

WHERE ARE WE NOW?

SECTION 2

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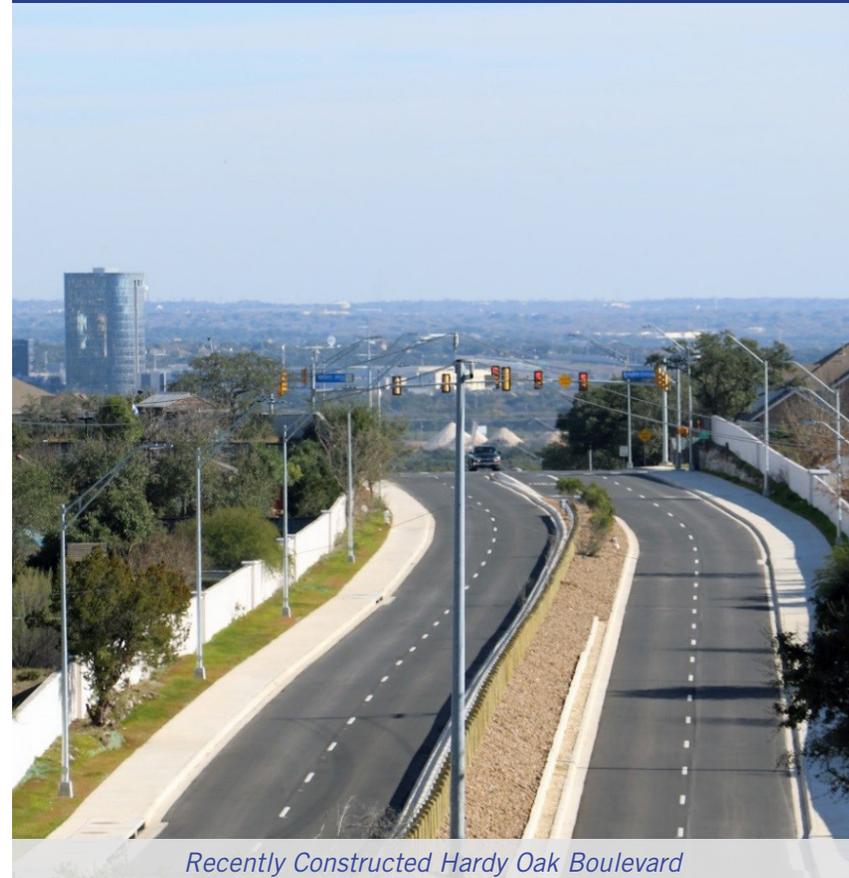
Our Transportation System Today

Compared to other major cities in the country, San Antonio's transportation system would be considered better than most in terms of delay and congestion; acceptable in terms of roadway infrastructure provided; less than acceptable in terms of public transit service frequency and mode; and falling short in terms of bicycle and pedestrian infrastructure. San Antonio faces major challenges as we approach the future, including:

- » An anticipated increase in population of over a million additional residents in Bexar County by 2040
- » Continuously increasing demand for an already limited water supply
- » A strained City budget due to maintaining and improving infrastructure in an expanding geographic area
- » Maintaining the City's AAA Bond rating,
- » Planning for and addressing air quality compliance as the region approaches non-attainment status
- » Informing and educating the community about the benefits of alternative modes of transportation to encourage a shift in views on using and investing in transit, light rail, streetcar, bike, and pedestrian facilities.

This Multimodal Transportation Plan is an opportunity to address San Antonio's SA Tomorrow process and the resulting challenges, explore its opportunities, and develop a plan for a sustainable and efficient transportation system for the future.

Can San Antonio Continue to Only Focus on Widening and Constructing New Roadways? In Essence, Build Our Way Out of Congestion?



Recently Constructed Hardy Oak Boulevard

History

Let's first visit how San Antonio's transportation system evolved over time in order to better understand where we are today. Much of San Antonio's road network evolved from trade routes connecting historic settlements, and later farm-to-market routes, and main roads connecting towns. The San Antonio River and acéquia system influenced much of the orientation and location of the road network originating in downtown. The first road network, known as El Camino Real, predated the City and the historic missions. It was used by the Spanish linking the Texas frontier to Mexico. According to the National Park Service, El Camino Real included a series of four main routes: El Camino Real de Los Tejas, Lower Road, Old San Antonio Road and Laredo Road. San Antonio's five missions were among the 36 established by the Spanish along El Camino Real.

In 1937, the city of San Antonio encompassed a 36 square mile area. Through annexation the City has since grown to over 500 square miles. During the 1980's the population began to shift outside of Loop 410 and by the early 2000's was extending beyond Loop 1604. A significant amount of growth has occurred outside of Loop 1604 to the north and along the IH-10, US Highway 281 corridors and to the west. The population of the City in 2010 was 1,354,381. Currently, (2015) the City of San Antonio is the 7th largest city in the United States, based on population density, and the 2nd largest in Texas. The Eagle Ford shale formation, which is a geological formation being mined for gas and oil products, is located south of San Antonio. It has resulted in increased business and population in the south side of the City, with anticipated continued growth.

Our Culture and History Make San Antonio Unique and Appeal to Visitors and Transplants.



Espada Mission, San Antonio, Texas

Recent Planning Initiatives

More recently, the City of San Antonio (CoSA) adopted the Inner City Reinvestment/Infill Policy (ICRIP) to promote growth and development in the heart of the city through the use of public incentives. The trend towards infill was further supported by the SA2020 and the Center City Strategic Framework Plan visions for downtown, as well as the adoption of the HemisFair Park Area Master Plan and ongoing redevelopment efforts associated with it.

CoSA also adopted the Bicycle Master Plan and implemented San Antonio B-Cycle, a bike sharing program. With the continued growth of bike share programs across the country, San Antonio B-Cycle was the first and is currently the largest public bike share program in the State of Texas.

In September of 2011, the City of San Antonio adopted a Complete Streets Policy that encourages an approach to street design that supports pedestrian and bicycle oriented neighborhoods; promotes healthy living, fitness, and activity; enhances the economic vitality of commercial corridors and districts; and maximizes the benefits of investment in public infrastructure. One of the most important principles of the Complete Streets concept is that each street improvement will take into account all users. There is not a “one-size fits all” approach to Complete Streets. The function of the road (e.g. local, collector, and arterial) and the level of vehicular, pedestrian, and bicycle traffic will be considered as will adjacent land uses when designating the street.

City Council approved The Downtown Transportation Study in November 2012, which provided Complete Streets improvement recommendations in downtown San Antonio. Specifically,

WHY DO WE NEED A COMPLETE STREETS POLICY?

Complete Streets policies formalize a community's intent to plan, design, and maintain streets so they are safe for all users of all ages and abilities. Policies direct transportation planners and engineers to consistently design and construct the right-of-way to accommodate all anticipated users, including pedestrians, bicyclists, public transportation users, motorists, and freight vehicles. Source: www.completestreets.org.

it identified over 30 projects that incorporate complete streets elements combined with streetscaping and other transformative improvements to encourage vibrancy in the downtown. Each of the projects were evaluated for feasibility based on available Right-of-Way (ROW) traffic operations, design, safety and level of service benefits to pedestrians, transit users and bicyclists.

Concurrent to, and in partnership with the preparation of this plan, VIA Metropolitan Transit is developing their Vision 2040 Long Range Plan; an update to the SmartWaySA 2035 plan adopted by VIA's Board of Trustees in 2011. The City has been coordinating closely with VIA during this planning process. However, the two projects are on different timetables and an update to the transit section may be needed.

The Alamo Regional Mobility Authority began environmental studies looking at managed lanes and other capacity improvements along Loop 1604 and US 281. At the same time, the Advanced Transportation District Sales Tax has given Bexar County additional tools to finance and build transportation projects and increased their role in transportation planning for the region.

All of the above examples indicate that the transportation climate is indeed changing and recognizing the need for other options for the region. The growing population has emphasized the need to look at land use,

its relation to transportation infrastructure, as well as providing alternative modes of transportation. In this changing environment, it will be critical that the development of the city-wide transportation plan results in realistic multimodal scenarios that complement the AAMPO Mobility 2040 plan, VIA's VISION 2040 plan, TxDOT's Statewide Plan, and the City's Bike Plan and embrace the concept of "center development" that encourages people to live where they work, shop and play.

Alamo Area Metropolitan Planning Organization

The lead agency in San Antonio responsible for assessing, monitoring, prioritizing and identifying federal funds for improving our transportation system is the Alamo Area Metropolitan Planning Organization (AAMPO). As our region's designated MPO, the AAMPO, is charged with carrying out the metropolitan transportation planning process in compliance with Federal requirements and to qualify for Federal aid.

LAND USE & TRANSPORTATION



Land use and its link to transportation are addressed in the Multimodal Transportation Plan, the Comprehensive Plan and the Sustainability Plan.

One of the methods the AAMPO uses to monitor our road network system is the use of metrics called Level of service (LOS) and volume to capacity (V/C) ratio. LOS and V/C are measurements used to determine how well a roadway or an intersection is functioning. Level of service is a measure of delay and congestion on roadways and at intersections. It is reported by a letter grade of A through F, with A representing the ideal condition with very little delay and congestion present, and F representing over-capacity conditions with substantial delay and congestion. V/C ratios are defined as the relationship of the daily volume compared with the maximum capacity of the roadway. As the V/C ratio approaches or exceeds 1.0, the volume is nearing or exceeding the capacity of the roadway.

Current Travel Patterns

Looking at how people in the region travel to and from home and work every day is one way the AAMPO evaluates the performance of the transportation system. The Census Bureau maintains a database of journey-to-work statistics for the country called the Longitudinal Employer-Household Dynamics (LEHD) dataset. This product provides a set of home (origin) and work (destination) pairs for nearly all employment within the United States. LEHD data cover about 93% of all employment in the United States.

According to the most recent journey-to-work data available, Bexar County is an employment draw for the region (See Figure 1). More people travel into Bexar County for jobs than leave the County. However, these travel patterns account for a small percentage of total employment. Downtown San Antonio is not our major employment center. In fact, employment in San Antonio is fairly

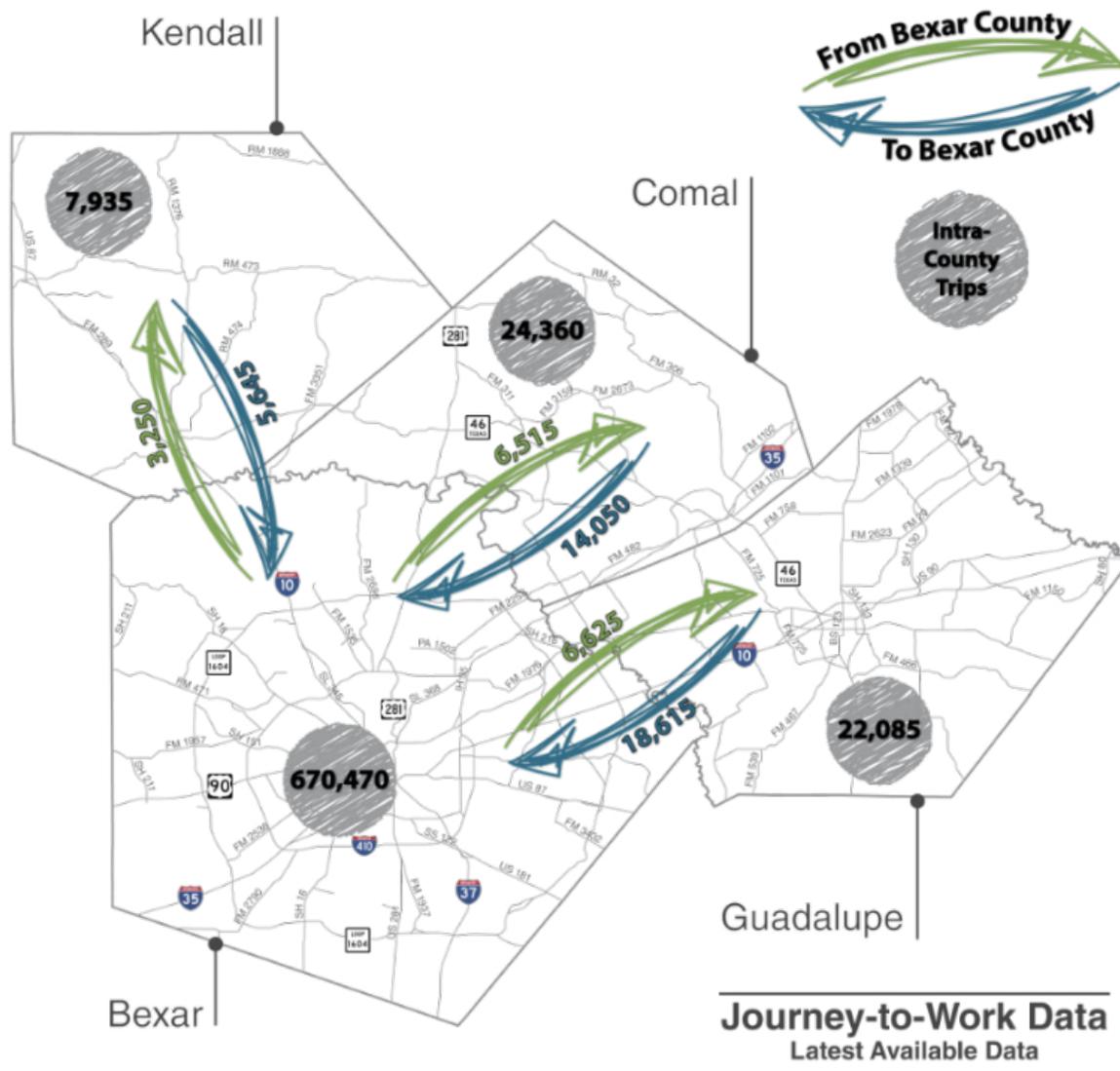


Figure 1 – Journey-To-Work Data By County – 2006 To 2008
Source: Aampo Metropolitan Transportation Planning Process, 2014

dispersed, as is housing, which can make it challenging for transit and ridesharing options to work efficiently since a much larger geographic area and origin-destination pairs must be covered.

WHERE DO THE MOST PEOPLE WORK IN SAN ANTONIO?

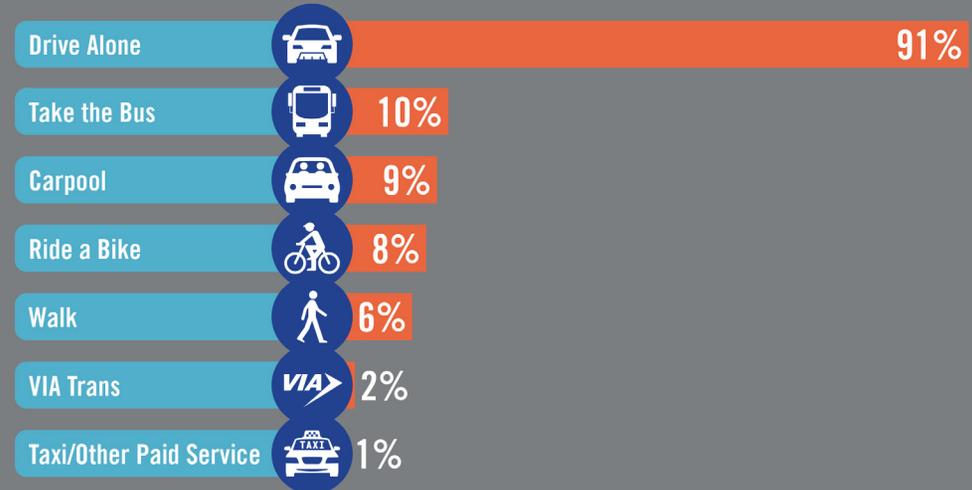
Surprisingly, downtown San Antonio is not our only major employment center. In fact, employment in our City is fairly dispersed. This makes it challenging for transit and ridesharing options to work efficiently since a much larger geographic area and origin-destination pairs must be covered.



Spotlight On Public Engagement

According to the April/May 2015 online survey conducted for this effort, a significant majority of respondents drive alone for their daily commute trips. Shifting people out of their cars and onto other modes of travel is critical to maintaining mobility in the future.

How Do You Commute?



Roadway Network

If we take a look back in time by reviewing what the AAMPO reported for our transportation system in 2010, we would see that the majority of overcapacity roadways (volume-to-capacity ratio ≥ 1.00) were located primarily on the north side of the City, where substantial growth had occurred. The southern portion of the City showed better levels of service (LOS C or better) and a road network with available capacity (20% or more available).

In 2015, commuters in San Antonio are just starting to experience significant congestion and delay during peak periods. However, both have been mostly moderate with a few exceptions. One of the reasons San Antonio has not seen the political incentive to provide transportation options is that as recently as 2010, the transportation system has been operating at an acceptable level of service (LOS) with limited congestion (See Figure 2).

San Antonio's Major Highways Will Experience Over-Capacity Conditions and Increased Congestion and Delay by 2040



Loop 1604 and IH-10 Interchange

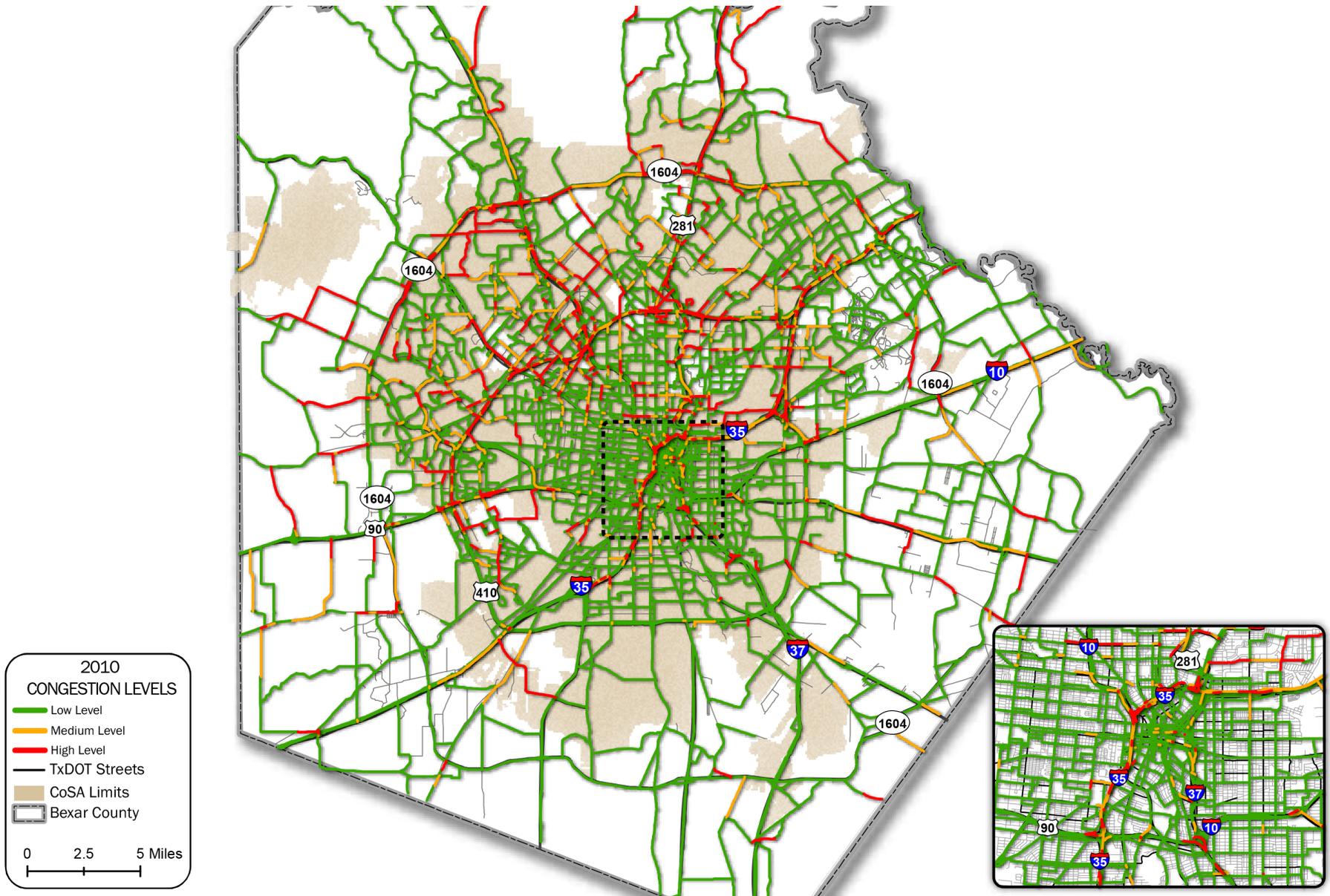


Figure 2 - Map of Level of Service for 2010

The *Texas A&M Transportation Institute (TTI) 2012 Urban Mobility Report* contains 2011 mobility and congestion data for San Antonio. In 2011, San Antonio experienced approximately 40 million hours of total annual delay, which ranked 30th in the nation. In 2014, the annual delay increased to over 64 million hours which put San Antonio at 24th highest in the nation based on data reported in the *Texas A&M Transportation Institute (TTI) 2015 Urban Mobility Scorecard*. In 2010, San Antonio experienced 30 million hours of delay. This delay also resulted in over 16 million additional gallons of fuel consumed and 336 million pounds of additional carbon dioxide emitted. The 2012 Urban Mobility Report also shows that in 2011, 63 percent of travel during peak periods was on congested roadways. Back in 2011, travel time on freeways during peak periods was 1.19 times as long as during uncongested periods. In 2014, the ratio was 1.25. In other words a 20 minute trip during non-peak uncongested periods in 2014, took minutes (20 x 1.25 = 25) or 25% longer during peak conditions.

Congestion Trends in San Antonio			
Urban Mobility Report Year	Total Annual Delay for San Antonio	Ranking Among US Cities ¹	Travel Time Index ²
2011	30 Million	29	1.18
2012	40 Million	30	1.19
2015	64 Million	24	1.25

1. Ranking based on total annual delay
 2. Measure of how much additional time it will take to travel during the peak congested condition vs. the uncongested non-peak condition.

Source: TTI (Texas A&M Transportation Institute), Annual Urban Mobility Reports

DELAY IMPACTS OUR AIR QUALITY



Congestion and delay on our road network produces additional carbon dioxide emissions which negatively affect our air quality.

Mobility 2040 Modeling Results			
Performance Measure	2010 Base Year	2040 No Build	Mobility 2040
Total Daily VMT	46,686,894	95,345,457	97,701,102
Total Congested VHT	1,608,556	6,157,647	4,912,212
Total Vehicle Hours of Delay	336,269	3,483,024	2,167,582
Person Vehicle Hours of Delay	269,781	2,744,585	1,769,706
Trucks Hours of Delay	35,252	353,813	214,105
External Trips Hours of Delay	31,235	384,626	183,771
Average Speed	29	15	20
Total Transit Boardings	122,298	220,290	299,840

With VMT increasing due to continued growth, the levels of congestion will continue to worsen, travel times will increase, and reliability will decrease. Although the road network was viewed as having operated (especially outside of peak periods) at an acceptable LOS in 2010, the addition of 1.1 million people by year 2040 will dramatically increase the demand on the transportation system.

The Alamo Area Metropolitan Planning Organization recently completed an assessment of the ability of San Antonio's road network to accommodate the existing and anticipated traffic levels as part of *Mobility 2040: Metropolitan*

EXISTING CONDITIONS: ROADWAYS

In 2011 San Antonio experienced 40 million hours of delay ranking 30th in the nation.

In 2015 the average weekly commute for San Antonio is 3.95 hours compared to Austin 3.75 hours, Dallas 4.25 hours and Houston 4.55 hours.

VEHICLES AVAILABLE PER HOUSEHOLD

City	Vehicles Available per Household
San Antonio	~1.5
Austin	~1.5
Dallas	~1.5
Phoenix	~1.5
Portland	~1.5

In 2014 TxDOT published their annual list of the 100 most congested roadways in the state. San Antonio had seven of the top 100 congested corridors.

- Interstate 35 (Loop 410 North to Loop 410 South Cutoff) (#40)
- Interstate 35/Interstate 10 (US Highway 90 to US Highway 281/Interstate 37-Downtown) (#44)
- Interstate 10 (Loop 410 North to Loop 1604 North) (#51)
- Interstate 35 (Loop 410 North to Loop 1604 Northeast) (#54)
- US Highway 281 (North of Loop 1604 to Stone Oak Parkway) (#58)
- Loop 410 North (US Highway 281 to Interstate 10) (#59)
- State Highway 16 (FM 1560 to Loop 410) (#77)

Sources: AAMPO, 2015 NYC Economic Brief, TTI-2012 Mobility Report, MPO Mobility Report, 2010-2012 ACS

SA TOMORROW
multimodal transportation plan

San Antonio's Primary North-South U.S. Highway 281 Already Experiences Congested Conditions During Peak Hours. With an Additional 1 Million People, Our Highways Will Worsen!



US Highway 281 at Jones Maltsberger and the San Antonio International Airport

Transportation Plan. The AAMPO developed a 2010 base year model and two projections: a 2040 No Build scenario, and a 2040 Build scenario. These two scenarios looked at the road network, but due to their county-wide focus, did not maintain a detailed network. A similar process was completed as part of the Texas Department of Transportation's Texas Transportation Plan 2040.

The output from the AAMPO travel demand model correlates V/C ratios to LOS. As the V/C ratio approaches or exceeds 1.0, the volume is nearing or exceeding the capacity of the roadway.

Based on the Alamo Area Metropolitan Planning Organization (AAMPO) travel demand model results, congestion will result in a decrease in average speed (about 48%) and it will take longer to travel the same distance on the same roadway in year 2040 compared to year 2010. Total vehicle hours of delay will increase by over 900% from 2010 to 2040. The increase in VMT (vehicle-miles traveled) from 2010 to 2040, as reported by the model, indicates an increase in

vehicles and drivers on the road network, combined with an increase in number of trips and distances traveled. Bexar County currently shows 1,517,285 vehicles registered in 2014, which represents 88% of the population. There were 11% more vehicles on the road in 2014 compared with 2010 in Bexar County. There were 1.6 vehicles available per household and 7.9 vehicles per 10 adults within the City of San Antonio according to the Census Bureau's 2010-2013 American Community Survey. More surprisingly, 9.3% of households had no vehicle available during the same period.

With VMT increasing due to continued growth, the levels of congestion will worsen. The City expects the largest increases in population on the far west side, downtown and the far north side areas. Many of the improvements previously included in Mobility 2035 and those added by Mobility 2040 focus on the region's interstate highways. As such, the AAMPO's modeling found that

most of the future needs would be along city streets, specifically major and minor arterials. One reason for this is that as interstates become congested, people look for alternate routes. Another reason is that some portions of the AAMPO study area include those areas that are experiencing rapid growth on previously undeveloped land with a transportation infrastructure that has not kept pace with growth. This can be seen in some parts of the San Antonio Extraterritorial Jurisdiction (ETJ).

Based on the daily volumes in the AAMPO model, major roads on the north and west sides of the City outside of Loop 410 will be over capacity (with V/C ratios ≥ 1.0) by year 2040 with the exception of Wurzbach Parkway (See Figure 3 – Map of LOS Results for 2040). The south side will experience significant congestion as well, with most major north-south roads operating at LOS F. The inner east and southwest sides are the only areas of the city that will have available capacity on the road network.

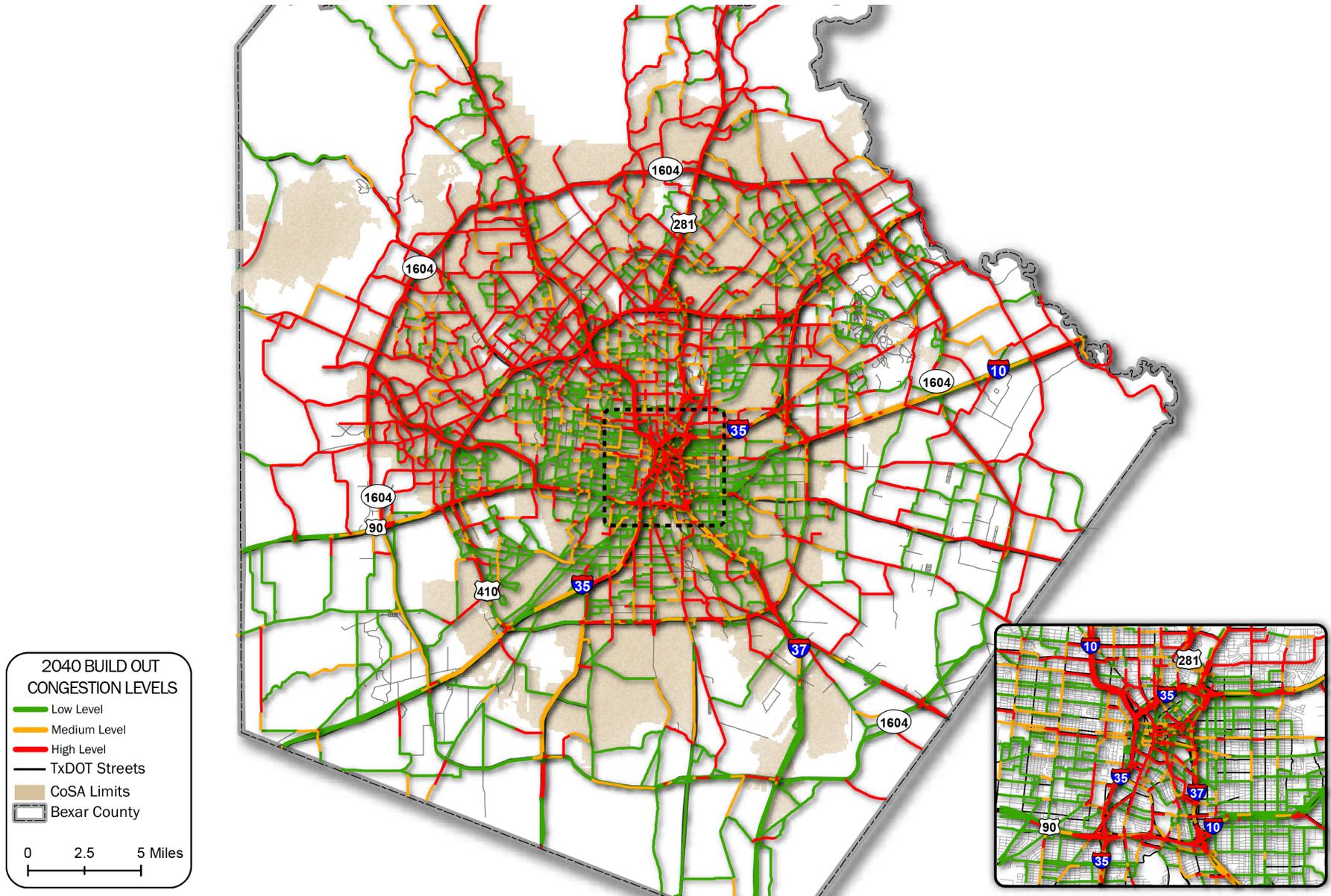
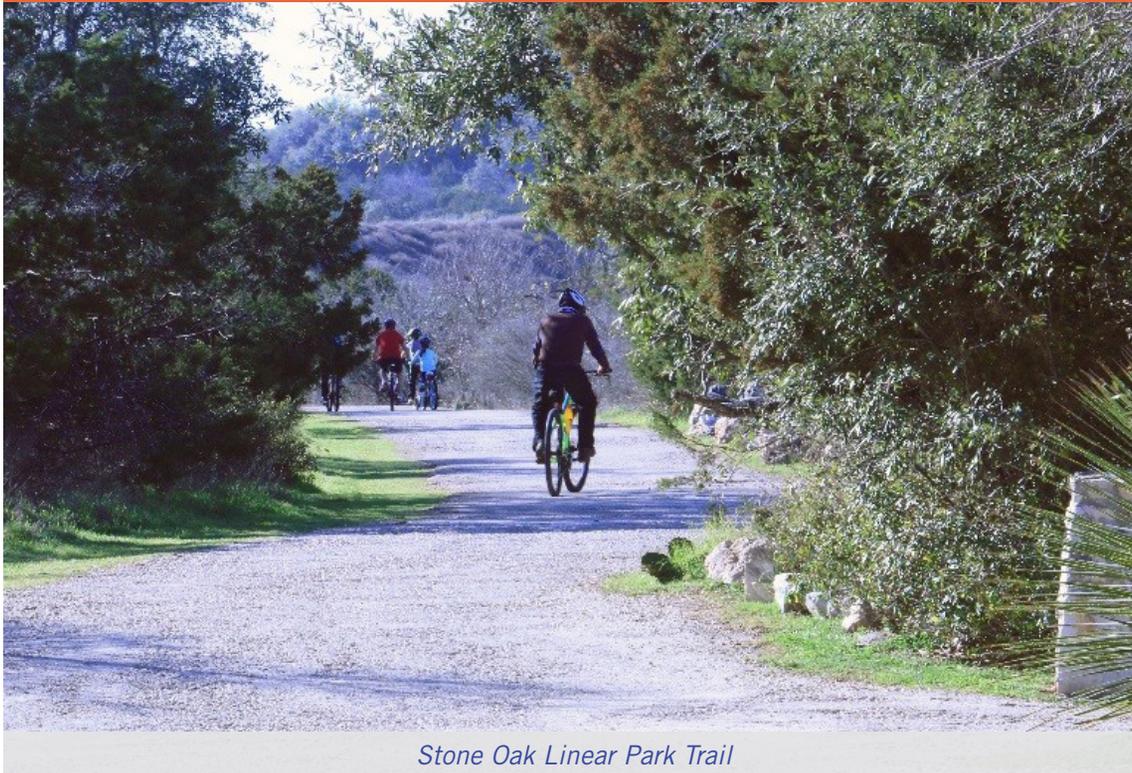


Figure 3 - Map of Level of Service for 2040

Off-Roadway Bike Facilities Attract Basic Riders as Well as Children and Families.



Stone Oak Linear Park Trail

Bike Network

History

Biking was introduced to San Antonio in the late 1800's. The first bicycle club that we know of was formed in 1891 and was called the Alamo Wheelmen. Bicycling was popular in the late 1800s and through the turn of the century, but declined in the 1930s with the rise of automobiles. Bicycling had a resurgence in the 1970s and the original bicycle club was revived as the San Antonio Wheelmen. Today there are numerous bicycle clubs in San Antonio that cater to different types and levels of cyclists.

Bicycle Planning and Implementation

In 1975, the City drafted a Bicycle Master Plan that included recommendations for facilities along creekways. Although this plan was not formally adopted, many of the recommended facilities have been implemented through the Greenway Trails Program.

In 1994, the Alamo Area Metropolitan Planning Organization (AAMPO) included a bicycle component within its Long-Range Plan. In 2001, the AAMPO conducted a Bicycle Suitability Study which resulted in a 2003 Bike Route Usability Map. The bicycle component of the AAMPO Long-Range Plan gets updated every five years with the update to the overall Plan. With the expansion of the AAMPO in 2014, the organization began creating a regional Bicycle and Pedestrian map in 2015 to include cities and counties outside of Bexar County.

The first City initiated Plan since 1975, was the 2011 Bike Master Plan that laid out a potential network of bicycle facilities to be built by the public and private sector as new roads were built and existing roads were upgraded in the City and its Extraterritorial Jurisdiction (ETJ). In 2000, San Antonio had 34 miles of bicycle facilities. This number increased to 66 miles in 2004, and 136 miles in 2009. Today (2015), there are

286 miles of bicycle facilities in San Antonio. This represents an increase of 150 miles between 2010 and 2015. The majority of these facilities (63%) are bike lanes. There are an additional 326 miles of bike facilities maintained by TxDOT, other incorporated cities, and unincorporated Bexar County for a total of 612 miles of bike facilities within Bexar County. The majority of these facilities (87%) are wide shoulders.

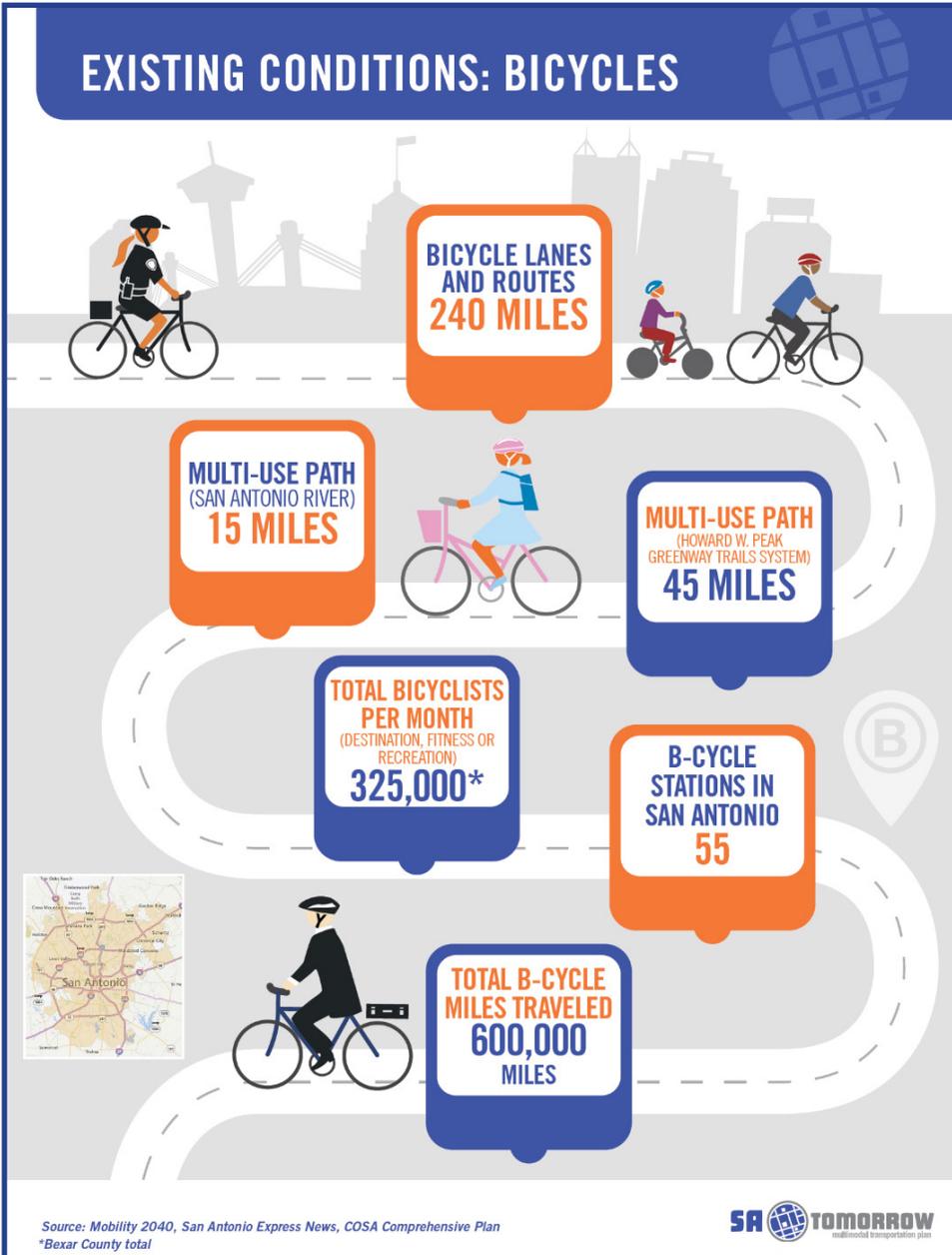
2011 Bike Plan

The adopted 2011 Bike Master Plan was an update of the Bicycle Master Plan adopted by City Council effective May, 2005. The purpose and need of the 2011 update was to create an efficient region-wide bicycle network as well as prioritize bicycle facilities in an effort to create an integrated multimodal transportation infrastructure. The plan in large was based on a signage system of bike routes on which markings could be added at a later time and to identify low-cost implementation on existing roadways.

While the plan recommended a network of streets to eventually receive bike lanes in the 2011 Bike Master Plan, the increase in bicycle ownership has exceeded initial projections and is now generating the need to modify the 2011 Bike Master Plan.

Well-thought-out bicycling routes can augment significant changes in a city. Offering a variety of ways to move around by bike encourages active communities and creates practical opportunities for a greater portion of the population to choose bikes over cars. Facilities like protected bike lanes, city-wide bike routes, trails, and separated paths give prospective riders more choices when it comes to running errands, getting to work, or taking the kids to school in order for San Antonio to become known as a bike-friendly city. We still have much to accomplish. The San Antonio Bike Master Plan was adopted in 2011. Figure 4 shows the 2011 Bike Master Plan for San Antonio, which, when completed, will provide a

EXISTING CONDITIONS: BICYCLES



The Downtown Transportation Study, adopted in 2012, updates the bike plan within downtown to improve connectivity and modify facility types based on a more in-depth study of Right-of-Way, design, street character, and traffic operations.

connected bicycle network throughout the City. Currently the most built-out portions of the network are located north and northwest of North Loop 410. Areas where there are significant gaps in connectivity with the existing bike facility include the north-central, south-central, and east sides. The Bike Master Plan prioritized the proposed bicycle facility improvement projects into two levels: Tier 1 Improvements and Tier 2 Improvements.

In addition to the map, the Bike Master Plan also established the following goals for the development of bike facilities in San Antonio: Connectivity; Culture and Commitment; Health and Fitness; and Vibrant Streets. The Bike Master Plan sets forth a framework for implementing bicycle facilities throughout the City in order to create a connected network. However, one of its weaknesses is that it does not perform a detailed evaluation of the feasibility of implementing the bike facility or type of facility. This is especially true where reductions in travel lanes are required.

2011 BIKE MASTER PLAN

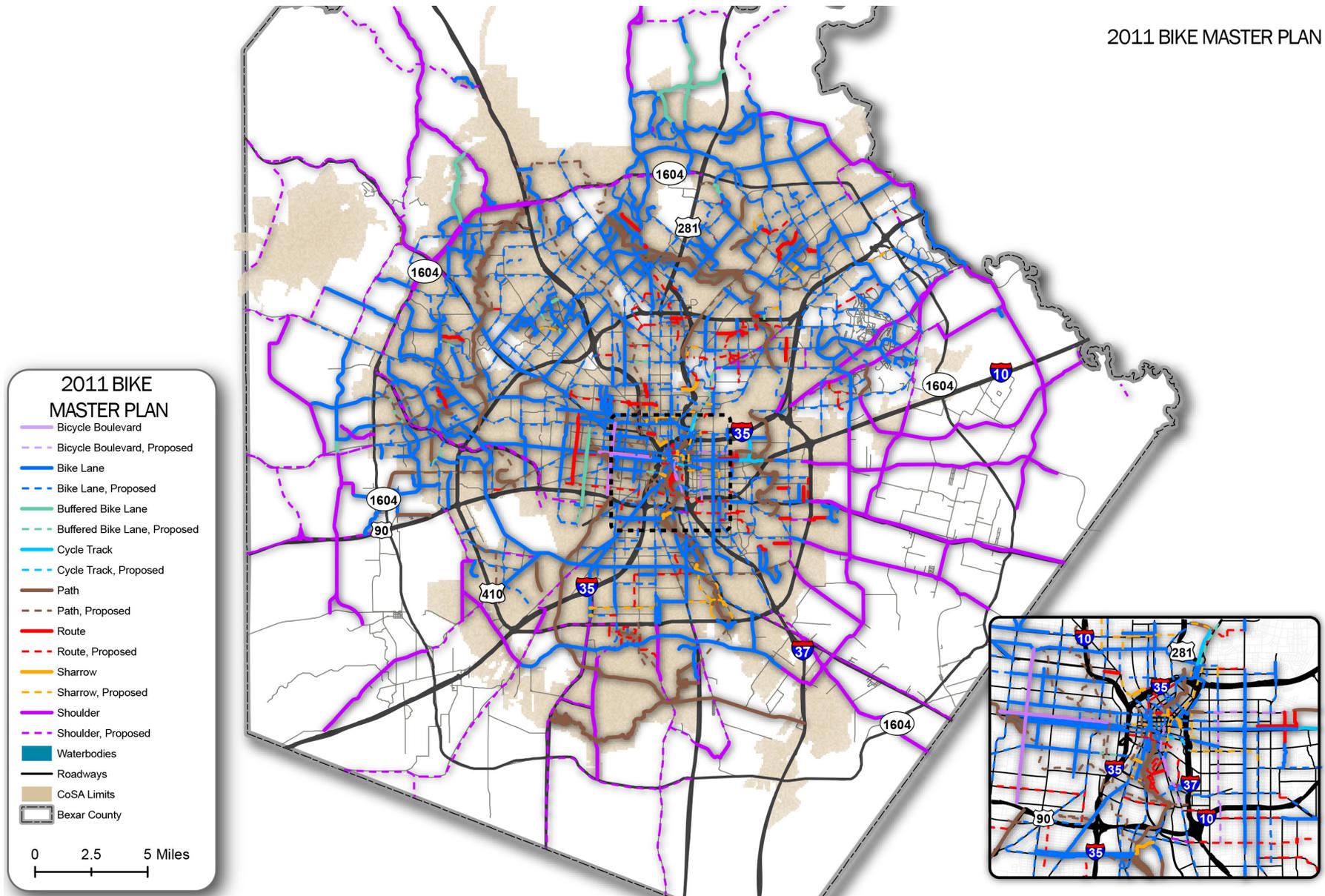


Figure 4 – Map Of 2011 Bike Master Plan

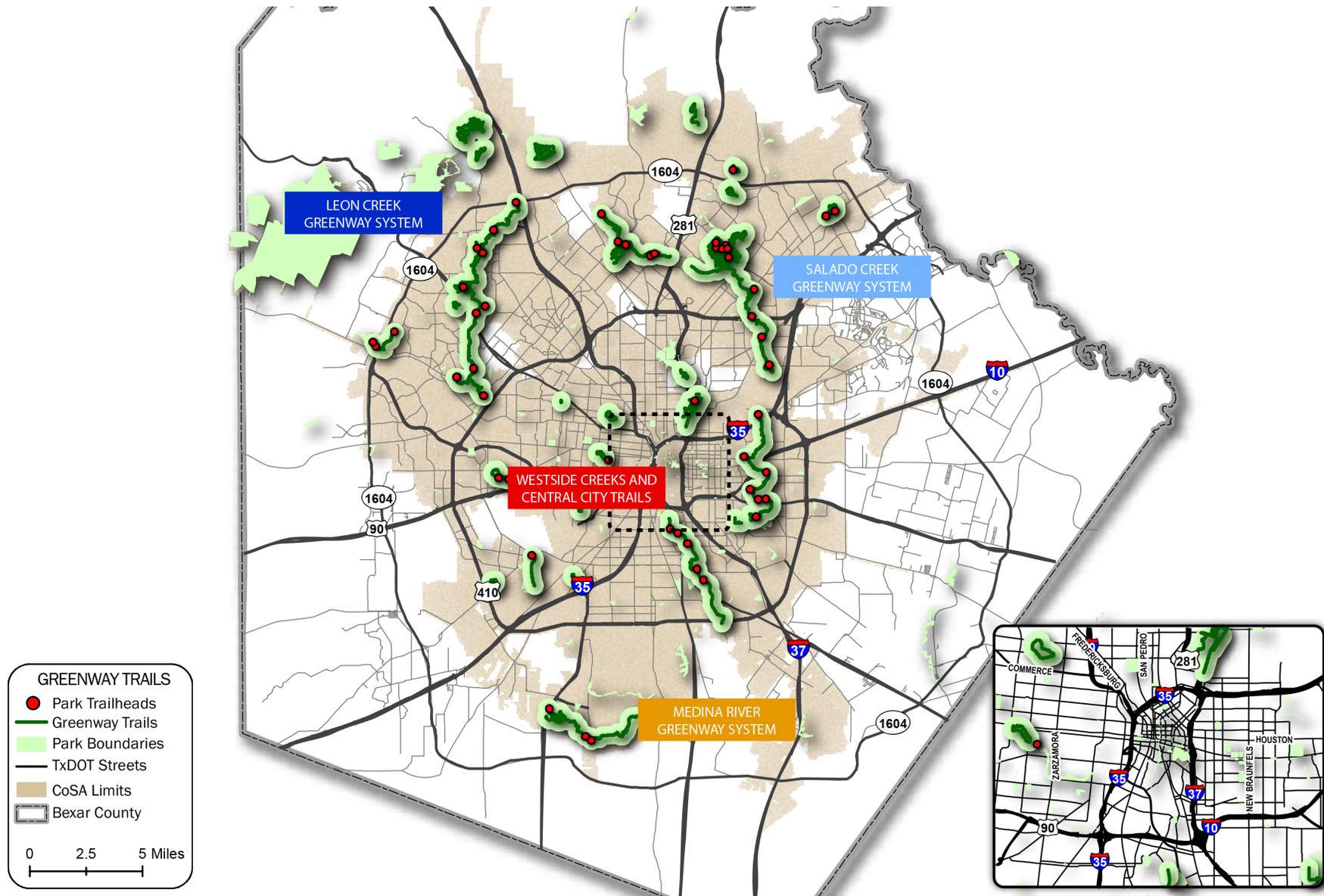
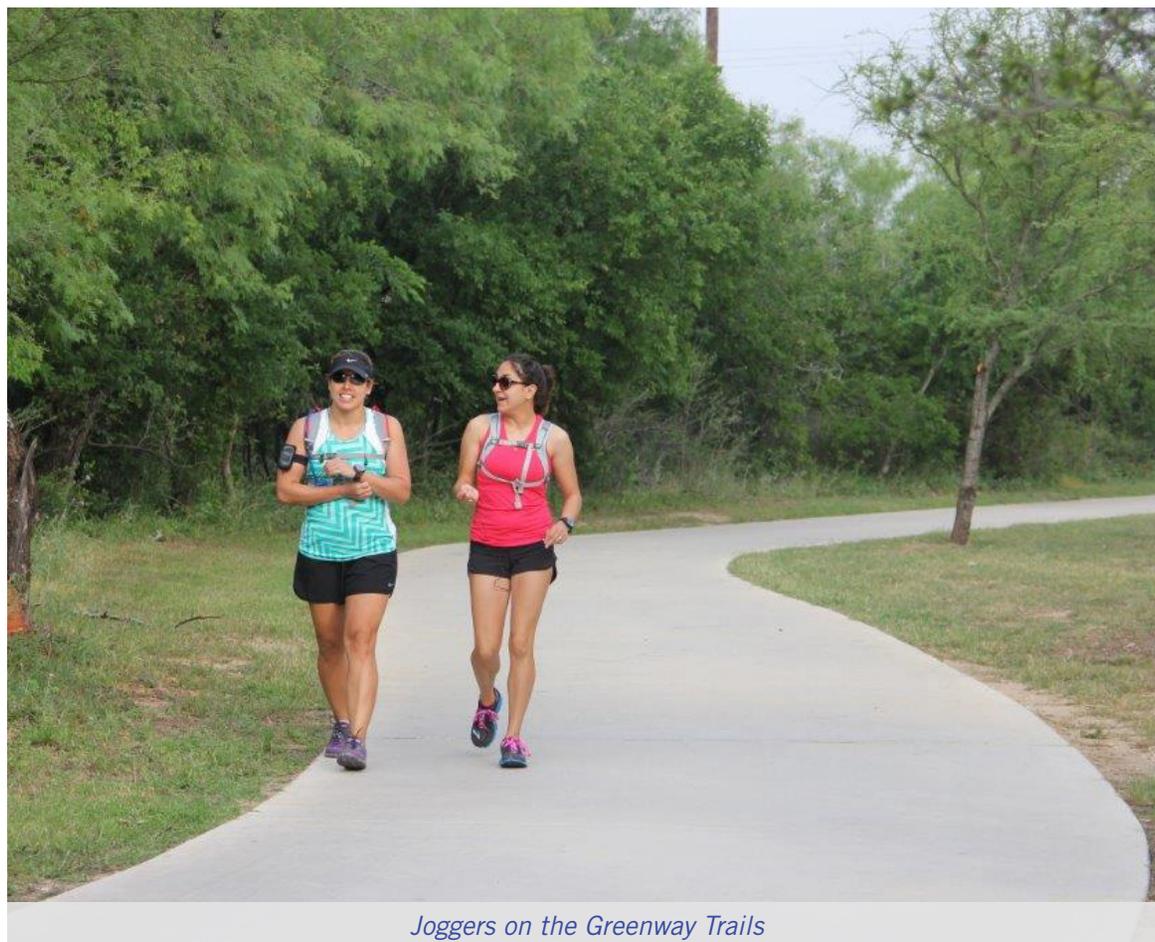


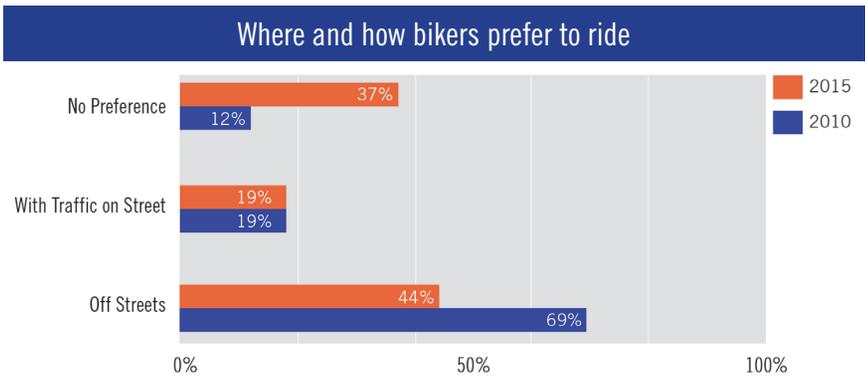
Figure 5: Howard W. Peak Greenway Trails System Map

Greenway Trails Plan

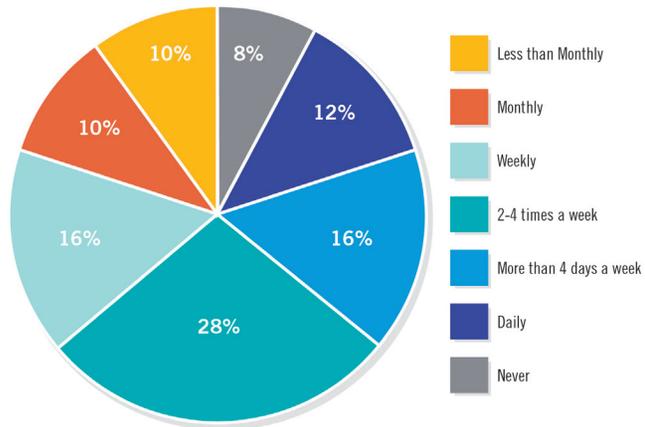
The Howard W. Peak Greenway Trails System (Figure 5) is an important component of the Bicycle Network. The system currently has 47 miles of trails that follow the Leon Creek, Salado Creek, Medina River, San Antonio River, and a series of smaller creeks on the Westside and Central City (Alazan, Apache, Martinez, San Pedro, and Olmos). A bicycle ridership counting program began in 2013 by the Office of Sustainability, although the City's first permanent bike counter was placed on the Mission Reach near Theo Avenue in 2012. At that location over 110,000 cyclists were counted in 2014, compared to just over 74,000 in 2012. In addition to the Greenway Trails, several parks in San Antonio have mountain bike or hike and bike trails (e.g. McAllister Park, O.P. Schnabel Park, Stone Oak Park, Hardberger Park, and Government Canyon State Park) that provide additional recreational options.



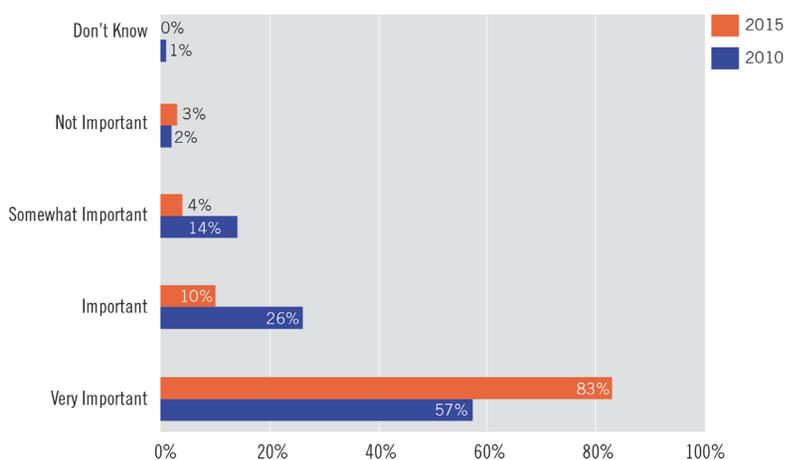
Joggers on the Greenway Trails



About how often did you ride your bike during the past year?



Overall, how important is it to improve bike facilities in San Antonio area?



Bicycle Ridership

A 2010 Bicycle Travel Patterns study reported that in San Antonio and Bexar County in 2010 approximately 350,000 households owned at least one bicycle and approximately 325,000 people rode their bicycle at least once per month. At that time, approximately 93% of respondents said that they rode for recreational purposes, 17% for errands, 7% to commute to work, and 4% to commute to school. A new survey was conducted in 2015 (Figure 6) in conjunction with the SA Tomorrow Multimodal Transportation Plan; 72% of respondents said they ride their bike weekly or more. A greater portion of the 2,600 survey respondents indicated they had no preference about where they ride compared with the 2010 Bike Survey. The respondents to the 2015 Bike Survey indicated that it was very important for the City to improve bike facilities at much greater percentage (83%) compared with the 2010 Survey results (57%).

Figure 6 – 2015 Bike Survey Results

Sharrow Markings Help Alert Drivers to the Presence of Bicyclists Using the Lane.



Sharrow marking on St. Mary's Street, San Antonio, TX.

San Antonio B-Cycle Program

San Antonio also has B-Cycle, a bike sharing program. Users can pick up a bike at any B-station and return it to any B-station when finished with their ride. Users can pay a membership fee to gain unlimited access to the B-Cycle system or they can pay based on the time that the bike is used. There are currently 58 B-Cycle stations in San Antonio. As of June 2016, over 1.3 million miles have been traveled on B-Cycle bikes. They are predominantly located in downtown, but are also located near the Mission and Museum Reaches of the San Antonio River. As of May 2014, over 600,000 miles had been traveled on B-Cycle bikes according to a San Antonio Express News article (Marini, Richard A. "Let it Ride: Trends in B-Cycling" (San Antonio Express News. May 15, 2014)).

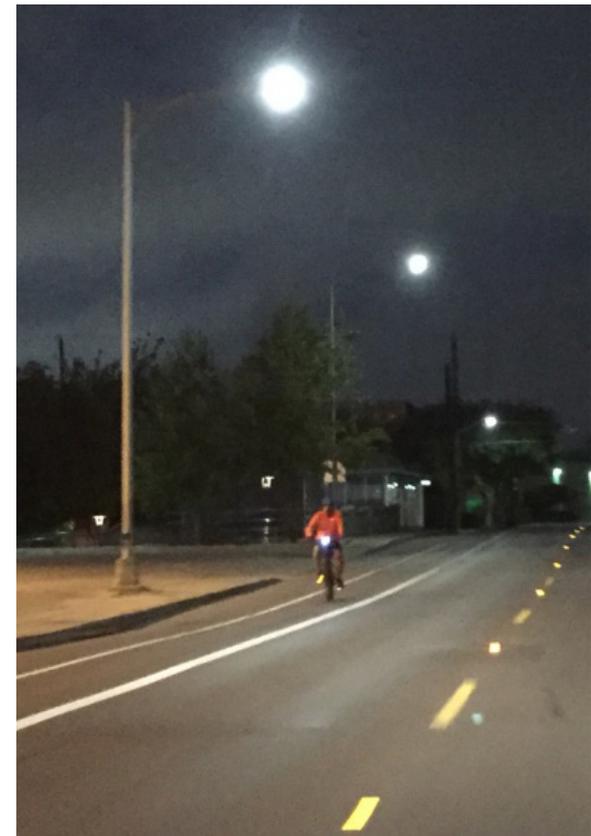
Alamo Area MPO Regional Bicycle/ Pedestrian Planning Study

In September 2014, the MPO started a Regional Bicycle/Pedestrian Planning Study to help additional municipalities accomplish the vision and goals for bicycling in MOBILITY 2040, (adopted on December 8, 2014). The study is being conducted with the aid of a consultant planning team who will identify existing biking and walking conditions in the cities of Boerne, New Braunfels and Seguin and prioritize projects for short-, intermediate- and long-term implementation. In the City of San Antonio, which is actively following recommendations made in the San Antonio Bike Plan 2011 + Implementation Strategy, the focus of the study will supplement what was in the 2011 Bike Master Plan. It will include a new focus on bicycling and pedestrian issues in the area encompassing the San Antonio Missions National Historical Park.

San Antonio Bike Safety Policies

In response to bike safety concerns, the City of San Antonio adopted a Bike Light Ordinance and a Safe Passing Ordinance in 2010 as described below:

- » **Bike Light Ordinance** - This ordinance addresses the ability of drivers to see cyclists at night. The ordinance requires cyclists to have a front white light mounted to the bike, and a rear red reflector or red light mounted to the back. It reinforces the State of Texas law requirements for bicycle lights.
- » **Safe Passing Ordinance** – This ordinance addresses concerns regarding driver behavior when encountering cyclists in the roadway. Recent fatal accidents involving cyclists being hit by vehicles prompted passage of this ordinance. This ordinance sets a requirement of 3 feet for cars and 6 feet for commercial or large trucks as safe passing distance.



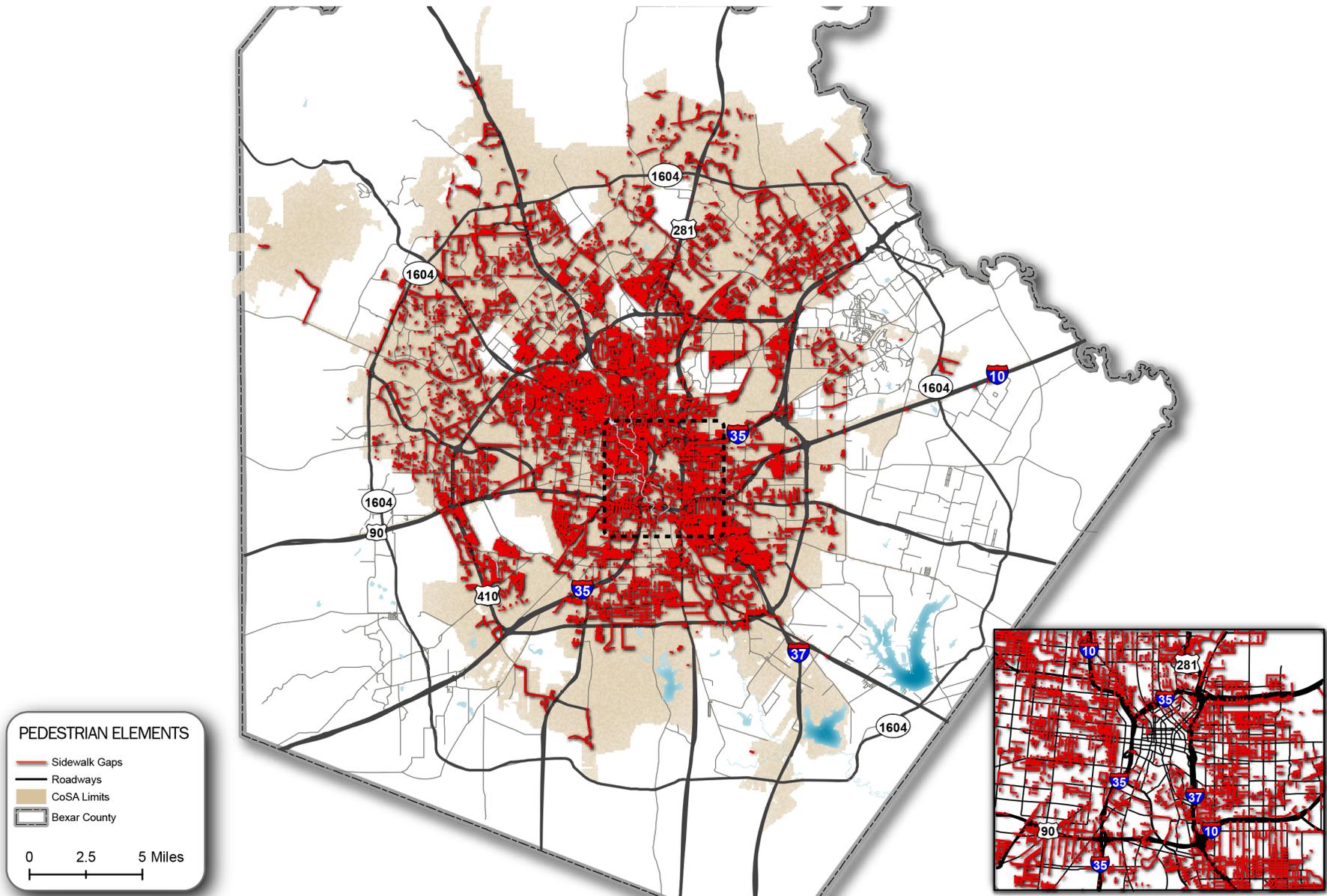
Pedestrian Network

A walkable environment has been shown to result in improved health as well as generating revenues for businesses, increasing the appeal of neighborhoods and raising property values. Encouraging the changes that create walkability entails providing facilities, building connections and creating an environment that appeals to pedestrians. Features that make a pedestrian-friendly and walkable environment include: walkways, landscaping, shade, seating, streetscaping, separation from traffic, lighting, and activity.

San Antonio's existing pedestrian network consists mostly of sidewalks, linear greenway trails, and park trails. Currently a significant portion of many of San Antonio's roadways do not have sidewalks, or gaps between sidewalks (see Figure 7). Many of the City's sidewalks are 4 feet wide and are located at the back-of-curb with no separation or buffer between the pedestrian and the adjacent traffic lane. Other issues include sidewalks in disrepair, and sidewalks with accessibility issues such as barriers in the form of utilities, fire hydrants, retaining walls, etc., and absent curb ramps.



Figure 7 – Pedestrian Facility Gaps





Stone Oak Park Trail

The Alamo Area MPO Regional Bicycle and Pedestrian Planning Study provides a prioritization method for identifying areas where sidewalks and pedestrian improvements are needed most. The prioritization process considers three focus areas: demographics indicating pedestrian demand or the desire to walk in an area, attractions that create pedestrian traffic, and safety. A total of 28 indicators were used and weightings were assigned to identify the areas of the City that should be addressed first. The final prioritization map is shown in Figure 8.

Three levels or Tiers of improvements and recommendations were provided for the high priority areas of the City. Tier 1 included short term, easy-to-install improvements. Tier 2 included long term recommendations that are not that difficult to install, while Tier 3 consisted of long term improvements and recommendations that may require the roadway to be completely reconstructed.



Midblock Crossing With Landscaped Refuge Island, Plymouth, Michigan



Midblock Z Crossing on Culebra Road

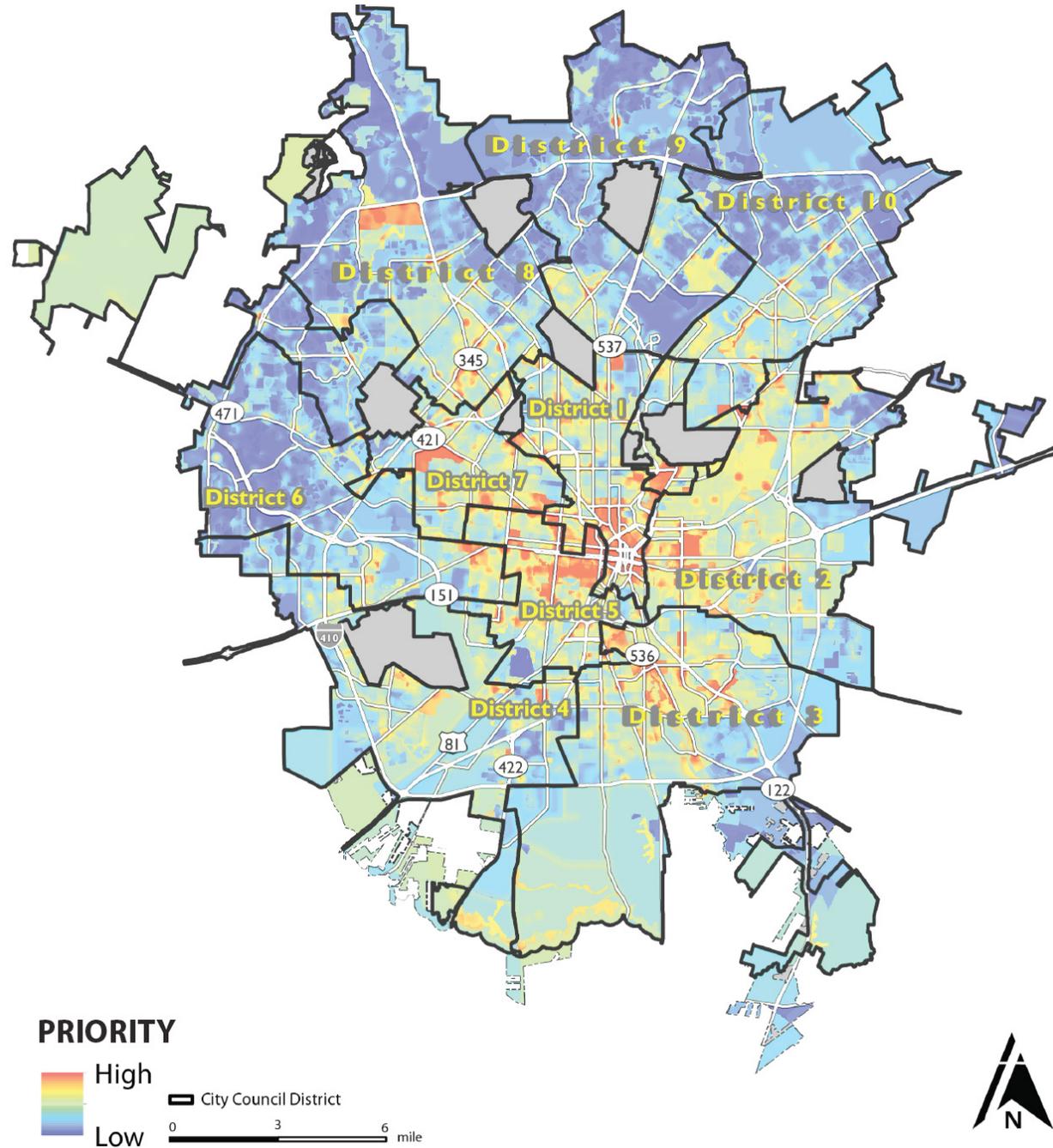


Figure 8 – Prioritization Map, AAMPO Regional Bike & Pedestrian Planning Study



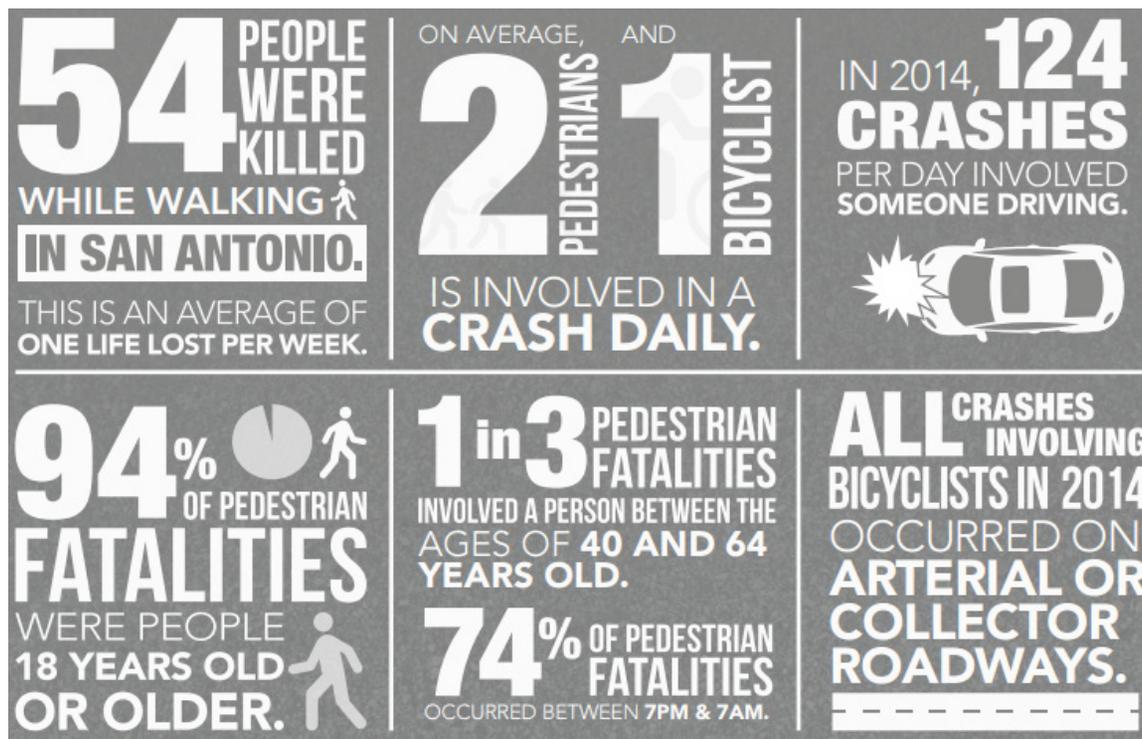
Drive safe. Bike safe. Walk safe.

Focus on Safety

Vision Zero in San Antonio

On September 15, 2015, Mayor Ivy Taylor and City officials announced their commitment to zero fatalities as part of Vision Zero put forth by Councilwoman Shirley Gonzales. As reported by the Transportation & Capital Improvements (TCI) Department, there were 138 fatal crashes in which 54 pedestrians and one cyclist were killed on San Antonio streets in 2014 alone. That number decreased slightly in 2015 with 46 pedestrians killed. Vision Zero establishes

that the loss of even one life or serious injury on our roads is unacceptable. Through Vision Zero, the community shares the responsibility for ensuring the safety of people in our community. The responsibility for roadway safety is shared between those who design the road and those who use the road. Vision Zero is both an attitude toward life and a strategy for designing a safe transportation system.



DID YOU KNOW?

In 2012, 4,743 pedestrians were killed in traffic crashes in the **United States**, and another 76,000 pedestrians were injured.¹ This translates to **one crash-related death pedestrian death every 2 hours**, and **one pedestrian injury every 7 minutes.**¹

Source: United States Center for Disease Control and Prevention

1. Department of Transportation (US), National Highway Traffic Safety Administration (NHTSA), Traffic Safety Facts 2012: Pedestrians. Washington (DC): NHTSA; 2014 [cited 2014 Sept 25]. Available from URL: <http://www-nrd.nhtsa.dot.gov/Pubs/811888.pdf>

2014 CRASH DATA

	CRASHES	FATALITIES
TOTALS	45,208	138
 Vehicles	44,084	83
 Pedestrians	799	54
 Bicycles	325	1

SPEED KILLS

Higher vehicle speeds increase the likelihood of a pedestrian fatality when struck by a vehicle.

VEHICLE SPEED	ODDS OF A PEDESTRIAN FATALITY AFTER BEING STRUCK BY A VEHICLE
20 MPH	5%
30 MPH	37-45%
40 MPH	83-85%

Source: Killing Speed and Saving Lives, UK Dept. of Transportation, London, England. See also Limpert, Rudolph. Motor Vehicle Accident Reconstruction and Cause Analysis. Fourth Edition. Charlottesville, VA. The Michie Company, 1994, p. 663.

The city believes that the key to success in achieving Vision Zero is a combined approach using the five essential elements for a safe transportation system: Education, Encouragement, Engineering, Enforcement and Evaluation.

- » **EDUCATION** - Communicate the importance of safety for all on our roadways, whether a person is driving, bicycling, walking or riding.
- » **ENCOURAGEMENT** - Encourage all to practice safety and follow all traffic laws.
- » **ENGINEERING** - Construct improvements to enhance safety and accessibility along crosswalks, walkways, and bikeways.
- » **ENFORCEMENT** - Enforce traffic safety and continue to support safety initiatives such as Click It or Ticket It, Buzzed Driving is Drunk Driving, and Distracted Driving.

- » **EVALUATION** - Evaluate traffic safety efforts and implement improvements as needed.

The City has taken the following steps to make streets safer for pedestrians.

- » In 2010, San Antonio adopted a “safe passage” ordinance to encourage tolerance and acceptance of vulnerable users, such as bicyclists, traveling on roadways.
- » In 2011, San Antonio adopted a Complete Streets Policy that supports pedestrian oriented neighborhoods, enhancement of commercial corridors, and maximizes capital project investments.
- » The Alamo Area Metropolitan Planning Organization’s (AAMPO) adopted the Pedestrian Safety Action Plan in 2012, which defines a set of actions make walking safer.
- » In 2015, San Antonio enacted a hands-free ordinance for motorists’ city wide.

- » The 2015 City of San Antonio Pedestrian Study, led by the AAMPO as part of the Regional Bicycle and Pedestrian Plan is currently underway. The study will establish a system to determine how to identify pedestrian zones.

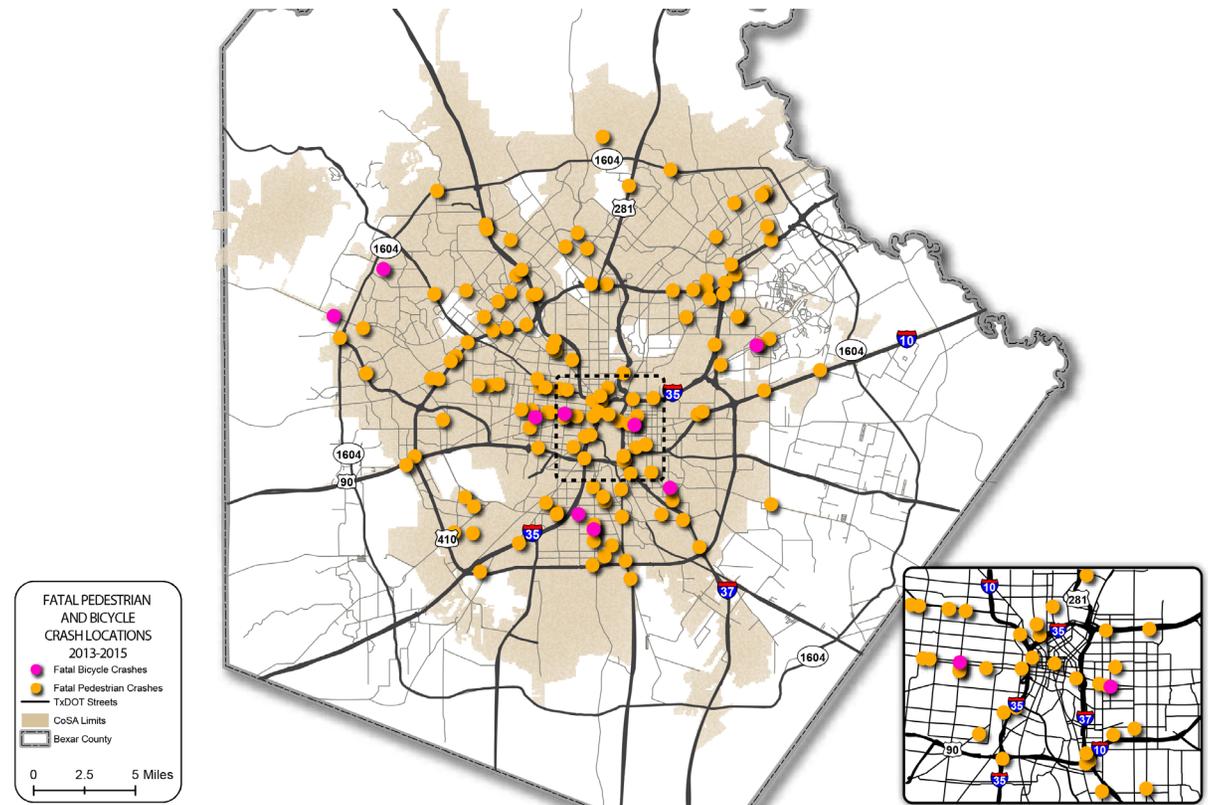
A Closer Look at Bicycle Crashes

The majority of bicycle crashes are concentrated in the central and southern parts of the city based on crash data from years 2010 through 2014. However, this may be indicative of more cyclists in these regions resulting in greater exposure, not a higher crash rate. In particular, the Fredericksburg Road corridor south of Loop 410 has a high frequency of crashes involving bikes. There were 258 bike crashes in San Antonio in 2013, increasing to 324 in 2014. In 2015, there were 342 bike crashes. Of greater concern, are the potential for an increase in serious injuries and fatalities associated with increased cycling. There were five fatal bike crashes in 2013, one in 2014 and four in 2015 (Figure 9). All of the bike crashes in years 2013 and 2014 occurred on collectors and arterials. Most of the fatal bike crashes occurred during night conditions between the hours of 7 PM and 7 AM.

A Closer Look at Pedestrian Crashes

San Antonio has been named a Pedestrian Focus City by the US Department of Transportation (USDOT), which is designated for cities with a high number of pedestrian fatalities. San Antonio and Dallas have the highest average pedestrian fatality rates per 100,000 population in Texas based on data from 2010 through 2013. There were 832 pedestrian related crashes in San Antonio in 2013. The number dropped slightly to 793 in 2014 and has risen to 877 in 2015. San Antonio experienced 46 pedestrian fatalities in 2013, increasing to 54 in 2014 and 46 in 2015. Over 75% of the pedestrian crashes occurred outside of intersections and about 70% occurred during night conditions, between the hours of 7 PM to 7 AM. Similar to bike crashes, a large number of the pedestrian crashes are concentrated in downtown, which is likely more indicative of the higher numbers of pedestrians in this area rather than there being a higher rate of crashes involving pedestrians.

Figure 9 – Fatal Pedestrian and Bicycle Crash Locations 2013 - 2015



Vision Zero establishes that the loss of even one life or serious injury on our roads is unacceptable. To make Vision Zero a reality, the City must invest and prioritize safety and operational needs.

In 2014, 54 pedestrians were killed in traffic-related incidents in San Antonio. Nearly 39% of all fatal crashes in San Antonio involved pedestrian deaths. On average, 124 vehicles, 2 pedestrians, and 1 bicyclist are involved in crashes every day in San Antonio.

Transit Network

VIA Metropolitan Transit (VIA) is one of the top rubber-tire transit providers in the country. However, San Antonio is the largest city in the country without any type of light rail or streetcar service. In order to prepare for the anticipated growth, San Antonio will need to invest in high capacity transit options that provide reliable transportation alternatives.

VIA Metropolitan Transit Agency has provided public transportation in the San Antonio area since March 1978. VIA currently operates 91 transit routes, with 7,080 bus stops and serves approximately 140,000 riders per day and over 44 million riders annually. VIA's services include frequent, metro, express, skip, VIA Primo downtown circulator, VIATrans, and Vanpool. VIA's first bus rapid transit (BRT) line, VIA Primo began operation in December 2012. It circulates through downtown, then continues northwest along Fredericksburg Road to the South

How Does San Antonio's Transit System Compare?		
City	Service Area Size (square miles)	Service Area Population
San Antonio	1,213	1,715,000
Austin	522	1,023,000
Dallas	696	2,423,000
Houston	1,285	3,528,000
Phoenix	518	1,665,000
Portland	570	1,490,000

Source: Federal Transit Administration (FTA) - 2014

Texas Medical Center, with extended service to UTSA and Leon Valley. VIA Primo carries over 6,000 riders per day, and has increased use by 15% since it began operation in December 2012. VIA also currently operates eight park & ride locations, ranging from 30 to 500 parking spaces, and five transit centers, primarily serving to facilitate transfers between

transit lines. Almost 20% of VIA's daily boardings occur in the downtown area, 60% of which are originating from or destined for that employment center. VIA is implementing two transit centers at the west and east ends of downtown to provide an improved rider experience for the remaining 40% of downtown boardings served in that area. Centro

DID YOU KNOW OUR POPULATION IS AGING?

According to the AAMPO, people who are 65+ will make up 18% of Bexar County's population in 2045. Given that this segment of the population is also more likely to use transit and move around the city through shared rides, it is important that access and mobility for the transit-dependent be considered when identifying transportation solutions.

Plaza (formerly Westside Multimodal Transit Center) recently opened to partial service, but will ultimately serve about 60 buses per hour in the peak, and Robert Thompson Transit Center is currently in project development, expected to open in the 2017-2018 timeframe.

VIATrans service provides paratransit service for residents with disabilities who are unable to use the fixed-route system. This service provides approximately 1

million rides annually, using a fleet of 230 paratransit vans. VIA also offers a rideshare program called Vanpool, which allows six or more passengers the ability to commute up to 100 miles to their place of employment with trips either originating or destined for Bexar County. VIA recently announced a new service, "The E" line which is a free downtown circulator that begins operating between the hours of 6 PM and midnight, Tuesday through Saturday, on March 28, 2015. The E service is a joint effort between CENTRO, VIA, and the City of San Antonio to provide access to entertainment venues, dining and cultural sites within downtown.

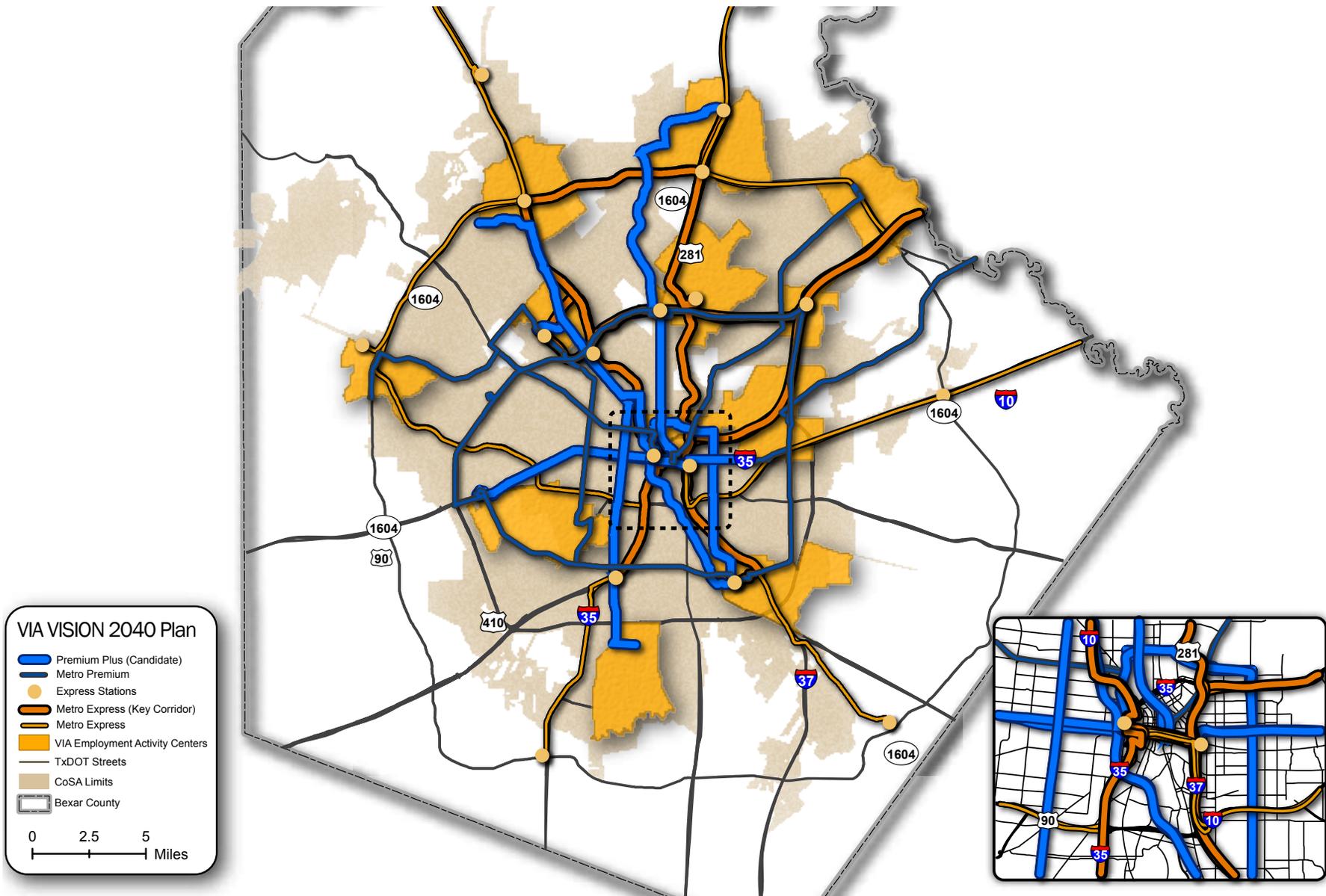
VIA's bus fleet includes 450 buses, of which 30 are diesel/electric hybrids, 16 are 60' articulated buses fueled with compressed natural gas, and 3 are fully electric. VIA buses operate 7 days a week, from 4:00 AM to 1:00 AM.

VIA is currently updating their long range plan called Vision 2040 Plan which includes high capacity transit corridors (See Figure 10).



VIA Bus Stop on St. Mary's

Figure 10 – VIA Vision 2040 Plan

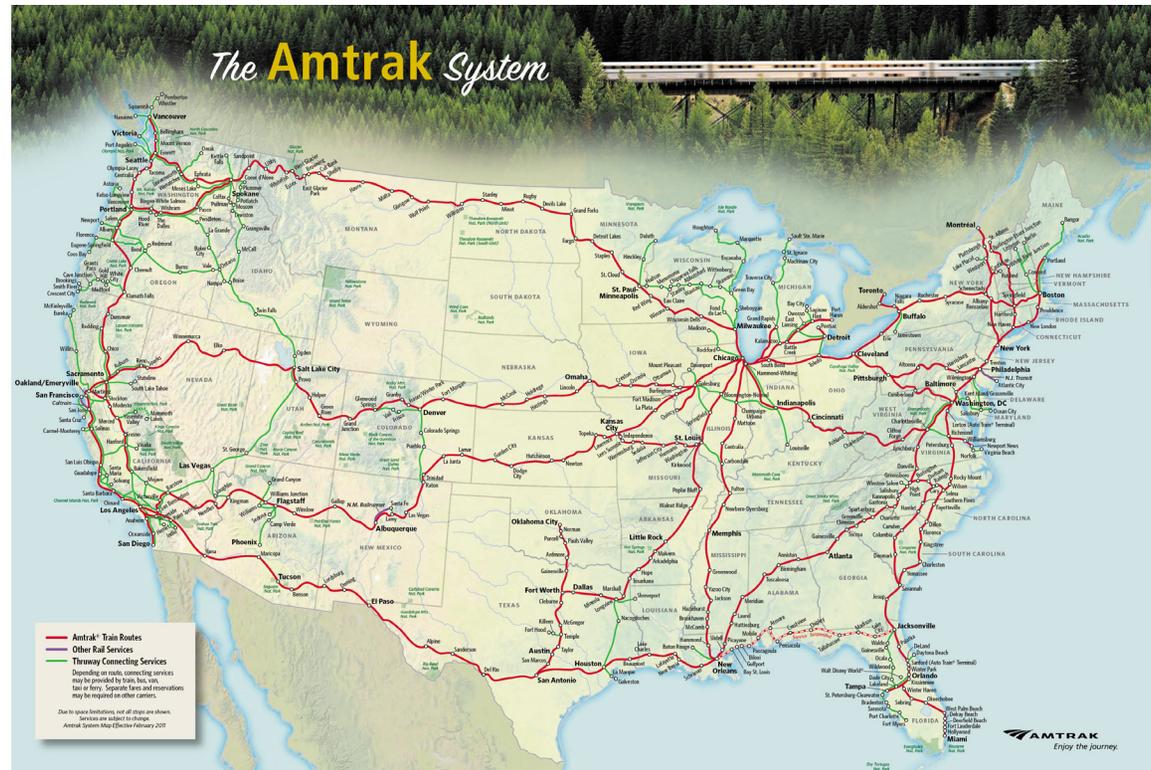


Passenger Rail

Passenger rail in Texas is typically developed at the municipal level through local support. Dallas and Houston have both successfully implemented LRT (Light Rail) systems to serve their citizens. Development beyond the municipal level requires cooperation of the region's cities, counties, MPO's and other stakeholders. The Lone Star Rail District is an example of this regional cooperation.

Amtrak Passenger Rail Service

Amtrak operates a nationwide rail network, serving more than 500 destinations in 46 states, the District of Columbia and three Canadian provinces on more than 21,300 miles of routes. During FY 2015 (October 2014 - September 2015), Amtrak recorded more than 30.8 million passengers, representing the fifth straight year in which ridership has exceeded 30 million. On an average day, more than 84,600 passengers ride more than 300 Amtrak trains.



Two Amtrak lines currently run through San Antonio. Both operate on existing freight rail lines. The Sunset Limited runs from New Orleans to Los Angeles, and the Texas Eagle runs from Chicago to San Antonio. Both lines arrive and depart at Sunset Station on the east side of downtown San Antonio.

The Sunset Limited currently has westbound departures every Tuesday, Thursday, and Sunday at 2:45 AM and

eastbound departures every Tuesday, Friday, and Sunday at 6:25 AM. Other stops in Texas include Beaumont, Houston, Del Rio, Sanderson, Alpine, and El Paso.

San Antonio is the southern terminus of the Texas Eagle and serves as the transfer point to the Sunset Limited. The Texas Eagle departs daily (northbound) at 7 AM and the southbound train arrives daily at 9:55 PM. There are 13 stops in Texas

including San Marcos, Austin, Fort Worth, Dallas, and Texarkana. Scheduled travel time on the Texas Eagle from San Antonio to Chicago is approximately 31 hours.

Both lines arrive and depart at Sunset Station on the east side of downtown San Antonio. In northern Texas, Amtrak also operates the Heartland Flyer providing service between Fort Worth and Oklahoma City.

Proposed Lone Star Rail (LSTAR) Commuter Service

In 1997 the Texas State Legislature enacted legislation which allowed local jurisdictions in the Austin-San Antonio Corridor to create an intercity rail district (Rail District) to manage and operate a proposed passenger rail system. In 2003, State legislation approved granting the Rail District the Exclusive Development Agreement authority for the region. In 2009, the Rail District was re-branded officially as Lone Star Rail District (LSRD).

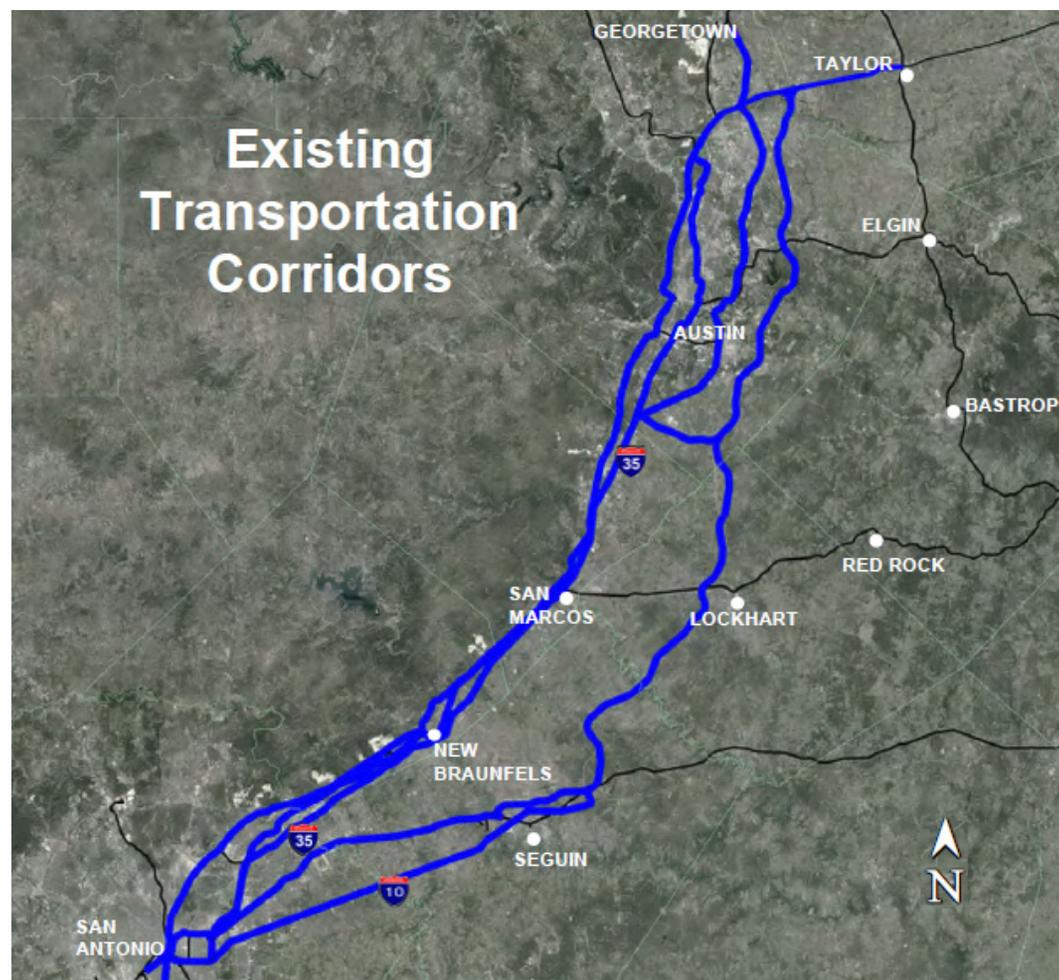


Figure 11 – Existing Transportation Corridors between San Antonio and Austin.
Source: Lone Star Rail District Board Meeting March 4, 2016.

The Lone Star Rail District (LSRD) is proposing a 118 mile intercity passenger rail service from north of Austin to San Antonio as shown in Figure 12. Up to 24 possible stations may be considered including San Antonio, San Marcos, New Braunfels and Austin. The proposed passenger rail service may operate on/ within existing UPRR freight rail lines ROW and hopes to offer express service from downtown Austin to downtown San Antonio. At full operation, the LSTAR service plans to eventually offer up to 32 trains per day, seven days a week. Potentially, through-freight traffic may be shifted to an East Freight Rail Line comprised of existing and new rail lines to the east. Up to 30 freight trains per day could be shifted to the east freight line. This plan requires over 80 miles of new freight rail line to be constructed between Seguin and Taylor. LSRD is currently conducting environmental, economic and engineering studies associated with the 80 miles of new freight rail line. The anticipated completion date of the studies and receipt of federal approval is 2017, after which final design and construction will begin.

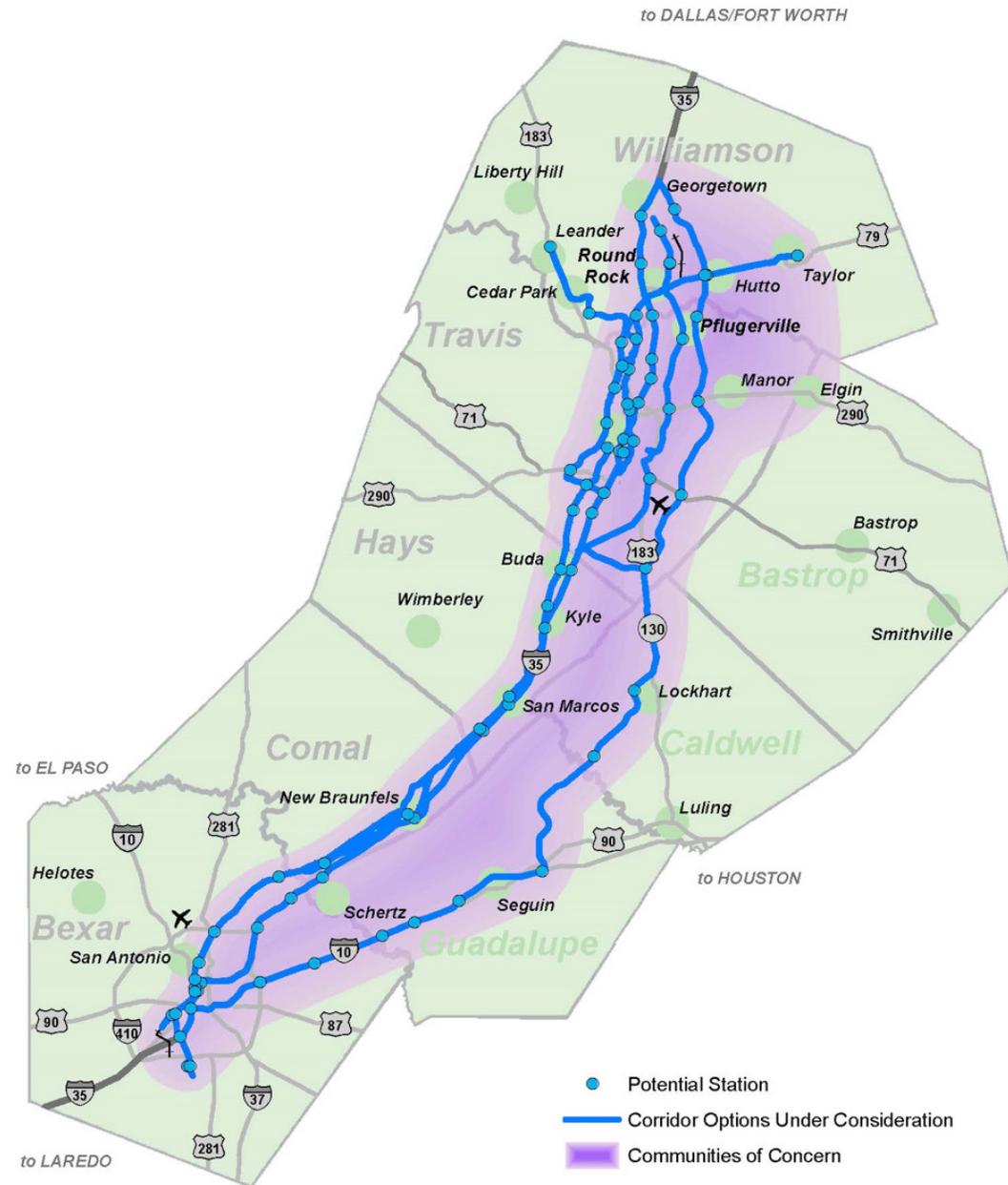


Figure 12 - Source: presented at CAMPO meeting on March 21, 2016 by LSRD staff and LSRD Board Chairman.

Dallas Houston High Speed Rail Project

Texas Central Partners, LLC (Texas Central) is a private, Texas-based company developing the proposed 240-mile high-speed passenger railway and associated facilities between Houston and Dallas. Texas Central and its affiliated entities are responsible for the system's design, finance, construction, operation and maintenance. Texas Central High-Speed Railway (TCR) is a separate affiliated company leading the feasibility effort and the environmental analyses necessary to complete the environmental impact statement (EIS). The Federal Railroad Administration (FRA) is preparing the EIS and serves as the lead federal agency for the project¹.

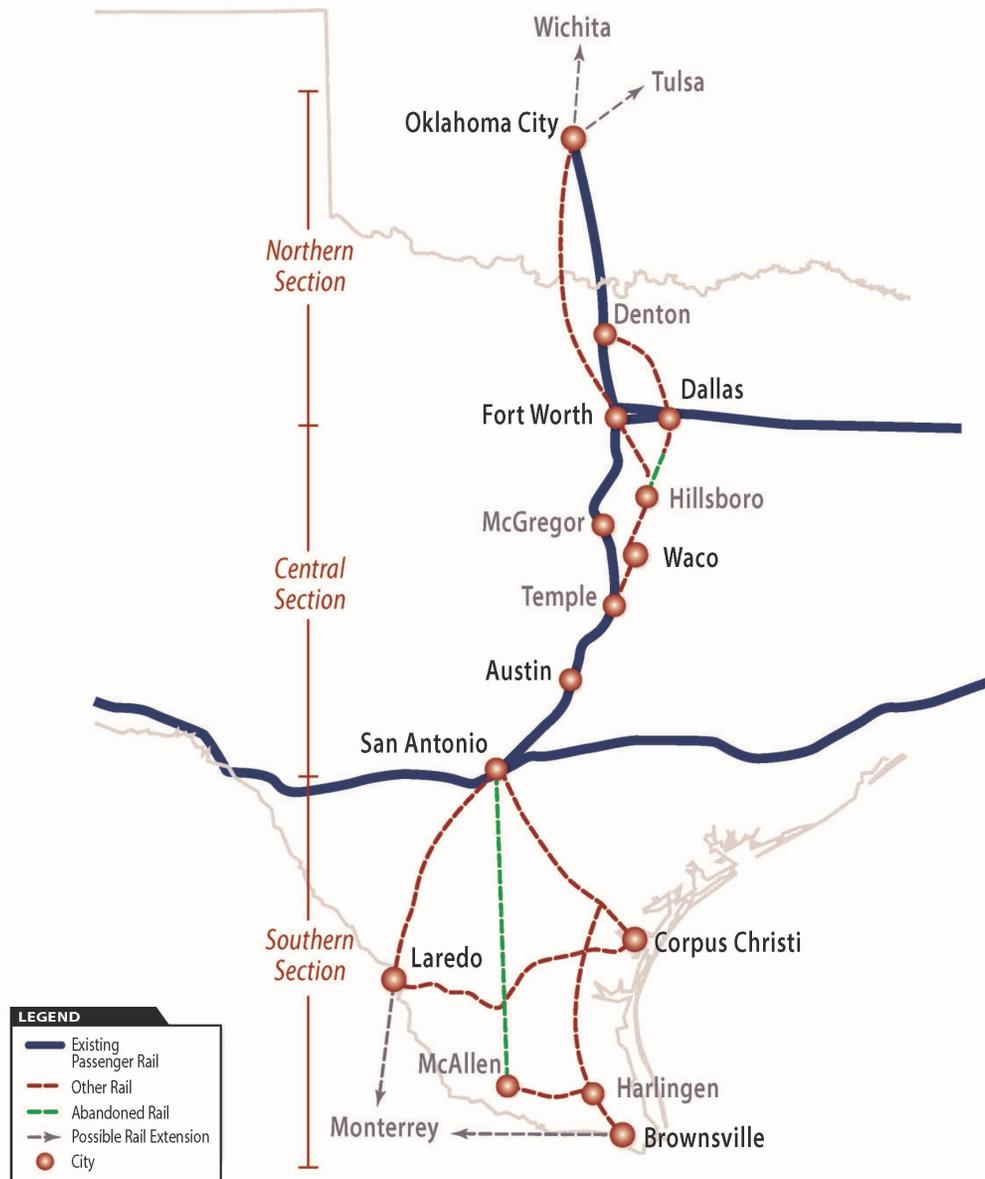
The FRA published a Notice of Intent to prepare an Environmental Impact Statement (EIS) on June 25, 2014.

Twelve public scoping meetings were held in October - December. The scoping period ended on January 9, 2015. The EIS will analyze alternative HSR route alignments. The TCR's proposed high speed line will not share track or infrastructure with existing trains or rail lines and may be located alongside a utility corridor. The EIS will also analyze potential impacts associated with stations and maintenance facilities.

There are no plans for a connection to San Antonio at this time. However, this project, in conjunction with the Dallas-Fort Worth Core Express Project, Lone Star Rail Project and the Texas-Oklahoma Passenger Rail Study will provide Texas with an opportunity to address future growth and congestion on highways and in airports through development of an interconnected and multimodal transportation system.



Texas Oklahoma Passenger Rail Study



Texas-Oklahoma Passenger Rail Project

The Texas-Oklahoma Passenger Rail Study is a TxDOT project to explore how passenger rail service could provide a transportation alternative to the IH 35 corridor between Oklahoma City and South Texas shown in Figure 13. The 850-mile corridor has been split into three sections:

- » Northern: Oklahoma City to Dallas/Fort Worth
- » Central: Dallas/Fort Worth to San Antonio
- » Southern: San Antonio to Rio Grande Valley/Corpus Christi/Laredo

Figure 13 – Texas Oklahoma Passenger Rail – Three Sections

Source: <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail.html>

TxDOT is preparing a service-level environmental impact statement (Tier One EIS) per the National Environmental Protection Agency (NEPA) on this federally-funded project to determine the feasibility of the passenger rail service within the corridor. The analysis is based on conceptual passenger rail alternatives to identify a group of feasible improvements for different sections of the corridor.

The study will answer “big picture” questions:

- » Is improved passenger rail a good idea?
- » What kind of passenger rail service is feasible?
- » What are the costs, impacts, and benefits of passenger rail service?
- » What cities would be served by passenger rail?

Texas Oklahoma Passenger Rail Service Types		
	Speed (miles per hour)	Stops/ frequency
Conventional rail (mostly uses existing tracks) 	Maximum: 70-90 mph Average: 45-60 mph	Stops 15 to 60 miles apart 3-6 trains/day each direction (no more than 12)
Higher speed rail (some dedicated tracks) 	Maximum: 110-125 mph Average: 70-85 mph	Stops 30 to 90 miles apart 4-8 trains/day each direction (as many as 12)
High speed rail (fully dedicated tracks) 	Maximum: 165-220 mph Average: 100-140 mph	Stops 50 to 100+ miles apart 12-24 trains/day each direction

Common Attributes: Single or double deck trains, stations with parking, operation on existing or dedicated tracks

Source: TOPRS Public Meetings Presentation, Winter 2014 <http://www.txdot.gov/inside-txdot/projects/studies/statewide/texas-oklahoma-rail.html>

The study will not determine:

- » Where new railroad track will be constructed
- » The impacts to specific properties
- » When new service will be available
- » Where stations will be located

The table above shows the different types of passenger rail service being considered. The operating speed options influence ridership, the number and locations of stations, and the cost of construction, operations and maintenance.

The alternatives were presented at a series of public meetings along the corridor in January and February of 2014. The Draft Environmental Impact Statement (DEIS) target publication is Summer 2016.

Greatest Challenges to Our Ability to Move Freight							
System Capacity	System Operations	Safety	Connectivity	Coordination	Public Awareness	Border Crossings	Funding
Roadway Congestion	Statewide Freight Network	Inadequate Truck Parking	Lack of connectivity between modes	Between neighboring states	How freight movement affects daily lives	Congestion	Inadequate funding of system
Urban Bottlenecks	Statewide Traffic Mgmt Center	At-Grade Rail Crossings	Need for rural-urban connectivity	Between public and private sectors		Technology Applications	Prioritizing Investment in Freight Corridors
Limited Roadway Capacity	Statewide Traffic Incident Mgmt Program	Commercial vehicle operational needs	Improvements to port, rail, and intermodal connections	Between Federal, State, Local and MPO agencies		Awareness of Mexico's policies & improvements	Lack of Funding Flexibility
Rail Bottlenecks	Alternate Routes to Interstate System		Aging infrastructure and design standards				
Air Cargo Congestion	Aging waterway locks for ports						
	Outdated standards and policies						

Note - Cells highlighted in yellow align with the Multimodal Transportation Plan challenges

Freight

The Texas Highway Commission adopted the Texas Freight Mobility Plan on January 26, 2016. This 2040 plan is the first comprehensive multimodal transportation plan that focuses on the state's freight transportation needs. The Texas Freight Mobility Plan identifies Texas' freight transportation challenges, offers investment strategies and related policies and reports the vision for providing a safe, reliable, and efficient freight transportation system for Texas that supports economic growth and global competitiveness.

The state's greatest transportation challenges to our ability to safely and efficiently move freight in Texas were identified in the *Texas Freight Mobility Plan* and are shown in an abbreviated format in the table above. The challenges that align with the City of San Antonio Multimodal Transportation Plan are highlighted.

Highway

San Antonio's position at the intersection of the Interstate 35 and Interstate 10 corridors is a great economic benefit with regard to movement of goods. However, with that benefit comes the challenge of accommodating the large amount of

DID YOU KNOW OUR FREIGHT MOVEMENT IN TEXAS IS INCREASING?

In 2014, more than 2.6 billion tons of freight was moved in Texas. This number is anticipated to increase to nearly 3.8 billion tons by 2040.

– Texas Freight Mobility Plan

truck freight traffic passing through the City. Similarly, major north-south and east-west UPRR rail lines carrying freight also pass through San Antonio. The North American Free Trade Agreement (NAFTA) has greatly increased the movement of freight between Texas and Mexico, the

state's largest trading partner (Mobility 2040). Major freight rail and highway corridors originating on the Texas border in Laredo and the Rio Grande Valley all converge in and pass through San Antonio. Trade between Texas and Mexico increased 8.5% between 2011 and 2012 (Mobility 2040), and is expected to continue to increase in the future, placing additional demand on San Antonio's transportation infrastructure.

Rail Service

Rail lines in the San Antonio area were constructed between 1877 and 1912 according to the *TxDOT San Antonio Region Freight Study, 2008*. Seven major railroad lines pass through San Antonio, all operated by Union Pacific Railroad (UPRR). Approximately 100 trains per day travel through San Antonio (TxDOT San Antonio Region Freight Study, 2008). Major rail yards are located at Port San Antonio, along Interstate 35 near Kirby

and south of Fort Sam Houston. The major lines are:

- » Del Rio Subdivision – runs from southwest to northeast San Antonio.
- » Laredo Subdivision – runs from southwest to downtown. Shares track with Del Rio Subdivision near Port San Antonio
- » Corpus Christi Subdivision – enters San Antonio from south. Ties into Laredo Subdivision south of US Highway 90.
- » Rockport Subdivision – runs from southeast to downtown.
- » Austin Subdivision (Line 1) – runs from north-central to downtown.
- » Austin Subdivision (Line 2) – runs from northeast to downtown.
- » Kerrville Subdivision – Runs from northwest to downtown.

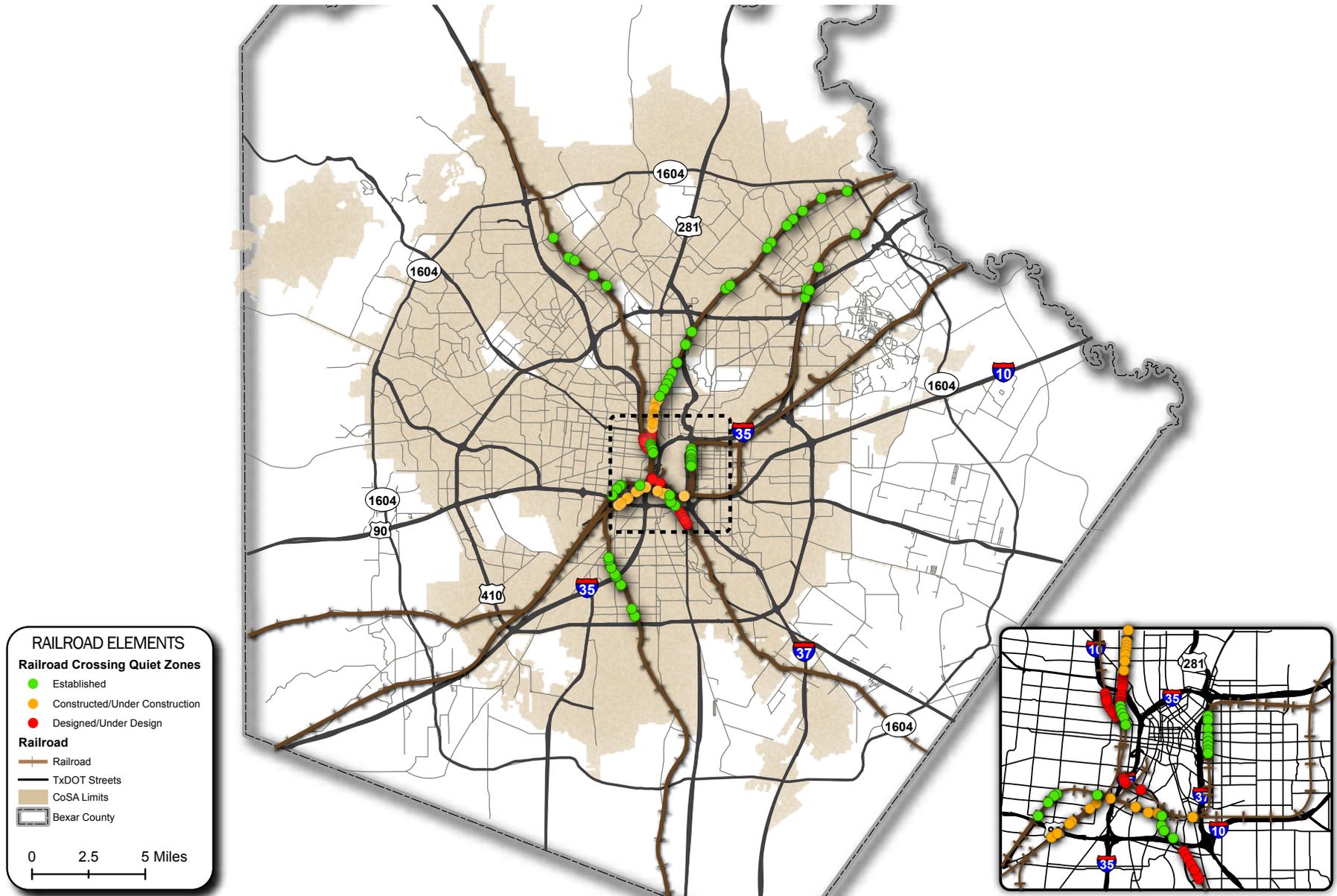
There are spur lines to CPS power plants at Calaveras and Braunig Lakes, Fort Sam Houston, and the industrial lead which connects to the area on the east side near Loop 410. Spur lines have been

abandoned or removed south of Lackland Air Force Base, along Wurzbach Parkway west of Interstate 35, and several shorter spurs near downtown, Fort Sam Houston, and Port San Antonio.

Quiet Zones

Trains must sound their horns at any at-grade crossings in compliance with Federal Railroad Administration (FRA) requirements. Quiet Zones are proposed “quiet rail corridors” passing through residential areas (Figure 14). A Quiet Zone is defined in the Federal Register 49 CFR 222 as a segment of a rail line, within which is situated one or a number of consecutive public highway at-grade crossings at which locomotive horns are not routinely sounded. Quiet Zones consist of safety improvements implemented at at-grade rail crossings. The improvements remove the requirement for a train to sound the horn as it passes through a crossing.

Figure 14 - Rail Lines & Quiet Zone Locations



Trains may still sound horns if deemed necessary. San Antonio has retrofitted rail crossings at numerous intersections to implement quiet zones, with more planned. In the downtown area, where all four major lines pass through, quiet zones or grade-separations have been established at most rail crossings.

The Rockport subdivision has quiet zones planned at the crossing directly south of Interstate 10, but none planned at any crossings further south. The rail line passes through predominantly residential land uses in this area.

The Kerrville Subdivision has crossings with planned quiet zones in residential areas on the east side of downtown. The other lines have existing or proposed quiet zones, or grade separations at most crossings in residential areas.

Rail lines and existing and planned quiet zones are shown in Figure 14. Quiet Zones improve quality of life and safety at crossings, but they also increase delay for motorists waiting for crossings to clear. Trains slow down in Quiet Zones, taking longer to pass through.

Intermodal Facilities

Union Pacific Railroad (UPRR) opened its intermodal rail terminal just south of San Antonio on Interstate 35 in 2009. Serving as a transfer point between rail and trucks, it is capable of processing 250,000 containers per year (Mobility 2040). Port San Antonio also serves as an intermodal hub for freight, with connections to air cargo, major highways, and rail lines. Another intermodal center for trucks and rail is under construction off of US Highway 181 near Braunig

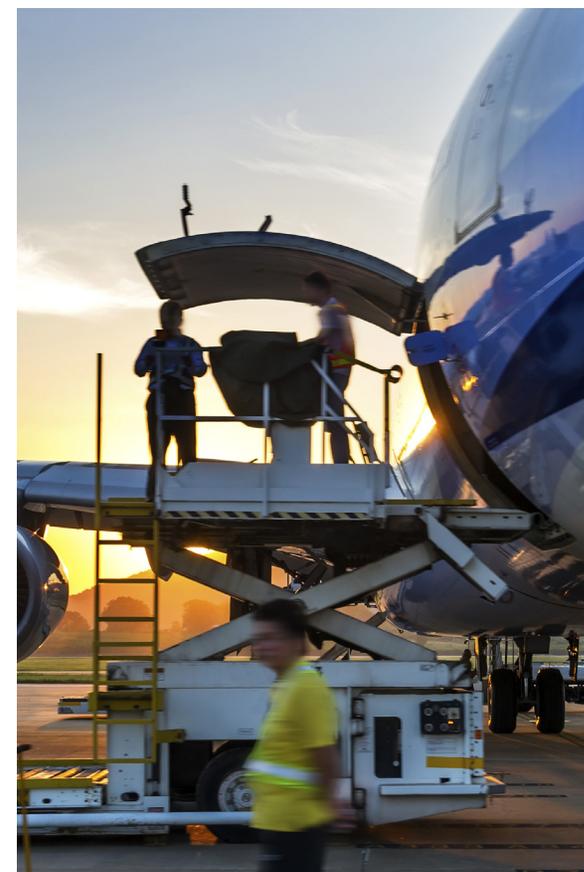
Lake. San Antonio exported \$6.7 billion in 2010 (Mobility 2040), with transportation services, such as those generated by the Toyota and Boeing plants, being the primary exports.

The recent growth and activity associated with the energy sector and trade through the border with Mexico has also contributed to an increase of freight traffic through San Antonio. Drilling in the Eagle Ford Shale formation, which is primarily located in counties south of San Antonio such as Karnes and Atascosa, has increased dramatically over the last several years. At the peak, over a million barrels of oil per day was produced in the region (Texas Railroad Commission). San Antonio is the nearest major city to the Eagle Ford play, located less than an hour away from the northern edge of the oil field. Major truck and rail corridors

from the region pass through San Antonio. In addition to the movement of freight from the region through San Antonio, many companies operating in the Eagle Ford have located in San Antonio, such as Halliburton and Baker Hughes. The large number of trucks and employees needed to drill and maintain oil wells has increased traffic on the highways heading to and from the south, such as Interstate 37 and US Highway 181. In 2015, a drop in oil prices slowed oil production and subsequently resulted in reductions in employees as well. The oil industry is cyclical and market-driven. The likelihood is that the production levels will increase again to the peaks seen in 2014.

Air Cargo

According to the *Texas Freight Mobility Plan*, the San Antonio International Airport (SAT) was the third busiest airport in Texas in 2013. Our airport handled more than 700 million pounds of air cargo, making it the 29th busiest in the nation. Current air cargo facilities at the airport include more than 173,000 square yards of apron and 888,000 square feet of building space. Cargo aprons provide space for loading/unloading operations at the aircraft and space for the aircraft to park near the air cargo terminal building. The apron also allows for space to service the aircraft, and provide sufficient area for storage of ground support equipment as well as container and pallet storage. There are two designated Foreign Trade Zones (FTZs) at the airport.



Airport System

The airport system is comprised of two airports, the San Antonio International Airport and the Stinson Municipal Airport, both operated by the City of San Antonio. The San Antonio International Airport (airport code SAT), is located eight miles north of downtown, near North Loop 410 and US Highway 281. The airport has two terminals, A and B, which serve over eight million visitors each year. Terminal A was recently renovated and the new Terminal B was finished in 2010. Twelve airlines provide service to passengers at the airport. There are currently 31 non-stop destinations across the US and in Mexico originating from SAT. Stinson Airport is the General Aviation reliever airport.

In 2009, the City initiated the San Antonio International Airport Vision 2050 Master Plan. The Master Plan calls for a proposed Terminal C to be constructed to

meet demand in 2030. A consolidated car rental facility (CONRAC) is to begin construction in 2015. The CONRAC will be located with the hourly parking garage. An intermodal center is also proposed in the Master Plan. The new Intermodal Center will encourage transit ridership by providing access to several modes of transportation, such as bus and regional rail, all contained in one facility.

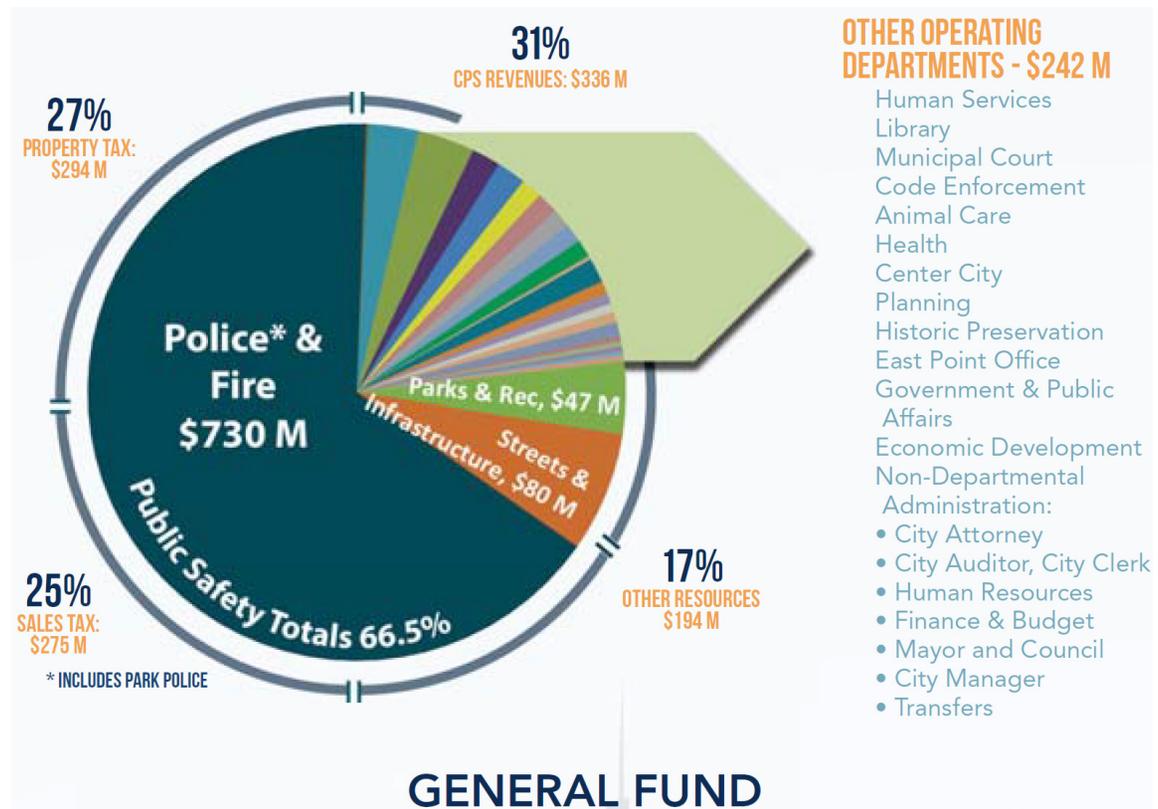
Stinson Airport is the second oldest General Aviation Airport under continuous operation in the county. General Aviation Airports are open to public use but do not have scheduled service or have less than 2,500 annual passenger boardings. Stinson Airport is located 6 miles south of San Antonio's downtown Central Business District on Mission Road, south of SE Military Drive and north of Loop 410. Stinson serves as the general aviation reliever airport to San Antonio International. Reliever Airports are public

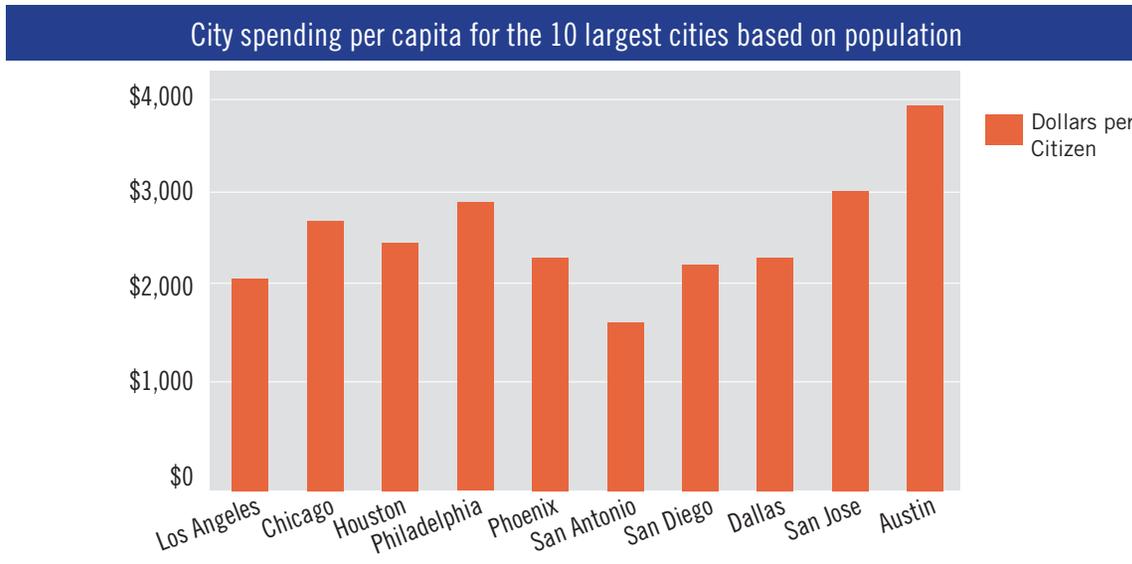
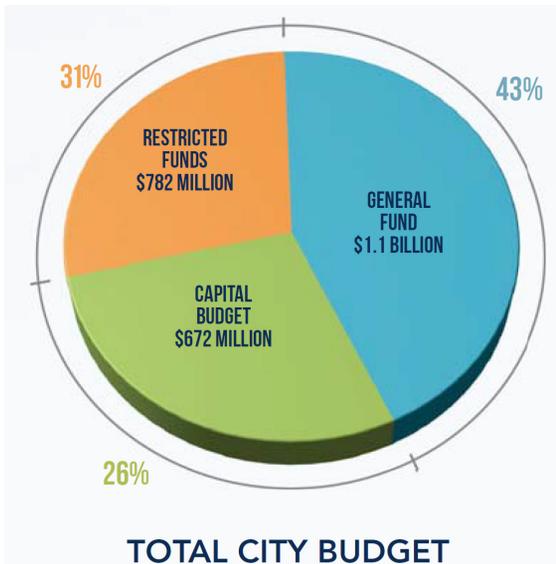
or private-owned airports designated by the Federal Aviation Administration (FAA) to relieve congestion at the commercial service airport. Reliever Airports also provide aviation access to the community.

Mission Road provides the main access to the Airport and is a two lane, two-way, road with no curb, gutter or sidewalks. Access to Mission Road is provided from Southeast Military Highway, which is a major east-west thoroughfare. Roosevelt Avenue is a major north-south thoroughfare that provides access to the west airfield and tenant areas. On a regional scale, Interstate 37 provides access to Southeast Military Drive from downtown San Antonio and northern areas, as well as from the south. Additionally, Interstate 35 provides access to Southeast Military Highway from the western portions of San Antonio.

System Maintenance and Preservation

Responsible maintenance is a cornerstone of every city's transportation plan. Maintenance includes making improvements and repairs to roadways, bridges and sidewalks throughout the City, as well as elements that support the transportation system such as traffic signals, signage, transit shelters, amenities, etc. The 2016 budget for the City of San Antonio is \$2.5 Billion and is comprised of 3 parts – the General Fund, the Capital Budget, and Restricted Funds. The General Fund covers the greatest amount of city services like Police, Fire, Streets, Parks, Libraries, Human Services, Animal Care and Code Enforcement and represents 43% of the total city budget.





Source: <http://ballotpedia.org> (2014–2015 data)

The City’s current budget dedicates \$80 Million to the maintenance of our infrastructure. This represents 8% of the overall General Fund budget. The City of San Antonio 2016 budget provides for \$64 Million for Street Maintenance and \$15 Million for Sidewalk Maintenance.

How Does San Antonio’s Budget Compare to Other Cities?

The City of Boston has a budget of \$2.7 Billion, the City of Chicago, \$7.3 Billion and Phoenix, \$3.5 Billion based on 2014 budgets. San Antonio is poised to make

significant changes that will allow us to better accommodate an additional 1 million people by year 2040. We, as a city, may want to consider not only supporting an increase in the overall city budget, but specific increases for maintenance, and capital projects to improve our transportation system. If our goal is to encourage the use of alternative modes such as bike and pedestrian facilities, transit facilities, and HOV lanes, we must properly maintain these facilities and the technologies implemented to provide reliability while using them.

HOW DOES SAN ANTONIO COMPARE?

If we look at spending per citizen in 2015 by the 10 largest US cities by population, excluding New York, San Antonio shows the lowest per capita expense compared with the other major cities. Austin is the highest with almost \$4,000 spent per citizen.

Conclusion

Understanding San Antonio's current transportation system is the first important step in identifying where there are strengths and where there are shortcomings. We need to understand where we are before we can determine where we want to go. As stated previously, when compared to other similarly sized cities around the country, our transportation system would be considered better in terms of the level of delay and congestion; acceptable in terms of roadway infrastructure provided; less than acceptable in terms of public transit service frequency and modes; and falling short in terms of bicycle and pedestrian infrastructure.

Can San Antonio Continue to Build and Maintain Infrastructure at Locations Farther Away From the City Center?



Stone Oak Parkway between Hardy Oak & Evans Road

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