

WHAT CAN WE DO?

SECTION 6

THE MULTIMODAL TRANSPORTATION PLAN

What is a Multimodal Transportation Plan?

The SA Tomorrow Multimodal Transportation Plan is the first comprehensive, long-range transportation plan for the City of San Antonio. It lays out goals, policies and strategies to guide multimodal transportation planning, development, and maintenance of the City's transportation system for the next 25 years. It also identifies near-term improvements and a project prioritization methodology that will make it possible to quickly evaluate and consider projects once funding becomes available. It also includes considerations for project planning and funding, along with quality of life considerations. There will be three key areas influenced by this plan once adopted - **Planning, Development, and Maintenance.**

Planning – The plan provides a blueprint for creating safe, convenient and sustainable transportation options. This blueprint will help the City better participate in the transportation planning efforts led by the Alamo Area Metropolitan Planning Organization, as well as other agencies such as the VIA Metropolitan Transit and the Texas Department of Transportation. It also provides guidance on best practices for providing multimodal facilities as

demonstrated via the corridor frameworks presented later in this section.

Development – Once a potential project advances through the planning stages, it goes into development. During development, funding is programmed, environmental impacts are considered, and detailed design takes place. The plan provides guidance regarding desired practices in street design that will help guide the engineering teams delivering projects. It will also help prioritize projects that may or may not be ready for funding.

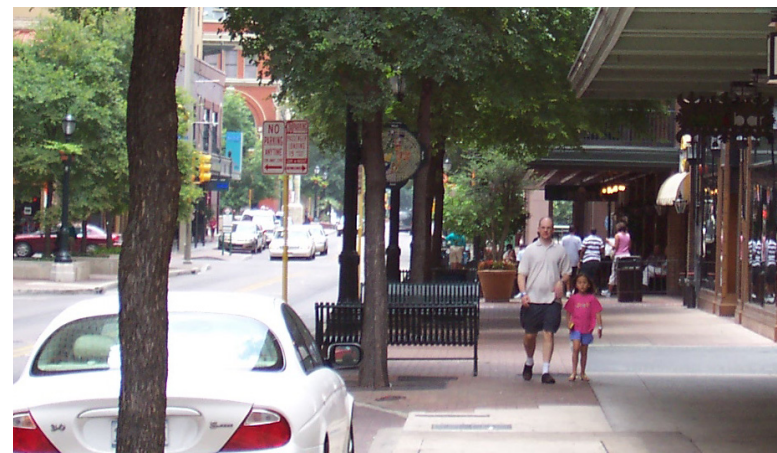
Maintenance – Many of the near-term improvements proposed in the plan can be implemented in conjunction and/or coordinated with ongoing maintenance. Making the most of maintenance dollars is important. Correlating maintenance projects with area goals (e.g. re-striping a roadway to include on-street parking, following an overlay project) allows the City to take advantage of other projects without having to dedicate specific funds.

MULTIMODAL



Multimodal refers to planning and designing transportation infrastructure that considers all modes (vehicles, pedestrians, bicycles, public transit, freight, rail, etc.) and the connections between them.

A multimodal system allows for users to have choices regarding mobility. These choices can improve the quality of life for all citizens and visitors to San Antonio.



Allowing for transportation choices helps create a place people want to be.

Land Use and Transportation

Land use types are the commercial businesses, institutions, and residential facilities that create the context of the area. Existing land use patterns influence and are influenced by the transportation network. The design of roadways (modes they provide for, connectivity, available capacity, etc.) can encourage certain types of activity for the adjacent land uses. For example:

- » A corridor with on-street parking and a comfortable pedestrian realm will likely encourage pedestrian activity.
- » A corridor with many lanes and limited right-of-way (space) provided for the pedestrian realm will be more apt to have auto-centric land use types.

Over the last few decades in San Antonio, growth has gravitated to the northern and western portions of the City and Bexar County in an auto-centric focused manner. This growth pattern has put a significant strain on the transportation infrastructure on this part of the city. Development patterns are continuing to focus on this area however, they are predominantly auto-oriented.

The SA Tomorrow Comprehensive Plan is fundamental in the function of a multimodal network. The tie between land uses and modes of transportation is essential in operations. Dense, multi-use areas are more likely to encourage use of alternative modes of transportation.



Retail Mixed



Commercial



Residential

The types of land uses and the interaction between them many times dictates the frequency of travel, the length of the trip, the time spent traveling and by what mode. As a result, land uses play a huge role in travel demand and vehicle miles traveled (VMT). If we can offer places for people to live that do not require travel by car, longer trip lengths or greater amounts of time spent traveling, we will have reduced congestion, improved capacity, improved air quality and potentially a better quality of life.

COMPREHENSIVE PLAN



A Goal of the Growth and City Form section of the SA Tomorrow Comprehensive Plan is to focus on sustainable infill and mixed use development to provide walkable and bikeable destinations for all residents. Another goal of the Plan is to have higher density uses focused within the City's Regional Centers and along its arterial and transit corridors.

Both of these goals acknowledge the importance of how land use types connect with corridors to influence activity patterns.

Complete Streets

A Complete Street is a roadway planned, designed and operated to enable safe access for all users, including people walking, biking, driving, and transit riders of all ages and abilities. Complete Streets vary greatly since roadways must serve different purposes for different land uses, so not all roadways will have bicycle lanes or be sized for freight trucks. Complete Streets are context-driven, with different components and amenities depending on the community being served. The commonalities are that all modes of travel are accommodated in a safe, accessible and comfortable manner.



Auto-oriented Corridor

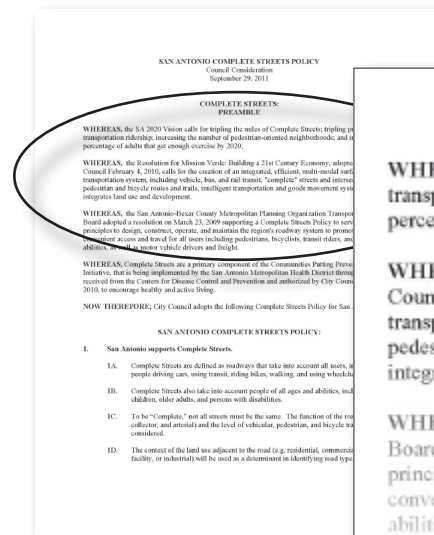


Multi-Modal Corridor

SAN ANTONIO COMPLETE STREETS POLICY

In 2011, San Antonio adopted this policy that:

- » Supports Complete Streets;
- » Promotes healthy living and fitness;
- » Supports pedestrian-oriented neighborhoods ;
- » Enhances commercial corridors and districts; AND
- » Maximizes benefits of investment in capital projects.



**COMPLETE STREETS:
PREAMBLE**

WHEREAS, the SA 2020 Vision calls for tripling the miles of Complete Streets; tripling public transportation ridership; increasing the number of pedestrian-oriented neighborhoods; and increasing the percentage of adults that get enough exercise by 2020;

WHEREAS, the Resolution for Mission Verde: Building a 21st Century Economy, adopted by City Council February 4, 2010, calls for the creation of an integrated, efficient, multi-modal surface transportation system, including vehicle, bus, and rail transit, "complete" streets and intersections, pedestrian and bicycle routes and trails, intelligent transportation and goods movement systems that integrates land use and development.

WHEREAS, the San Antonio-Bexar County Metropolitan Planning Organization Transportation Policy Board adopted a resolution on March 23, 2009 supporting a Complete Streets Policy to serve as guiding principles to design, construct, operate, and maintain the region's roadway system to promote safe and convenient access and travel for all users including pedestrians, bicyclists, transit riders, and people of all abilities, as well as motor vehicle drivers and freight.

WHEREAS, Complete Streets are a primary component of the Communities Putting Prevention to Work Initiative, that is being implemented by the San Antonio Metropolitan Health District through received from the Center for Disease Control and Prevention and authorized by City Council 2010, to encourage healthy and active living.

NOW THEREFORE, City Council adopts the following Complete Streets Policy for San Antonio:

SAN ANTONIO COMPLETE STREETS POLICY:

1. San Antonio supports Complete Streets.

1A. Complete Streets are defined as roadways that take into account all users, including people driving cars, using transit, riding bikes, walking, and using wheelchairs.

1B. Complete Streets also take into account people of all ages and abilities, including children, older adults, and persons with disabilities.

1C. To be "Complete," not all streets must be the same. The function of the road, collector, and arterial) and the level of vehicular, pedestrian, and bicycle use is considered.

1D. The context of the land use adjacent to the road (e.g. residential, commercial, facility, or industrial) will be used as a determinant in identifying road types.

THE MULTIMODAL PLAN- UNDERSTANDING THE COMPONENTS

Roadway/Highway Element

The most significant transportation investment San Antonio has made is a multi-billion dollar roadway/highway network currently in place. The City has the opportunity to capitalize on this baseline network to create a world class transportation system. This includes safety, maintenance, and technology advancements to maximize the use and function of this baseline network.

Safety Element

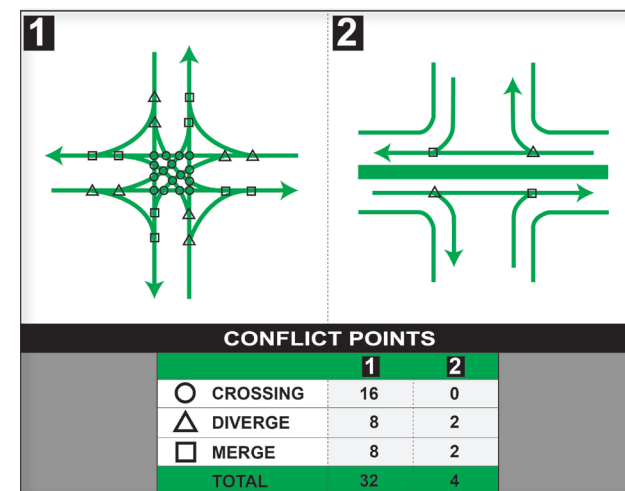
During the public outreach portion of SA Tomorrow, concern was expressed for the safety of all users whether traveling by automobile, transit, bike, or walking. The map in Figure 1 visually represent the location of crashes occurring in San Antonio whether involving one or two vehicles, or between a vehicle and bicyclist or pedestrian.

Fatal vehicular crashes in San Antonio are mainly found on interstates or major highways. As represented in Figure 2, between 2013 and 2015, **87 fatal and incapacitating** crashes occurred. Figure 3 displays the fatal crashes between a

vehicle and bicyclists or pedestrian. A higher number of fatal pedestrian crashes occurred as compared to a fatal bike crash.

In San Antonio, pedestrian activity is more predominant than bicycle activity. Without access to a personal vehicle, residents using transit typically complete their journey by walking to/from bus stops to their destinations. Many of the pedestrian fatalities in San Antonio occur during the nighttime hours, when many transit users are returning home from work. Poor visibility is a large factor in many of these occurrences.

Crashes occur for a variety of reasons. A significant number of crashes are caused by driver behavior. Other factors can include roadway or traffic control features like horizontal or vertical grade, wet pavement, pavement markings that are not visible, etc. Opportunities for crashes to occur at locations where the traffic control is assigned and one or more drivers must give up right of way, are referred to as conflict points.



Conflict Points

Intersections and driveways are locations with typically high numbers of conflict points. The Conflict Points graphic (above) shows a visual representation of the number of conflict points at an intersection and also along a divided thoroughfare.

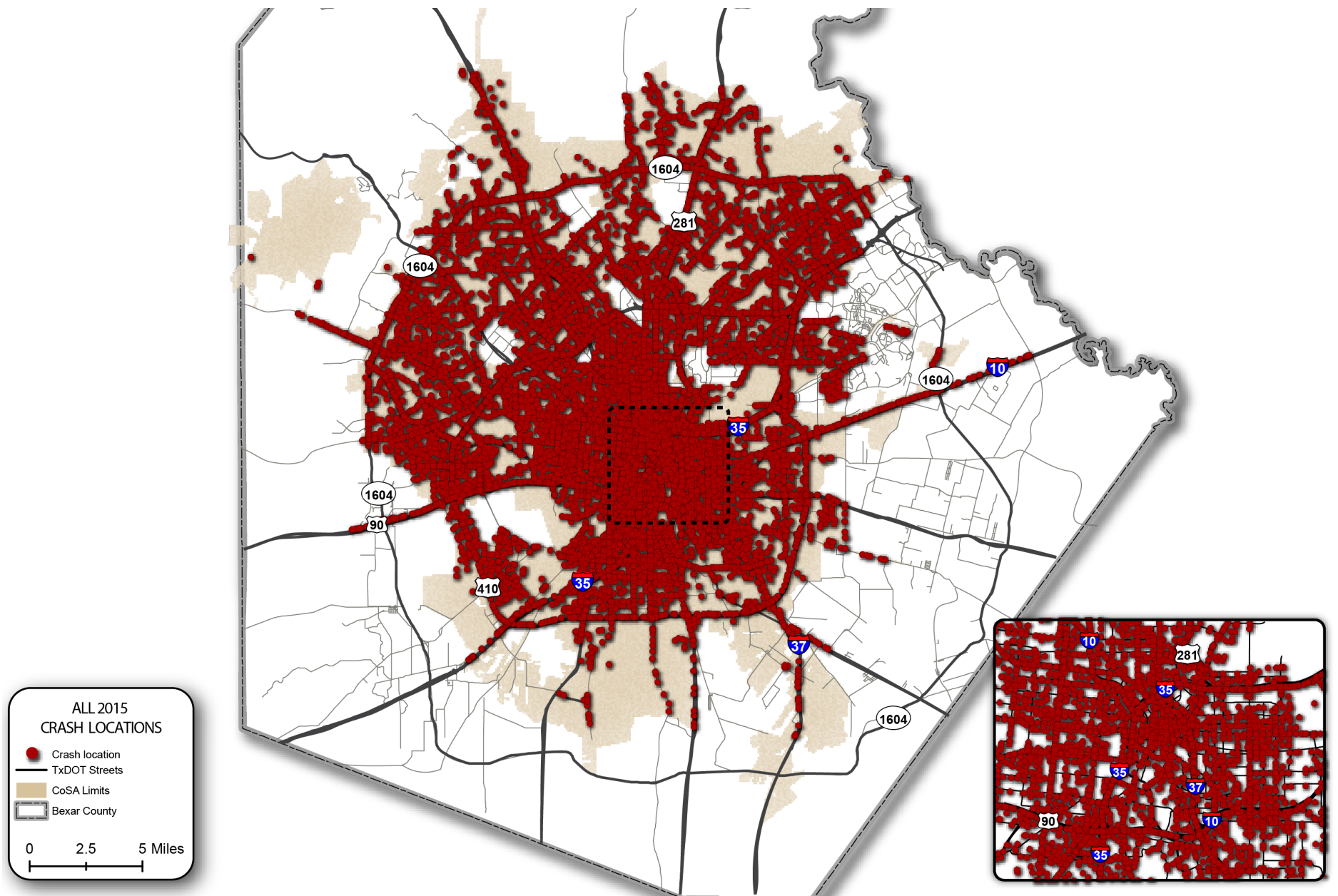


Figure 1: 2015 Crash Locations

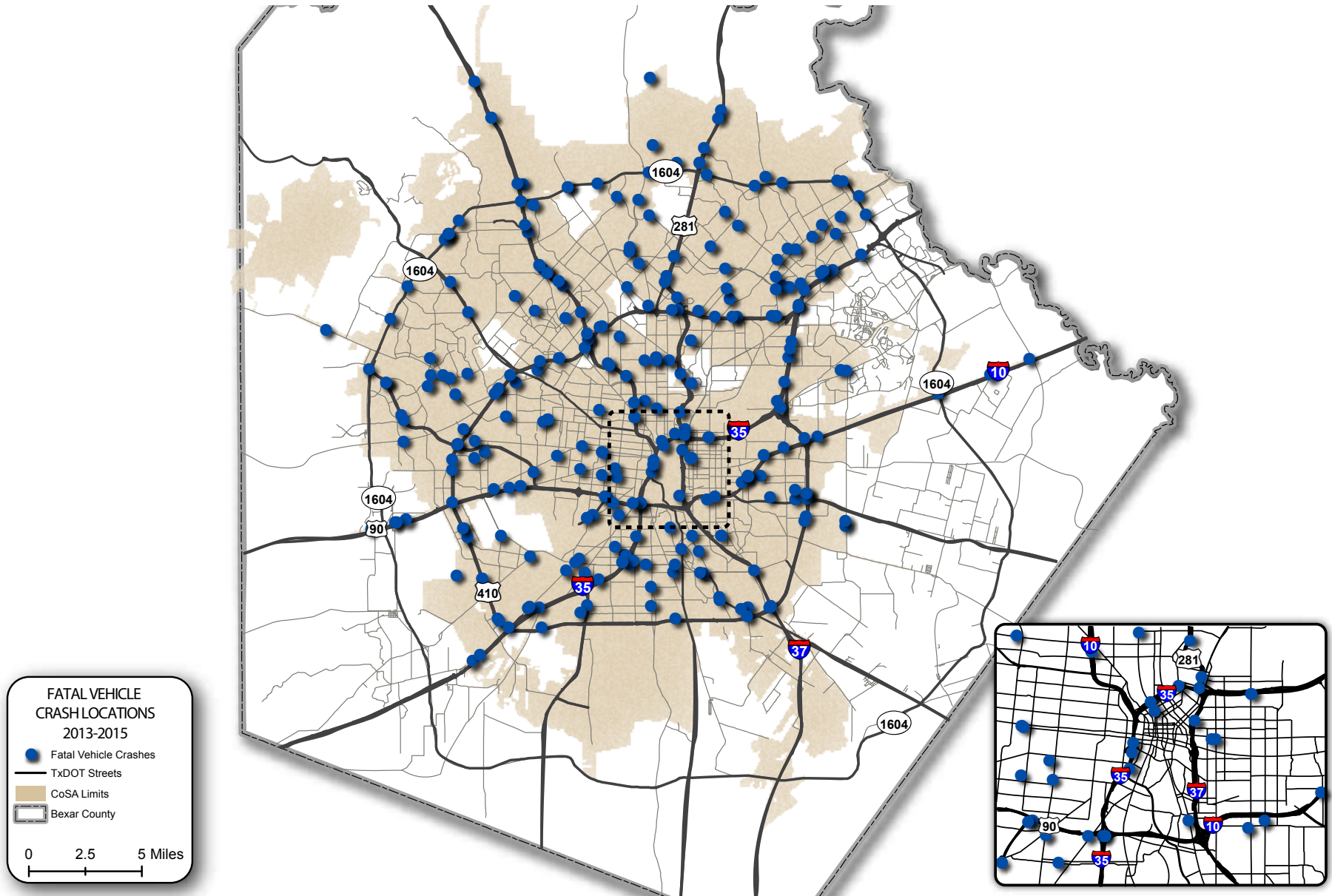


Figure 2: Fatal Pedestrian and Bicycle Crash Locations

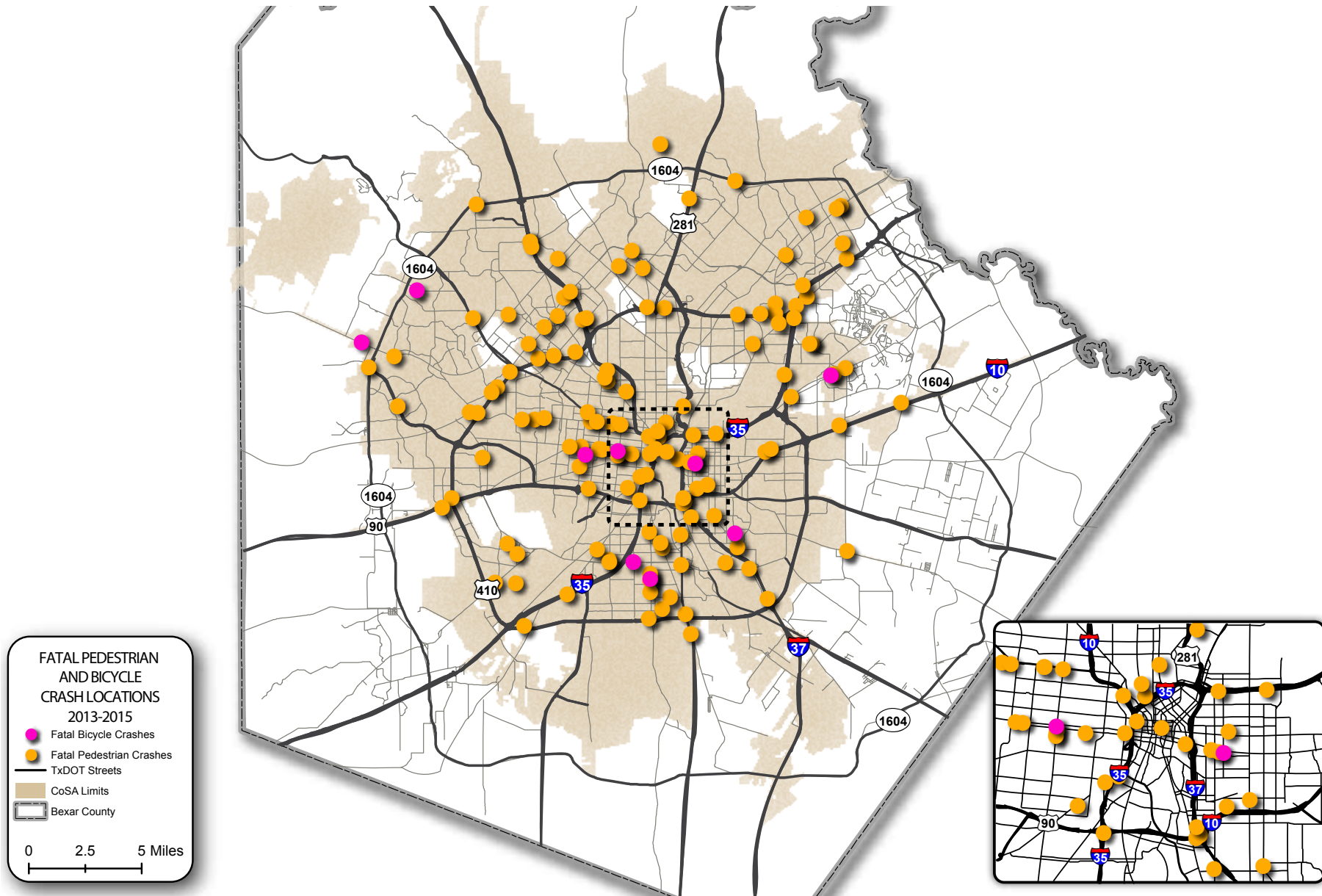


Figure 3: Fatal Vehicle Crash Locations

As you can see from the Conflict Points graphic, a regular driveway opening or intersection has a substantially higher number of conflict points versus that with a median. San Antonio already utilizes medians in many areas of the City. The use of medians to control or prohibit left turn movements at selected driveways and intersections is an effective access management treatment to improve safety by reducing right-angle and left-turn vehicle crashes. These types of crashes are generally associated with the most severe types of injuries. Reducing conflict points at driveways and intersections also improves safety for pedestrians and bicyclists. Medians result in fewer vehicles turning into and out of driveways and intersections where pedestrians and cyclists cross. Medians also offer pedestrians a refuge allowing them to cross each direction of travel separately. Examples where medians have been implemented in San Antonio include Blanco Road, Culebra Road and Bulverde Road.

Congestion Issues (AAMPO)

The Alamo Area MPO developed a 2040 transportation model to forecast the operation of the future roadway network. One of the indicators generated by the model is level of service (LOS) by corridors. Corridors are rated on a scale of A to F, with A as an acceptable rating and F as failing. Based on the AAMPO 2040 Model, congestion is evident all over the region, but it will be most

prevalent in the northwest portion of the City. There are areas where thoroughfares, as well as small sections of roadway combine to make a heavily congested area. Figure 4 represents the LOS rating for the regional thoroughfares. Daily LOS is based on the volume-to-capacity ration (V/C). This is an indicator of how well the roadway accommodates the volume of traffic.

The highlighted roads in the map show where the volume meets or exceeds capacity. We can see from the map that in 2040, we will have many of our roadways and some of our intersections at or over capacity. The color

of the roadways indicates the extent that a road is over capacity. Yellow, gold, orange and red roadways indicate that there is 2.5 to 5 times the level of volume as compared to the available capacity. The greatest clusters of these locations seem to be on the west side and to the far northeast, east and southeast sections outside the city. The west side has experienced extensive growth and development. The outer areas beyond the city limits do not have a built-up road network with sufficient connectivity and capacity to handle the increase in volumes due to growth.



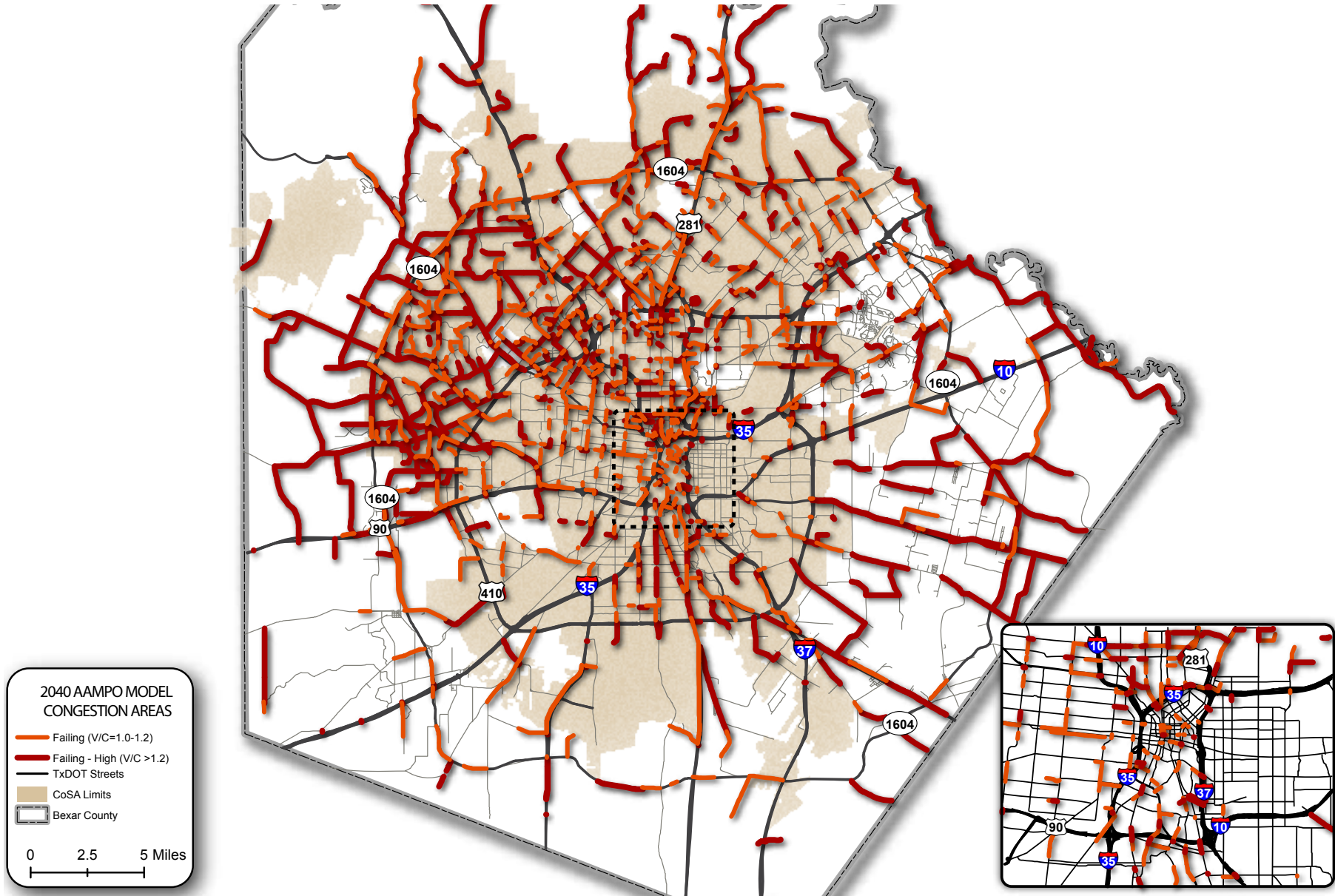


Figure 4: Congestion Map

Regional Activity Centers Element

The regional activity centers referenced throughout this report were initially identified during in the Alamo Area Metropolitan Planning Organizations (AAMPO) 2040 Metropolitan Transportation Plan. During subsequent planning and refining, the following activity centers (See Figure 5) were used in the SA Tomorrow planning process. These centers for commercial, business, entertainment, and residential development are expected to entice residents and people moving into San Antonio to these areas. These major activity centers, such as the Texas A&M San Antonio Campus, or the Medical Center, were a factor in the scenario modeling process as well as the corridor evaluations for determining potential corridor improvements.

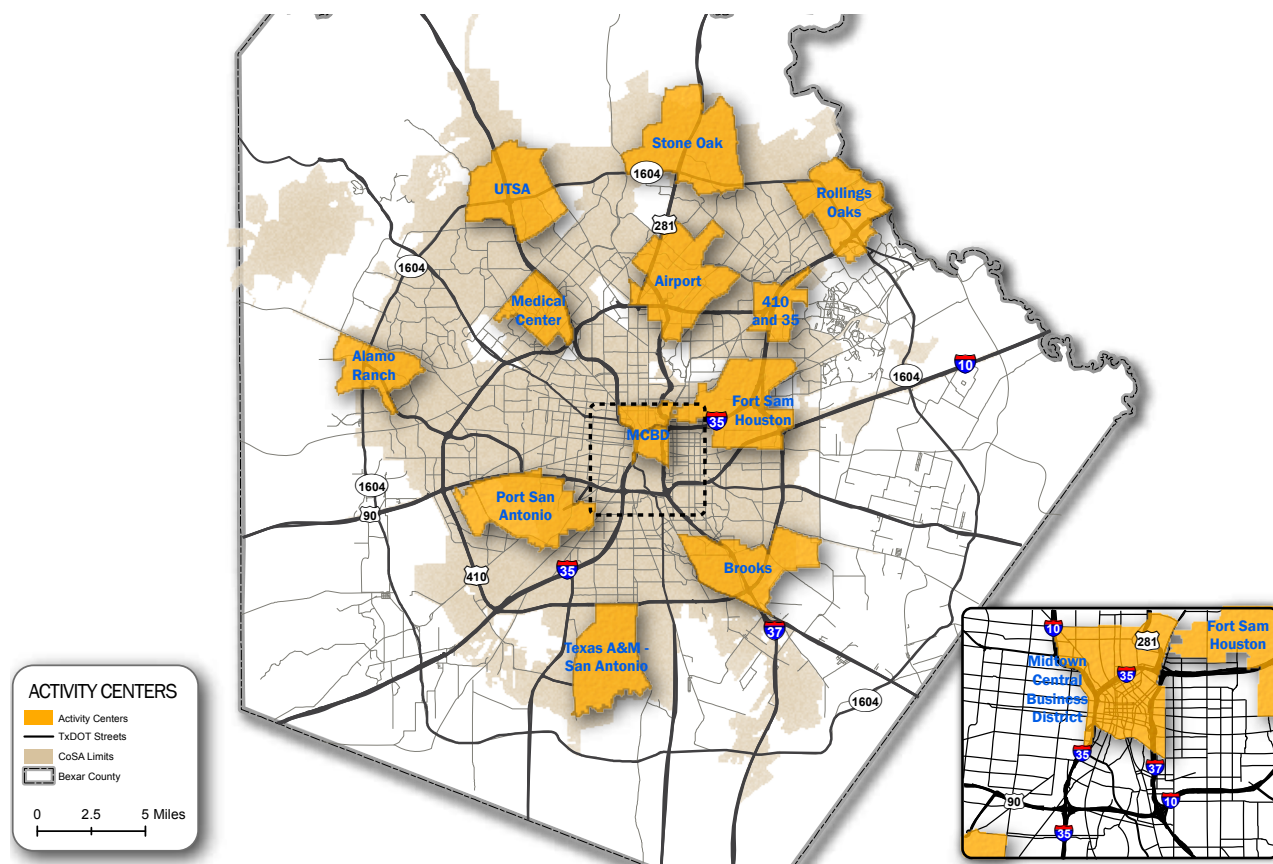


Figure 5: Regional Activity Centers

Multimodal Priority Areas

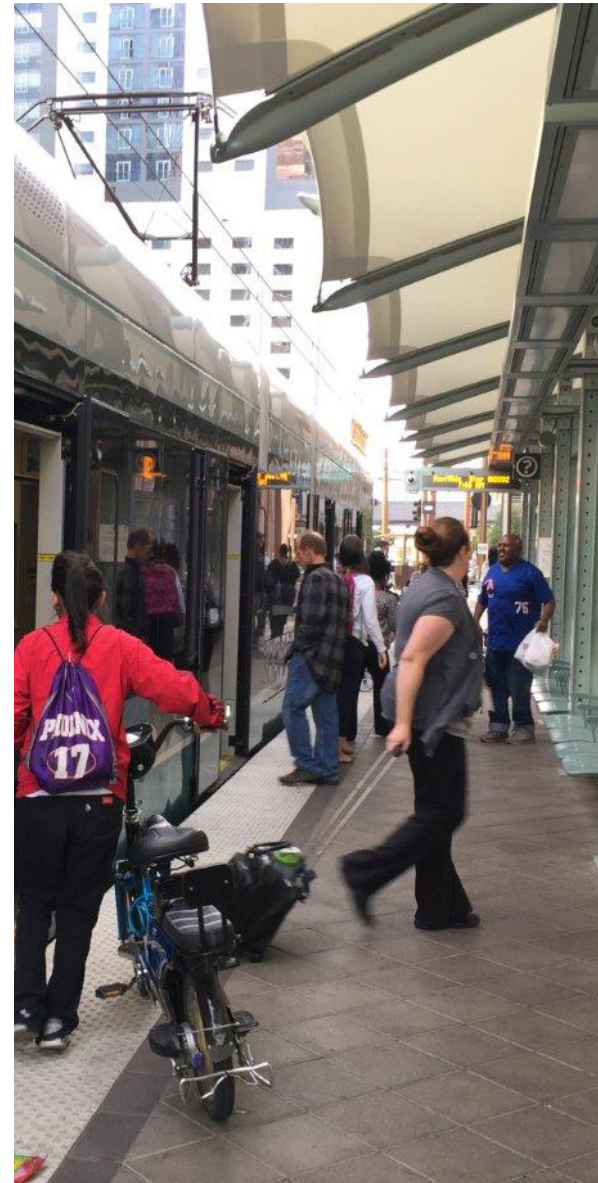
Each of these elements alone has a large impact on the transportation network. The layering of these elements (which can be seen in Figure 6) visually displays areas where multiple modes of transportation intersect and interact, where facilities are planned or missing, and areas where enhancing safety is a concern. By combining these elements, the Project Team was able to identify corridors that should be given priority consideration for redevelopment.

5 Year Action Plan

- » Promote pedestrian activity by prioritizing the completion of the pedestrian network that serves major activity centers, transit stops, etc.
- » Prioritize the completion of the bikeway network that serves bicyclists' travel to employment centers, commercial districts, transit stations, institutions, and recreational destinations.
- » Work with major employers and institutions to develop parking regulations and promote travel management measures such as carpooling and ride-share, flexible work hours and telecommuting, and subsidized transit passes.
- » Encourage increased residential and employment densities along transit streets and major regional centers.
- » Develop policies to encourage interregional and long trips through San Antonio to use alternative routes, especially during peak hours.
- » Educate residents of San Antonio on Complete Streets and how they can benefit them to enhance and connect neighborhoods and Regional Centers.

MILITARY INSTALLATIONS

Where thoroughfares travel through military installations, the interaction of their regulations with through vehicle, pedestrian, and bicycle activity needs to be reviewed in detail. Military protocol may affect how/where transit activity is accommodated on base (similarly for other modes of transportation).



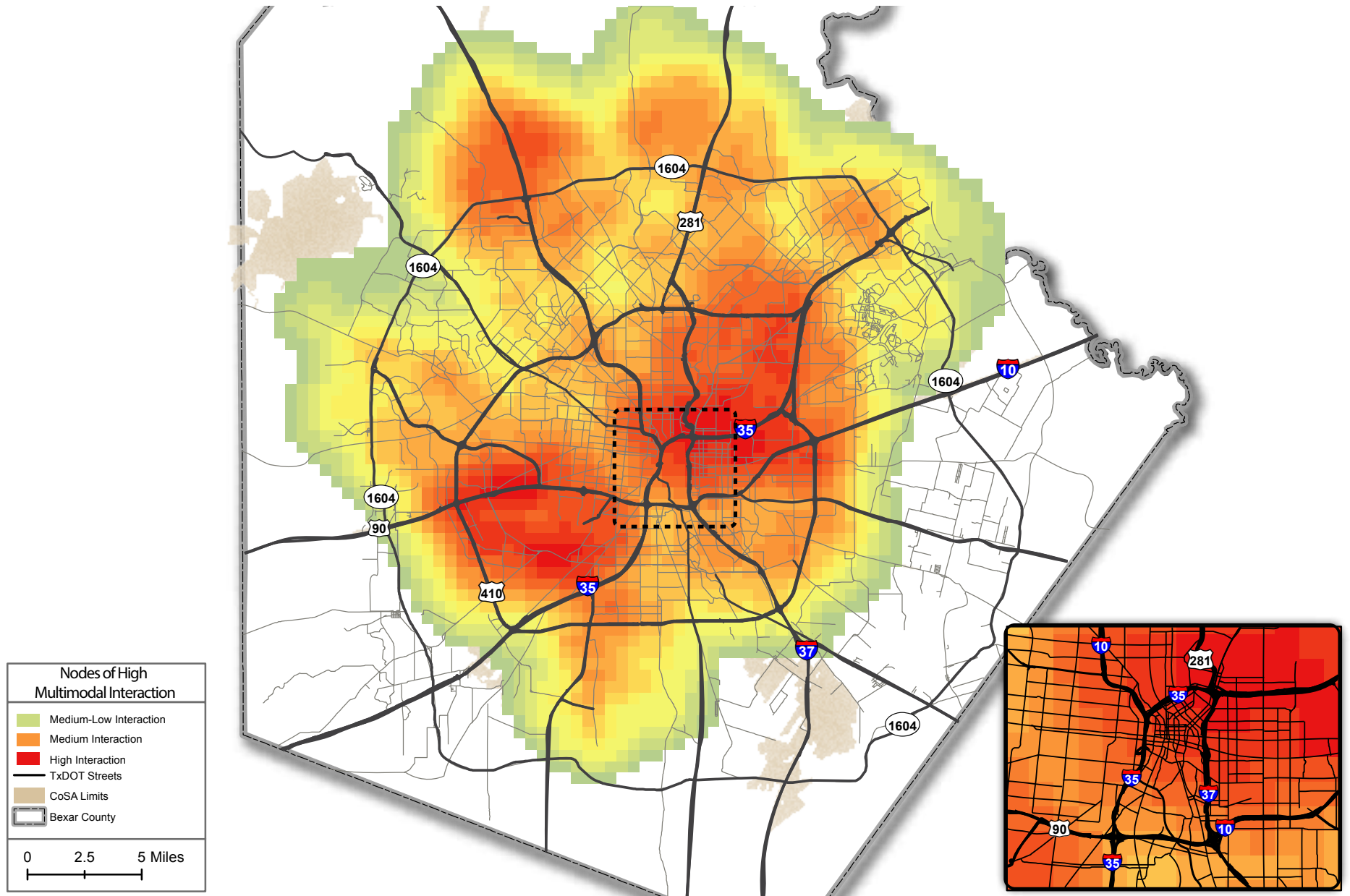


Figure 6: Nodes of High Multimodal Interaction

Parking

Parking in San Antonio follows the typical pattern of Texas - there's lots of it! In areas of newer development, most business/activity centers have ample parking spaces for everyday usage. The trade-off however is this: parking is not free. What does this mean?

When finding a parking space is easy and does not require a fee, people tend to feel less inclined to use alternative forms of transportation (like biking or transit). This cost of parking is the higher number of single-occupant vehicles on the road. Another way that parking indirectly costs the community is the physical space it occupies. Excessive parking lots, especially in dense areas, hinder businesses from creating a dense, walkable environment- thus opening up more economic activity.

“...minimum parking requirements can increase development costs by more than 10 times the impact fees for all other public purposes combined. Eliminating minimum parking requirements would reduce the cost of urban development, improve urban design, reduce automobile dependency, and restrain urban sprawl (Shoup)”.¹

¹Shoup, D. (1997). The High Cost of Free Parking. Journal of Planning Education and Research, 17(351), 3-20. Retrieved 2015, from <http://www.uctc.net/research/papers/351.pdf>

Considerations

Parking in an urban context versus suburban context provides two very different sets of challenges and opportunities. Parking policies need to consider many factors including, but not limited to: street design and context, interaction with other modes, availability for retail/commercial/offices, safety, demand, and available right-of-way.

In an urban context, available Right-of-way, and finding the balance between supply and demand is crucial. Too much parking leads to vast lots and is detrimental to creating a pedestrian friendly environment. Limited supply can also be a disincentive if the ability to get to urban areas by other modes is not convenient. Ways to improve parking in urban areas can include:

- » Paid parking
- » Parking garages
- » Shared parking lots

In a suburban context, parking is usually more abundant, especially in the form of parking lots. In commercial centers, vast parking lots provide ease of parking, but also deter from use of alternative modes of transportation. Neighborhoods in suburban areas face different challenges and opportunities with on-street parking. The interactions between vehicles and residents here is different than any other context. Focusing on the safety and aesthetics elements of parking are of a higher priority in

these areas.

Satellite parking locations or Park and Rides are also important parking factors, especially in conjunction with VIA Metropolitan. Utilizing spaces, such as under major interstate/freeway underpasses, can be a great way to use what would typically be 'wasted space'.

5 year Action Item:

- » Develop policies for parking management that focus on improving air quality, reducing congestion, promoting alternatives to single-occupant vehicle trips.
- » Support land uses in the existing core as well as new Regional Centers with an adequate supply of on-street parking.
- » Maintain existing on-street parking in established neighborhoods and commercial districts, except where parking removal is necessary to accommodate alternatives to the automobile.
- » Consider policies to reduce or eliminate on- and off-street parking where there is existing or planned major connections in the transit, bicycle, and/or pedestrian networks.
- » Focus on developing and implementing Smart City Technology and Applications