments. Each of the projects listed in this plan, and the Transportation Improvement Program (TIP), are evaluated for potential performance.

A key tool utilized by AAMPO staff to evaluate projects potential performance is travel demand modeling (TDM). The modeling process uses current travel behavior to estimate future travel patterns. Information, provided from the US Census Bureau and the State Demographer's Office, related to the population and employment is entered as one of several data sets to analyze existing system performance and predict system reliability for the long-term. The resulting model provides the primary means for evaluating proposed mobility improvements and projects as well as determining potential air quality impacts.

Moving forward AAMPO staff will continue conducting transportation modeling activities in order to forecast future demand on the region's transportation system and related mobility reliability. This effort includes thoroughfare planning, possible updates to the transportation needs assessment, the update and coding of the region's roadway, transit, and bicycle networks, along with the integration of regional travel survey information (including freight data) into the regional model. Work will also include participation in the review of demographic forecasts and modeling output. Another important element to the modeling effort is the development of a new mode choice based on VIA's latest travel surveys. The mode choice element of TDM predicts what modes will be utilized for trips. An additional anticipated improvement to the modeling efforts includes integrating AAMPO model with the Capital Area MPO (Austin area) travel demand model to provide information and predict performance as relates to expanded regional travel and connectivity.

Related to TDM is the new IJJA Transportation Access Pilot Program (section 13010). The program is intended to improve transportation planning by measuring the level of access to important destinations (people and freight related) and the potential improved access from new mobility investments. AAMPO staff will continue to monitor the IJJA activity and adopted federal performance measures. The agency will also continue to coordinate with transportation planning partners to select and regularly reassess regional target values for each performance measure and develop additional performance measures in support of the long-range planning effort, the short-term programming of candidate and funded projects, the Congestion Management Process (see below), and other regional priorities.

Congestion Management Process

While traffic will grow as more people and jobs move to the Alamo Area, the challenge of managing congestion will also increase without taking steps to reduce demand. AAMPO is continually exploring solutions and offering programs to encourage the community to rethink how they travel across the region. One way is by reducing the demand during peak times on major roadways. Another way is by improving the overall efficiency of the transportation system. The Congestion management process (CMP) informs and

is informed by AAMPO's three transportation planning products: Metropolitan Transportation Plan (MTP), Transportation Improvement Program (TIP), and the Unified Planning Work Program (UPWP).

Congestion Management is the act of using a mix of strategies to reduce traffic. Metropolitan areas like the Alamo Area with populations over 200,000 are known as transportation management areas (TMAs). TMAs are required by the federal government to have an ongoing CMP. The process includes eight actions:

- Develop regional congestion management objectives
- Define the CMP network
- Develop multimodal performance measures
- Collect data and monitors system performance
- Analyze congestion problems and needs
- Identify and assess strategies
- Program and implement strategies
- Evaluate strategy effectiveness

Figure 41 shows the connections between the CMP and other elements of the MPO's transportation planning process.

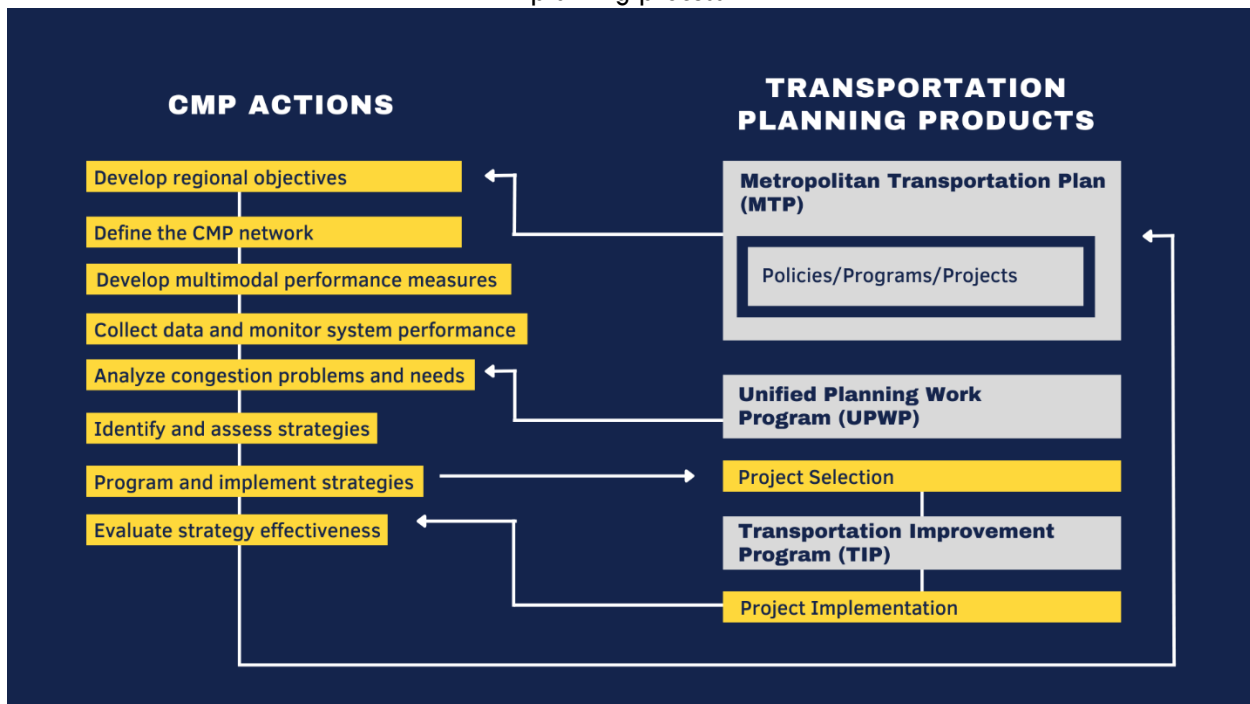


Figure 41: Congestion Management Process

In TMAs that are not meeting federal requirements for air quality, federal funds cannot be used for projects that build new roads or expand the number of lanes for single-occupant vehicles (SOV) unless the area's CMP addresses the need for additional roadway space by other multimodal strategies first. Since the Environmental Protection Agency (EPA) designated Bexar County as a nonattainment area for ozone (effective September 24, 2018), the CMP is especially important for the future of transportation in our region. The CMP is regulated by the Code of Federal Regulations, 23 CFR 450.322. The IIJA (section 11404) includes a discretionary grant program related to CMP, the Congestion Relief Program. This program intends to advance innovative, integrated, and multimodal solutions to reduce congestion. It seeks to not only reduce congestion but the impacts to the economy and the environment related to congestion.

Below are other congestion management tools and programs related to traffic incident management being utilized in the Alamo Area along with an AAMPO-led study to help manage curbside demand. See Appendix A for more information on the Congestion Management Process.

Curb Management Study

As multimodal offerings increase in the transportation arena it becomes more important to manage not just traffic lanes but the adjoining right of way. Adjoining right of way may consist of shoulders, bike lanes, and/or sidewalks. Roadways with shoulders, but not dedicated bike lanes, are generally used by law-abiding micromobility (e-scooters, bike share, etc.) users and cyclists. In this case, these users are typically competing with automobile parking, transit vehicles, freight delivery trucks, on-demand delivery services, and rideshare service. Pedestrians, using sidewalks, are often competing with micromobility stations, passenger drop offs (transit, rideshare, and public) and those cyclists and micromobility users who do not observe the rules of the road and ride on the sidewalk. As all of these uses continue to increase with the population and mode choice shifts, the management of the curbside will become even more important to prevent roadside and sidewalk congestion.

The purpose of AAMPO's Curb Management Study is to conduct analysis on the competing uses of curbside space in the planning area, including recommendations to partner agencies on curb management policies and best practices. The study will include a review of AAMPO area municipalities' and peer cities' curb management policies. Further, it will include mapping existing conditions to identify locations where curb space is heavily utilized. Stakeholder engagement will be on-going throughout the effort. The study results will include analysis of the current and anticipated competing demands for curb space by public and private sector user along with recommendations for partner agencies to manage curb space.

TransGuide

One important program to traffic management and associated congestion is the TransGuide Intelligent Transportation System (ITS). The system is housed at the Transguide facility located at the intersection of I-10 and I-410 in San Antonio (3500 NW I-410, 78229). The facility is home to programs that serve the entire region and others that are more specific to the City of San Antonio. It was established in 1995 and upgrades were programmed in AAMPO's FY 2019-2022 Transportation Improvement Program. This influx of funding allowed for reorganizing the space to provide better coordination between Texas Department of Transportation San Antonio District (TxDOT-SAT), VIA Metropolitan Transit, the San Antonio Police Department (SAPD), and reserved space for future partners. The upgrade also improved security aspects of the building and computer equipment and software.

More specifically, in 2020 the TransGuide operations floor underwent a \$5.8 M remodel. The upgrades include an improved video wall and expanded the number of workstations from 18 to 31. The new video wall is 65 feet wide and 9 feet tall and is comprised of sixty-four 55" HD monitors providing clear, sharp images from the CCTV video feeds. All the new workstations are sit/stand allowing every employee flexibility on any shift longer than 8 hrs. The entire floor and all in-floor workstation cabling was completely rebuilt to allow TxDOT TransGuide operators, TxDOT HERO dispatchers (see below), VIA Metropolitan Transit dispatchers, VIA Police dispatchers, City of San Antonio (COSA) Signal operations personnel (relocated from another floor), SAPD Towing dispatchers, and SAPD Traffic dispatchers to work together in one room during traffic incidents. Additionally, the remodel included the addition of TxDOT-SAT's Emergency Operations Center (EOC) to the TransGuide facility. The EOC was utilized on a 24/7 basis for seven consecutive days during the extreme weather event, Winter Storm Uri, in February 2021. A new emergency generator was also part of the remodel and it provided power for the operations room and the EOC for 2½ days during Winter Storm Uri as power was out for the rest of the building and surrounding area during this time.



Picture TransGuide Operations Room

TxDOT's HERO Traffic Incident Management Program

The Alamo Area has one of the model TIM programs in the country for and they are continuously enhanced by regional stakeholders to respond to changing best practices and technologies. For the past 20 years TxDOT-SAT has been hosting a monthly Traffic Incident Management (TIM) meeting to encourage the different agencies (Municipalities, Fire and EMS, Police and Sheriffs, and Towing) in and around Bexar County to work cooperatively on all aspects of TIM. Over the years many different training sessions have been conducted to help educate first responders on the benefits of TIM. TxDOT-SAT and regional TIM stakeholders recently completed a Concept of Operations – Enhance Incident Management Plan which outlines improvements for pre-event planning, traffic incident management, and post event analysis. One of the recommendations from this plan was to reestablish a roadside assistance program in San Antonio. This proposal was funded for three corridors in San Antonio as part of the FY 2019-2022 Transportation Improvement Program. As a result of this funding, the TxDOT Highway Emergency Response Operator (HERO) program, a major improvement in TIM, was launched in September 2020. The HERO program is a 24/7 motorist assist and incident management program that covers cover 239 centerline miles of TxDOT highways in Bexar, Comal and Kendall counties. Monday thru Friday, from 5 am to 9 pm, HERO trucks continuously patrol twelve routes throughout the AAMPO region, looking for motorists in need of assistance and any kind of traffic incident that needs traffic control to make the incident scene safer for first responders and motorists. Due to lower traffic volumes on the weekends, from Friday at 9 pm to Monday at 5 am, HERO operates with reduced personnel. HERO is reducing congestion at traffic incidents by providing traffic control, providing advance warning to motorists of the incident, and helping to clear incidents faster. Every stranded motorist that HERO helps, keeps not only that person safe, but keeps the roadways clear of incidents making everyone safer. From the start of the program to January 2022, HERO has patrolled 2,361,969 miles, has assisted in 57,385 incidents and provided 114,264 services to stranded motorists. HERO is in the second year of operations and has two option years remaining on its contract. HERO is operated by Serco, Inc. under contract to TxDOT. The HERO program was awarded additional funding and is included in AAMPO's FY 2023-2026 TIP.

Another addition to TxDOT's TIM efforts in the AAMPO region includes a new Northeast TIM group (NESA), formed in 2022, for the smaller towns outside of Bexar County. This area near I-10 and I-35 has been experiencing increased incidents on these two major interstates due to the increased growth in the area northeast of San Antonio. The goal is the same as the SAT TIM group - to help the various organizations work better together to improve TIM in the area.

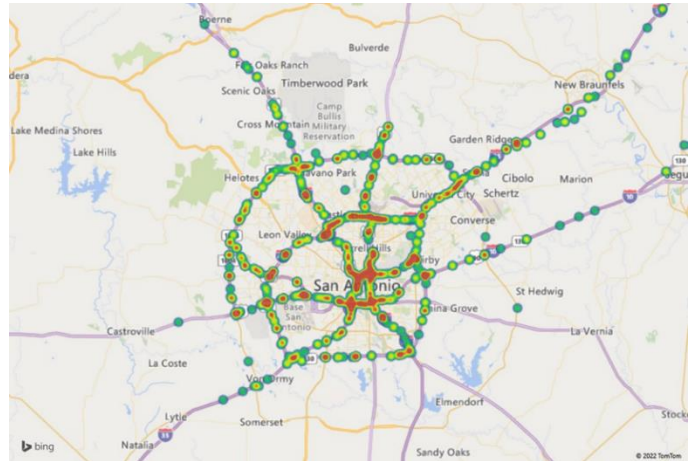


Figure 42: HERO Heat Map

“

Would have paid them if I had cash. Came out of nowhere like guardian angels with beards.



3.7 Emerging Technology

Transportation is rapidly being changed by new technologies. Over the next 20 years, technology and automation will make significant improvements in roadway capacity without the addition of pavement, generate better travel time reliability, and assist with addressing safety challenges. The extent that technology impacts will be felt will depend on decisions made by both public and private entities. It will be of the utmost importance that these entities coordinate and collaborate to avoid too much disruption to users and the overall network. AAMPO seeks to be integral to the advancement of transportation technology in the region and apply the 3-C approach to encourage informed decision-making, and convene and facilitate all interested parties, as needed.

Legislation

The FAST Act, under the Advanced Transportation and Congestion Management Technologies Deployment Program (ATCMTD), limited funding eligibility to projects that were large-scale and sponsored by a government entity. With the passage of the IIJA, AAMPO may have more opportunities to capitalize on new funding streams and for smaller-scale projects. Specifically, section 13006 Advanced Transportation Technologies and Innovative Mobility Deployment Program (ATTIMD) of the IIJA replaces “Congestion Management Technologies” to “Innovative Mobility Deployment”. The program is now more focused on technology deployment and operation vs project size and sponsoring entity. Further, the IIJA reserves 20 percent of program (no grant application required) funds for projects serving rural areas, allows private non-profits to compete for grant funding, and private sector applicants are eligible if they are working in collaboration with a state, unit of local government, university transportation center, or private nonprofit organization. These changes encourage private sector participants to collaborate with public agencies to specifically leverage funding opportunities. However, if the spirit of collaboration is fully realized, this approach will allow for important conversations regarding land use, technology deployment timelines, equity, and the environment to name a few, to be part of the decision-making process leading up to funding applications.

Progress and Considerations

The COVID-19 pandemic forced private industry to advance, and in some cases, fully deploy technologies to overcome some of the resulting challenges. These challenges included labor shortages, supply chain disruptions, and community lockdowns to name a few. In response, grocers and retailers implemented or improved on touchless delivery systems such as home delivery and curbside pickup utilizing application driven orders. Employers instituted remote work and deployed virtual meeting applications at unprecedented levels; educators made similar pivots with remote learning using virtual meeting applications. These advancements helped keep commerce flowing, businesses working, and education moving forward. Before the pandemic, these technologies were creeping into everyday life. Now, these technologies are here to stay and continually being improved. Our daily lives will never be the same.

Technological advancements will be integral to being able to move people and goods. But, at this time, no agency knows exactly what, where and how significant advancements in technology will impact our current and planned systems. Since the last AAMPO long-range plan update, only three years ago, the following technologies have been improved, increased, or deployed in the Alamo Area.

- Electric vehicles (60,500 registered in TX as of June 2021*)
- 5G, or the fifth generation of cellular mobile communications
- Increasingly smarter handheld devices/phones
- Collision warning systems
- Expanded traveler information systems
- More mobility/navigation apps

- Smart cards and cash app payment systems
- Below is a list of transportation technologies expected to be deployed in the next 20 years, if not sooner.
- Autonomous and Connected Vehicles (passenger, transit, and freight vehicles*)
- Freight truck parking applications*
- Freight shuttle systems*
- Autonomous robotic delivery services*
- Enhanced traffic signal control technology
- Increases in rideshare and car sharing
- Low cost, same and next day drone delivery*
- More alternatively fueled vehicles
- Trackless transit vehicles
- Wireless traffic data collection and management*

Items listed with an asterisk (*) were conference topics at TxDOT's annual Transportation Forum held in February 2022. Robotic autonomous vehicles and drone delivery services are currently be piloted in Texas and other parts of the world. Autonomous freight trucks are also being piloted in Texas and different parts of the United States and are expected to scale up across all markets by 2025. It is also important to note technological advances in transportation provides planners and engineers with next level travel and vehicle information. As this information, a subset of "Big Data", is captured, it will be imperative that public agencies use it in a manner that is proactive and transparent to the public. The Texas Senate passed SB 475 in 2021 to establish safeguards for data collection for public institutions and agencies. As technology becomes more prevalent in our daily lives, it will be more challenging for laws and to keep up with private innovation. Another solid reason to strongly encourage public private partnerships to avoid significant disruptions to society.

City of San Antonio Office of Innovation Initiatives

The City of San Antonio's Office of Innovation was established in 2007. Its primary function is to improve City operations, manage special projects, and lead major initiatives while promoting innovation. Below are the latest developments. For more information, please visit www.sanantonio.gov/Innovation/Home or call 210-207-8360.

SmartSA Innovation Zones

In 2017, The City of San Antonio (CO SA) City Council established three Innovation Zones under the SmartSA Partnership. The SmartSA partnership includes eight public agencies including CPS Energy, VIA Metropolitan Transit, University of Texas at San Antonio (UTSA), San Antonio Water System (SAWS), Edwards Aquifer Authority (EAA), San Antonio Housing Authority (SAHA), Bexar County Appraisal District (BCAD), and the San Antonio River Authority (SARA). Together, these agencies are charged with collaborating on smart city efforts, including piloting smart city projects in each of San Antonio's three Innovation Zones. The Innovation Zones will be used as proving grounds to test various types of smart city

technology, including autonomous vehicles, smart streetlights, various sensors, and Wi-Fi connectivity. The following areas are the current Innovation Zones:

Brooks – Brooks is a 1,300-acre mixed-use campus that includes various options to live, learn, work and play. This area has attracted over 3,000 jobs and includes facilities for institutions of higher learning, light manufacturing, retail, and residential living. The potential use case is the transportation of employees, visitors, and residents in and around the campus (more information below).

Downtown – Downtown is San Antonio’s central business district. Use cases for this region include addressing parking, last mile mobility, and piloting emerging technologies such as EV Charging Stations.

Medical Center – The South Texas Medical Center is a 900- acre campus which includes over 27,000 medical facility employees, over 29,000 employees at associated businesses, and over 300,000 vehicles daily. The potential use case is the first mile/last mile transportation of employees, visitors, and patients in and around the medical center campus.

Autonomous Vehicle Living Lab at Brooks Innovation Zone

SmartSA Partners including VIA Metropolitan Transit and COSA applied for a RAISE Grant to support the development of a “living lab” within the Brooks Innovation Zone. Sidney Brooks Street is the main 1.4-mile corridor on the Brooks campus, connecting thousands of regional residents, employees, and students to major employers, schools, and retail, and will connect to future development along the roadway. If awarded, a \$25 million investment will reconstruct Sidney Brooks Street, establish the Brooks Living Lab in the Brooks Innovation Zone to test autonomous vehicle solutions, including Next Generation three-dimensional (3D) Intelligent Transportation Systems. It will also fund a last-mile pilot transportation solution through VIA Metropolitan Transit, connecting public transit riders to major tenants at Brooks.

Research and Development League Mobility Trials

The Research and Development (R&D) League is a community partnership between COSA, UTSA, Southwest Research Institute (SwRI), and the United Services Automobile Association (USAA) established to build R&D programs at the COSA. Currently, in its third year, the R&D League is preparing to undertake a new set of trials, which include a Traffic Safety Study and Vehicle Sensors trial.

The Traffic Safety Study will apply artificial intelligence to 10 traffic cameras on SW Military to automatically collect and analyze data to inform Vision Zero efforts, recognize changing traffic patterns, and plan for future infrastructure and mobility needs. The Vehicle Sensors trial is the second phase of a previous trial that placed sensors on Solid Waste Management Department (SWMD) garbage trucks. This new phase will use SWMD inspection jeeps, instead of garbage trucks, to apply sensors and SwRI’s sensor technology platform, with the goal of covering the entire city 4 times/year and collecting data on top infrastructure issues.

Alamo Area Community Response

During Phase 2 of AAMPO’s Mobility 2050 public engagement included an informal public survey about emerging transportation technologies. Respondents were asked what excites them and what concerns them about these types of technologies. The results, while not scientific, are telling. The top three responses for what excite them are 1) shorter commute times, 2) reduced congestion, and 3) increased safety. The top three responses related to concerns are 1) hacking and cyberattacks, 2) more expensive, and 3) more crashes. The top three items for excitement are all considered benefits of integrating more technology into transportation. Additional proposed benefits include lower freight costs (possibly translates to stable commercial pricing), lower vehicle emissions, more convenient, and potentially more cost effective. In terms of concerns, these are all valid concerns. However, private industry and public entities understand the importance of keeping systems and data secure and the serious implications should a cyberattack occur. Additionally, as we have seen with electric cars, the cost of vehicles and other transportation related

technology tends to come down with increased production and offered more widely. The one element that may be harder to address is equity.

The equity issue will be addressed when policy makers and planning practices consider and understand how to adequately serve traditionally underserved areas as it relates to deploying new technologies. These areas and the people who live and work in them must be included in the decision-making process to prevent them from being left behind and further disadvantaged. If technology can be leveraged to improve accessibility on all levels, it can be a real game changer for society. The IIJA's EV charging and infrastructure program is one small step toward equity in the EV arena (see IIJA Guidance to Date section above).

Influence on AAMPO Goal and Impacts to AAMPO Planning Process

AAMPO has identified technology elements that will influence and impact the major goal areas adopted by the policy board.

System Preservation: Being able to maintain infrastructure that has already been constructed

- Enhanced traffic signal control technology
- Increases in rideshare and car sharing
- Wireless traffic management

System Efficiency: Being able to operate the transportation system effectively

- Enhanced traffic signal control technology
- Expanded traveler information systems
- Delivery on demand/by drones
- Increases in rideshare and car sharing
- More mobility/navigation apps
- Smart cards payment systems
- Wireless traffic management
- Trackless transit vehicles

Transit: Including shared ride services to move people

- Smart cards payment systems
- Trackless transit vehicles
- Expanded traveler information systems
- More mobility/navigation apps

Environment: Ensuring implementation does not harm air quality, water quantity or water quality

- Reduced vehicle emissions with electric vehicle technology and alternative fuels
- Enhanced traffic signal control technology to improve traffic flow

Economic Development: Ensuring jobs and educational opportunities are available

- Potential for higher density/transit-oriented development
- More mobility/navigation apps

Public Involvement: Ensuring the public has input into the plans, policies and processes that are developed

- Social media
- Use of smart phones and iPads for polls and other public input

Land Use: Fostering appropriate, context sensitive land use patterns

- Potential for higher density development/transit-oriented development

Safety: Reducing fatalities and serious injuries

- Autonomous and Connected Vehicles
- Collision warning systems
- Pedestrian and cyclists detection warning systems
- Trackless transit vehicles
- Enhanced traffic signal control technology

Sustainable Funding: Ensuring all available financial tools are available to build, operate and maintain the transportation system

- More alternatively fueled vehicles may impact federal and state gas tax revenue streams
- IIJA increases incentives to create public private partnerships

While emerging technologies may help reach AAMPO's goals, it is difficult to plan for the unknown. At this time, AAMPO has not made any changes to its travel demand model to reflect significant changes in travel technologies. With the advent of Connected and Automated Vehicles, it can be expected that new assumptions in the modeling may need to be updated, including:

- Travel Demand Model Networks: potential vehicle use restrictions and revised speed and capacity assumptions
- Trip Generation: potential increase in travel of persons with disabilities, unaccompanied children, and the elderly
- Mode Choice: impact of shared vehicles and number of occupants
- Trip Distribution: reduced travel times
- Trip Assignment: revised volume/delay function and lane use restrictions

Over the next four years, AAMPO plans to:

- continue to review best practices in autonomous and connected vehicle policies in order to understand future considerations for these types of technologies.
- continue to stay involved with local, state, and federal efforts to explore the potential impacts, timelines, and costs associated with the deployment of automated vehicle technology.
- work to set policies around the topic of connected and autonomous vehicles.
- work to educate the public around connected and autonomous vehicle technology in advance of any initial deployment in the region.

3.8 Safety, Security, and Resiliency

SAFETY

Keeping people safe when traveling to their destinations throughout the Alamo Area communities is a priority. Efforts to improve the safety of our residents, reduce the frequency and severity of crashes and provide transportation resources and information have long been underway through the AAMPO's safety planning efforts. Starting with MAP-21, safety transitioned to a performance and outcome-based program. AAMPO coordinates closely with the Texas Department of Transportation's Highway Safety Improvement Program (HSIP) and other safety-related programs to ensure the agency's work is consistent with and supports statewide initiatives. AAMPO and partner agencies work to promote the overall safety of the area's multimodal transportation system. It has also worked to incorporate safety considerations into its activities, most notably in scoring projects for potential federal funding awards.

Safety planning, and the associated AAMPO programs, seeks to further transportation safety awareness, conduct outreach, provide crash data and analysis and assist in coordinating safety efforts across the Alamo Area. A key component of the safety program centers on transportation safety data for use in evaluating safety issues and planning for the implementation of safety improvements. The Texas Department of Transportation manages and makes available the Crash Record Information System (CRIS). CRIS data reports on crash reports submitted by law enforcement responding to crashes. It includes the crash location, contributing factors, driver vehicle, and vulnerable road user characteristics. This information can be useful in identifying the characteristics of crashes. AAMPO has taken this information and put it into a "Crash Stats Dashboard" so that transportation partners and members of the public can access the site to view information, <https://alamoareampo.org/crashstats/index.html>.

AAMPO safety programs include safety classes, bike rodeos to promote safe cycling for children, and Walkable Community Workshops to evaluate pedestrian access and recommend improvements. For more information on these programs, see section 1. AAMPO continues its commitment and support for the Vision Zero initiative to reduce active transportation related accidents, injuries, and deaths. The initiative is active in Kirby, Leon Valley, and the City of San Antonio. In 2018, AAMPO hosted the first regional Vision Zero summit and is exploring the opportunity to host another one in the near future. The Safe Streets and Roads for All grant program, outlined in section 24112 of the IIJA, provides for MPOs to apply for funding to complete a comprehensive safety action plan. AAMPO will research and consider this opportunity as more federal guidance is issued.

Below are additional safety programs supported by AAMPO and provided by regional partners.

Wrong Way Driver Program

The Wrong Way Driver Program is a partnership between the San Antonio Police Department (SAPD) and TxDOT. Using the closed-circuit television (CCCTV), TransGuide System Operators monitor for wrong way drivers (WWD). Once a wrong way driver is identified, SAPD is notified and the dynamic message signs (shown on the right) are updated to make other drivers aware there has been a wrong way driver reported in the area, urging them to use extreme caution. Since the program started in 2011, TxDOT has worked with SAPD to stop 94 WWD on the highways before a crash could occur saving at least 94 lives. In 2015, the program received a National Roadway Safety Award from the FHWA. The program has received national and international attention for its success over the years. TxDOT's San Antonio District continues to seek new and innovative technology in WWD detection and is the recognized leader for preventing WWD crashes in Texas.



Traffic Jam

The MPO actively participates in TxDOT's Traffic Jam Coalition. The San Antonio Traffic Jam Coalition's purpose is to educate and bring awareness for a safer community by focusing on issues, such as drinking and driving, texting and driving, drowsy driving, motorcycle safety and bicycle/pedestrian safety. The Coalition's primary responsibility is to save lives. Its mission statement is "To educate the community by providing safe and reliable information for all modes of transportation through collaboration and partnership, thereby saving lives". The committee meets once a month and AAMPO has been participating for about eight years.

Safe Kids Coalition

The MPO is also a member of the Safe Kids San Antonio Coalition which is led by University Health System. Based on the needs of the community, this coalition implements evidence-based programs, such as car-seat checkups, safety workshops and sports clinics, that help parents and caregivers prevent childhood injuries.

Regional Lighting Study

One often overlooked and important factor to safety and security is lighting. Sufficient lighting on roadways, sidewalks, trails, and transit stops can reduce accidents and injuries as well as lower potential for crime. As outlined in the UPWP 2022-2203, AAMPO staff will develop a strategic weighted assessment study to evaluate transportation-related lighting needs in the Alamo Area. Factors such as infrastructure, safety, and crime will be considered to identify areas with the greatest need for lighting solutions. AAMPO staff will develop an interactive, GIS-based application for assessment. The findings will be utilized by local partners, and made available to the public, for future lighting improvement efforts.

Moving forward, the IJJA maintains the need for safety planning to be data-driven. As part of the prescribed effort, the Act (section 11111) requires states to complete vulnerable road user safety assessments. Further, the new Act (section 11108) emphasizes pedestrian safety and improvements at railway and highway crossings, defines Complete Streets standards and policies as part of the Increasing Safe and Accessible Transportation Options (section 11206), and adds to the Manual on Uniform Traffic Control Devices (section 11129 and 11135) purpose inclusion and mobility for all users and requires the first update to provide for protection of vulnerable road users to the greatest extent possible.

Safety priorities supporting the HSIP for the next five years

Continue to build partnerships between agencies and stakeholders.

Integrate safety at all levels of planning.

Continue offering free and accessible community education and training opportunities on distracted driving, impaired driving, and speeding.

Increase the number of walkability/bikeability audits conducted by 25% per year.

Develop educational curriculum targeting older road users to deal with limitations brought on by aging process.

Improve pedestrian and bicycle involved crash reporting.

The agency will continue to work closely with TxDOT and local partner agencies to enhance system safety through education, encouragement, advanced planning and engineering initiatives.

SECURITY

Security of critical infrastructure and cybersecurity are increasingly important to transportation and is a priority for the Alamo Area. Natural disasters and domestic and international terrorism against public infrastructure increased the emphasis on transportation security. Similarly, as our world becomes ever more dependent on technology and data, the integrity of that data and how we secure it from attack is

increasing in importance. Additionally, regional transportation partners annually assess transportation and other assets in their operations to nominate to the inventory of critical infrastructure and key resources maintained by the US Department of Homeland Security. Top secret inventory is used to develop security measures for surveillance and protection of identified regional assets. Under the IIJA, Section 11105, the National Highway Performance Program (NHPP) has been revised to allow projects with activities to protect against cyberattacks as an eligible criterion.

With regards to critical infrastructure, this section will address some of the work being done to advance the prevention, detection, management, and analysis of traffic incidents and emergency situations. It also includes high level information about cybersecurity efforts and the commitment our region has made to ensuring the integrity of information systems.

Cybersecurity

San Antonio is home to the nation's second-largest concentration of cybersecurity experts, and growing. Cybersecurity operations at Port San Antonio (Port) are anchored by the national headquarters for the Air Forces Cyber, also known as Cyber Command. Hundreds of uniformed and civilian personnel protect the integrity of the Air Force's information technology (IT) assets around the world. Private-sector firms are also growing at the Port, supporting Department of Defense cyber operations throughout the region as well as a growing private-sector clientele.

Each of AAMPO's regional transportation partners manages their own internal policy with regards to cybersecurity. AAMPO employs extensive firewalls for agency systems and began conducting yearly cybersecurity training with employees in 2019. The agency has communicated with regional partners regarding the importance of maintaining a cybersecurity policy and conducting appropriate training with employees to ensure the integrity of transportation related data information systems. Regional partners have confirmed their commitment to best practices in cybersecurity and to actively providing training for their employees.

Next steps in this arena include:

- Work with regional partners to learn what is required to employ the Security Credentialing Management System specifications for connected and automated vehicles.
- Conduct a regional round table discussion around cybersecurity and transportation to identify potential risks or areas of vulnerability.
- Identify and bring appropriate training resources to the region.
- Improve situational awareness, understanding, and collaboration in the area of cybersecurity across the region.

Resiliency Study

According to the Texas State Collaborative, the top three hazards for south central Texas are hail, flash floods, and thunderstorm winds. Cold fronts often bring high winds, flooding and hail. Winter Storm Uri, hailstorms, flooding, wildfires in the Alamo Area during the last three years created billions of dollars in damages and, more tragically, loss of life. Hazards such as these take an emotional toll on those affected, cost the region billions of dollars in repairs and lost productivity, and have the potential to interrupt operations on key corridors in the region. Toward this end AAMPO is initiating its first regional resiliency study. The effort is slated to kick-off in summer 2022.

The purpose of the study is to assist with planning and developing a transportation system that can accommodate long-term change and recover and adapt from unpredictable changes, such as extreme weather events or human-made disruptions. This study will 1) identify potentially disruptive events with

stakeholder input; 2) perform risk assessments for how each event would impact all or parts of the transportation system; and 3) provide recommendations on how to improve transportation system resiliency. The timing of the study could not be better as the IJA guidance to date allows for the area's with resiliency plans in place to have an edge during the competitive funding process. Additional efforts by other local planning partners are listed below.

Alamo Area Partner Agency Resiliency Efforts

The City of San Antonio's Hazard Mitigation Plan identified several additional hazards including extreme heat, tornados, winter storms, droughts, dam failures, hazardous materials, terrorism, pipeline failures, and infectious diseases. Of this list, droughts, flooding, and wildfires were identified as posing the highest risk.

Bexar County has a Regional Watershed Management partnership that was created to provide improved coordination in planning and capital improvement programs for flood control, storm water management and water quality. This partnership includes the City of San Antonio, the San Antonio Authority, and the 20 suburban cities within Bexar County. Through their work, the partnership has created improved watershed models and flood maps that assess flood risk in all areas of the county.

Comal County's Hazard Mitigation Plan identifies extreme heat, hail, lightning, thunderstorm wind, tornadoes, winter storm, drought, floods, wildfires, expansive soils and dam failures as potential hazards.

3.9 Environment and Air Quality

As Bexar County currently faces air quality status being elevated to the moderate level, as defined by the Environmental Protection Agency (EPA), planning in this arena will be hyper focused to prevent another change in status. In the Alamo Area, on-road vehicles have historically been the most significant source of Nitric Oxide (NO_x: chemical compound resulting from combustion of fuel) and the third largest source of volatile organic compounds (VOC: chemical compound released from burning fuel). Fortunately, improvements in technology have had a considerable effect on the reduction of air pollution (emissions from new vehicles have declined over time as emission controls and fuel efficiency have improved). Even though cleaner vehicles are in operation, reducing vehicle miles of travel (VMT) is one way to reduce emissions and improve air quality. A downward trend in VMT brings significant benefits in reducing mobile source emissions. Reduction in the growth of vehicle miles of travel requires behavioral changes rather than solely relying on improvements in technology. The challenge is to reduce the length of most trips and to identify and implement strategies to encourage walking, bicycling and transit use. Clearing bottlenecks, and therefore reducing engine idling, is another major means of reducing vehicle emissions. While AAMPO has the Alamo Commutes Program and encourages alternatives to vehicle travel through other outreach programs and events, the following section describes ongoing efforts with AACOG and the projects funded in the FY 2023-2026 TIP to help mitigate air quality impacts in Bexar County.

AACOG Air Quality Planning

As previously noted, AAMPO And AACOG partner to monitor, track, and report air quality planning efforts. Cooperatively the agencies provide holistic technical analysis for air quality planning in the region. AAMPO staff is responsible for transportation conformity, ensuring that new projects and programs do not do further harm to air quality and Bexar County's nonattainment status. AACOG staff, with support from Texas Commission on Environmental Quality (TCEQ), do the technical analysis involved in refining and conducting runs of the photochemical model. Photochemical modeling is the central element of the air quality modeling process and is used to simulate and predict pollutant concentrations. The work is guided by local and State agencies and is designed to meet Environmental Protection Agency defined standards for reliability and accuracy. AACOG also updates emissions inventories and conducts trend analyses based on the information received from the air quality monitors located throughout Bexar County. Another important piece to the AACOG effort, after analysis is complete is identifying, is evaluating and recommending on-road control measures. As part of AAMPO's 2022-2023 UPWP, AACOG air quality planning efforts will be expanded to include school bus fleet inventories and the introduction of a smoking vehicle outreach program.

Congestion Mitigation and Air Quality Projects

With increased population and vehicle miles traveled projected, it is important the region be proactive on regulations concerning water quality and air quality. The area will need to be proactive in its protective measures and getting information out to the general public in order to help reduce potential negative impacts to both sensitivities and in order to:

- Reduce vehicle emissions by increasing non-single occupancy vehicle mode share.
- Increase the number of electric vehicles and electric vehicle charging stations in the Alamo Area.
- Reduce the number of vehicle miles traveled per capita.
- Continue to coordinate with partner agencies regarding air quality issues to include both ozone and particulate matter.

Toward this end, projects in Bexar County (due to nonattainment status) are eligible for CMAQ funding. Various CMAQ project examples include diesel engine retrofits, idle reduction programs, freight and intermodal projects, transit improvements, bicycle and pedestrian facilities and programs, travel demand

management, public education and outreach activities, carpooling and vanpooling, carsharing, alternative fuels and vehicles, and innovative projects.

VIA Metropolitan Transit Environmental Commitment

In 2005, the renewable fuel standard was established to reduce the quantity of fossil fuel present in transportation fuel. To align operations with this standard, VIA has transitioned its fleet from a primarily fossil fuel diesel bus fleet to one now 89% powered by renewable compressed natural gas, while powering shelters and facilities with solar, wind, and nuclear generation.

VIA partners with CPS Energy for the supply of renewable natural gas that is estimated to displace 602,250 MMBTU (metric million British thermal units). This qualifies VIA to partner with the US Environmental Protection Agency (EPA) and its Green Power Partnership Program, that recognizes VIA's use of supplied green power. Eighty-two percent (82%) of VIA's supplied generation is a green energy alternative to coal, utilizing landfill gas, solar, wind, nuclear, and natural gas energies.

VIA employs recycling efforts in order to reduce and reuse products such as plastics, office paper, cardboard, batteries, glass, pallets, aluminum, electronics, and industrial by-products such as used oil, lubricants, scrap metal, refrigerants, paint solvents, tires, oil filters, drums, totes, and vehicle batteries. Through this effort in 2019, VIA was awarded as a Gold Certified Business with the City of San Antonio's Sustainability Office for its sustainability efforts.

VIA's sustainability efforts also include the installation of solar panels at transit centers and at over half the bus shelters in the system. Additionally, VIA's landscaping practices draw from Low-Impact Development (LID) principles and includes the use of drought-tolerant landscaping.