

# WHERE DO WE WANT TO BE?

## SECTION 5

## WHERE DO WE WANT TO BE?

SA Tomorrow has established the baseline of “*Where We Are Now?*” and “*Where We Are Heading?*”. The community has also participated in this process by providing their feedback on what the future could look like. So “**Where Do We Want to Be?**”

Once we define the most desirable future for San Antonio, what can we do to achieve it? A critical step is to develop, implement, and aggressively follow a set of **guiding policies**. These policies should govern all major decisions - they should not only be aspirational goals, but daily reminders when making policy and everyday decisions.

Policies are the tools which can be used to help guide and influence growth. Future goals that are a part of each SA Tomorrow Plan (Comprehensive, Sustainability, and Multimodal) need to be considered when making policy decisions at both the City and Regional level.

### What Could a Set of Policies Look Like?

In order to gain a better understanding of what type of policy decisions this could include, the following describes two “what-if” scenarios.



Let’s look at an environment where automobile focused capacity additions are desired. Those policy decisions could include:

- » Focused efforts to acquire ROW when possible;
- » Aggressive long range planning to preserve future corridors; and
- » Deliberate effort for funding strategies to promote highway and major arterial facility expansion.



What if increased density to support transit and create walkable communities (in particular near Regional Centers) is desired? Policy decisions could include:

- » Encouraging infill development via financial incentives;
- » Creating potential legislation for multimodal corridors;
- » Promoting denser development and walkable neighborhoods.
- » Planning new outlying growth via encouraging well connected grids and multimodal corridors; and
- » New Major Thoroughfare Plan cross sections.

## MULTIMODAL PLAN GOALS



The Multimodal Transportation Plan developed includes a set of goals to provide the framework for developing transportation policies. There is an intentional connection of these goals back to the City's Comprehensive Plan. These Policy Areas include:

- » Planning & Investment
- » Multimodal Transportation
- » Land Use & Transit Supportive Development
- » Regional Transportation
- » Technology & Innovation

### Keys to Successful Policy Implementation

In order to successfully implement a policy and to create and support real change in the community, the City of San Antonio needs to be adamant (perhaps even stubborn) about their goals and objectives.

Evidence of the City's commitment to the goals of SA Tomorrow will be apparent in the long-term effects of their actions.

*For example, below are two situations the City will likely be faced with in the coming years, and the response needed to hold true to SA Tomorrow goals.*

## COMPREHENSIVE PLAN GOALS



The Comprehensive Plan identified elements for each of nine goals to fulfill the City's vision for growth. Each of the goals is tied to specific policy recommendation topics that integrate land use, economic, transportation, and sustainability elements that will help shape the future of San Antonio. Policy Areas:

- » Transportation & Connectivity
- » Housing
- » Green and Healthy Neighborhoods & Communities
- » Public Facilities & Community Safety
- » Historic Preservation
- » Military
- » Natural Resources & the Environmental
- » Jobs & Economic Competitiveness
- » Implementation/Codification Actions

1. A major employer begins discussions with the City about locating a significant economic generator in the community. The City needs to be deliberate about advocating the placement of the new employer in a location near current or future transportation investments. This would encourage a multimodal environment and help manage delay and congestion.
2. The City is moving forward with a major bond election. A council subcommittee is appointed to help review and prioritize a list of projects. If priorities are focused on SA Tomorrow goals, the projects are selected in a way that further advances the community (in lieu of political objectives and interests).

## SUSTAINABILITY PLAN GOALS



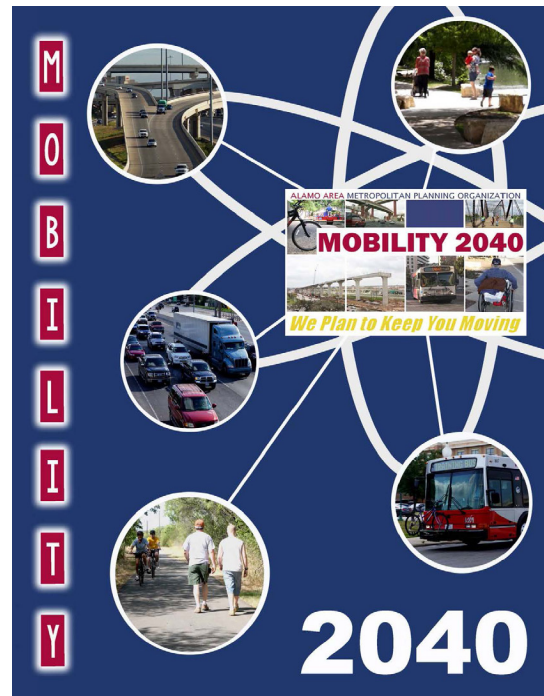
The Sustainability Plan developed 10 different "Focus Areas" which are elements that are being used to assess current conditions of and then create actionable strategies to manage them. Each of these elements ties into both the Comprehensive and Multimodal Transportation Plans and policy decisions that the City will be making to help create the desired future for San Antonio. Policy Areas:

- » Green Buildings & Infrastructure
- » Energy
- » Food Systems
- » Land Use & Smart Growth
- » Natural Resources
- » Public Health
- » Solid Waste
- » Transportation and Connectivity

## Scenario Planning

Urban transportation systems are complex networks. A modern, innovative and multi-modal transportation system is critical for the region's future prosperity. To sustain our economy and quality of life, residents must be able to travel safely and reliably around our region so they can choose from a wide variety of jobs and communities in which to live. In addition, businesses must be able to count on the timely delivery of goods.

The interactions between land use, transportation, modes of travel, congestion and behavioral patterns of the traveling public are intricate. An essential tool to evaluate these interactions is a travel demand model. Within San Antonio, the Alamo Area Metropolitan Planning Organization (AAMPO) maintains the Travel Demand Model for Bexar, Kendall, Comal, Guadalupe, and Wilson Counties.



The model is an invaluable tool to aid planners and decision makers in understanding the impact future population and employment changes will have on the transportation network. The model allows planners to evaluate the transportation system as a whole **and to test 'what-if' scenarios for different transportation alternatives.** In the simplest terms, the model turns the projected population and employment into trips, finds their origin and destination and assigns them a path to complete their trip. The trips cover an entire 24-hour period, so it accounts for all trip types: home to work, home to shop, and back to home, etc.

## SUMMARY OF THE CURRENTLY ADOPTED, FISCALLY CONSTRAINED AAMPO MOBILITY 2040 PLAN

The adopted regional plan (which takes into consideration the region nearly doubling in population as is described further in the SA Tomorrow Comprehensive Plan) shows significant congestion and increase in delay - particularly in the northwest portions of San Antonio. This current (2010) versus future (2040) congestion is forecast-ed by using the current roadway network and adding the trips of the growth in population to it. That means a lot more people and cars on the roads we have today. Two noteworthy statistics comparing 2010 and 2040: congestion will result in an almost 50% decrease in average speed AND delay will increase by over 900%.

The primary goal of using the model is to test alternatives and compare future network scenarios to evaluate results in the overall system. As it relates to SA Tomorrow, the model served as a tool to test three different transportation network scenarios.



The three scenarios were designed to have different priorities to help visualize and understand transportation futures. The scenarios were:

- » Scenario 1, Business As Usual
- » Scenario 2, Capacity and Connectivity
- » Scenario 3, Promoting All Modes

The **first scenario (Business As Usual)** incorporates the existing roadways of the current Major Thoroughfare Plan (MTP) along with the AAMPO's fiscally-constrained network (this includes \$17 Billion in projects<sup>1</sup>). This network is based on the desired build-out for the roadways, but limits expansion to what is likely given a realistic budget. For SA Tomorrow, additional built roadways (minor arterials and collectors) were added to the AAMPO regional network to enhance the level of detail of the results.

Scenario 1 results framed a future in San Antonio with worsening congestion levels for the region - even with \$17 Billion in roadway improvements. Compared to

the AAMPO 2040 forecast of the same increase in population but on the existing road network without improvements (Figure 1).

To truly contrast Scenario 1, **Scenario 2 (Capacity and Connectivity)** was developed. This scenario takes the MTP as currently adopted, and models a future where all MTP roads are built to their fullest capacity. This includes the new roads and lane widening already adopted

## SCENARIO 2 - SO WHAT IF WE COULD BUILD IT ALL?

Capacity and Connectivity tested the “can we build our way out of congestion” theory by including billions of dollars worth of improvements. Results indicate that while the capacity of the network significantly increased - congestion levels didn't measurably reduce.

## THE LINK BETWEEN TRANSPORTATION & LAND-USE



Scenario 3 has a direct connection to land use and the SA Tomorrow Comprehensive Plan. In order to promote walking, biking, and riding transit as primary modes of transportation, land uses need to provide an environment to encourage these modes to be chosen - they need to provide an environment with a mix of uses closely spaced together. The SA Tomorrow Comprehensive Plan will capitalize on Regional Centers (areas that draw people for business, shopping, and recreational purposes) and their associated land uses.

All the scenarios show significant congestion levels, and indiscernible change when compared with each other. However, if a typical trip in San Antonio is just a couple miles, those congestion levels are more acceptable to travelers when your overall travel time is less. The Comprehensive Plan and associated land use plans have the greatest opportunity to improve mobility in San Antonio.

<sup>[1]</sup> AAMPO Mobility 2040 Plan

## BUS, BIKE, AND PEDESTRIAN TRIPS

The Model has some limitations, including a limited ability to address modes of transportation alternative to vehicles. Transit ridership, bicycle, and pedestrian trips must be manually calculated as part of the model. The model is re-calibrated based on a potential number of trips divided among transit, bicycle, and pedestrian trips.

by the City (the improvements included in Scenario 1). While adding approximately \$3B in capacity is financially unrealistic, the purpose of this scenario is to illustrate the impacts on the overall network if it were to be built out to the fullest extent (Figure 2). **The results of this model run are significant - they show congestion levels in San Antonio will still be similar even after a multi billion dollar investment in the MTP.**

Scenarios 1 and 2 both showed high levels of congestion, specifically in the northwest side of the City. Neither scenario produced a future transportation network that would be desirable. Scenario 1 could be defined as undesirable due to high congestion levels, while Scenario 2 was predetermined to be financially unfeasible, and did not result in notable improvement. Consequently, a third

2040 Scenario	Vehicle Flow (In Millions)	Vehicle Miles Traveled (VMT) (In Millions)	Free Flow Vehicle Hours Traveled (VHR) (In Millions)	Congested Vehicle Hours Traveled (In Millions)
1. Business As Usual	271.6	97.8	2.8	5.7
2. Capacity & Connectivity	259.0	99.1	2.7	4.9
3. Promoting All Modes	266.0	95.9	2.7	5.4

*\*Data above represents the entire AAMPO Model boundary (Bexar, Kendall, Comal, Guadalupe, and Wilson Counties).*

**Vehicle Flow** - is the number of vehicles on a given roadway at a certain time. Vehicle flow is being reported as daily.

**VMT** - is the number of vehicle miles traveled is based on traffic volume and roadway length.

**Free Flow VHT** - represents total time of travel at free flow speeds over the length of the network.

**Congested VHT** - represents total time of travel at congested speeds over the length of the network.

scenario was developed. Scenario 3 looks at a third future where priority and funding are given to more than just vehicles and the roadway in order to understand its potential benefits.

**Scenario 3 (Promoting All Modes)** is intended to represent a balance of the first two scenarios in order to capture the impact of potential improvements to all modes in the network and not just the single-occupant vehicle (Figure 3). This scenario is built on the base network of Scenario 1 and the model was adjusted to reflect a shift from automobiles to transit, bike, and pedestrian trips. In locations adjacent to high-capacity transit lines, Regional Centers, and higher density development a shift of up to 15% away from automobile travel was applied (See Figure 4). **The scenario proposed a “what if”, questioning what effect**

**would be had on the network if future transportation decisions incorporated more alternative choices than the single-occupant vehicle.** This shift would be a result of assumptions on a number of factors including people’s willingness to change, policy recommendations, land use decisions, and citywide multimodal improvements.

Scenario 3 resulted in two significant observations:

- » **Volumes on most facilities - even after the 5-15% trip vehicular reduction factor was applied - changed minimally, but still had an impact on reducing vehicle miles traveled.**
- » **The most congested corridors in San Antonio experience “latent demand”. While there are benefits derived due to the ability to move additional people and goods, congestion levels remain the same.**

As the City grows in population, there will be two major methods to manage congestion increases:

- » Develop a land use pattern and policy to promote shorter trip lengths; and
- » Provide transportation options in addition to vehicles that connect Regional Centers.

Modeling several scenarios of future transportation networks provides a way to visually display and communicate the effects of prioritizing different modes and resources. As the table below shows, leaving our network as is will not be able to accommodate future growth, but neither will building it out to full capacity.

These three scenarios were used to evaluate various transportation network and mode shift options. The results from each model lead to several preliminary conclusions:

- » Staying the current course will not solve projected future issues;
- » We cannot build our way out of congestion by adding more lanes (even if San Antonio

could afford the financial and environmental costs, the scenario results are consistent with other major metropolitan regions - adding additional regional capacity doesn't fundamentally change the levels of congestion);

- » The overall network efficiency depends on the balance of all modes-which is very closely tied to policies not directly related to transportation - most notably land use.

### WHAT IS LATENT DEMAND?

“Latent demand” means that even where some trips are removed from the network, they are backfilled by people who had: avoided the route because of congestion, had chosen to travel at another time but returned to their preferred time, or had chosen to travel by another mode and return to driving.

### SO WHAT DO THE SCENARIOS TELL US?

After modeling three different scenarios there is no single solution to solve our future transportation needs. Each scenario teaches us something different about our transportation network; however, the similarities of the results show that to achieve a reduction in congestion levels requires a significant change in land use patterns.

So what next? Our “preferred future” will take into account all these factors, perhaps most importantly, the impact that land use patterns have in determining transportation outcomes. One noteworthy observation from the Scenarios is that even while latent demand fills available capacity, Scenario 3 suggests the ability to move more people on the same network through the use of modes other than vehicles. The result is a likely increase in person-trips without an increase in congested vehicle-hours traveled. This leads to a potential conclusion that interlacing vehicle, transit, bicycle and pedestrian priorities to create a well-connected network with more transportation choices is essential for San Antonio.

San Antonio’s preferred future is to have a world class transportation system that maintains existing roads and supports transit while strategically investing in the transportation system to (1) manage congestion, (2) provide transportation options, (3) strengthen communities and (4) foster a robust economy.

**Great places are created in areas where land use and the transportation system interact to create environments people want to live, work, and play in.**



*At the Guadalupe and S. Brazos intersection, the transportation network supports the adjacent land uses and helps create a livable, multimodal friendly environment.*





Figure 1: Scenario 1 - Business as Usual

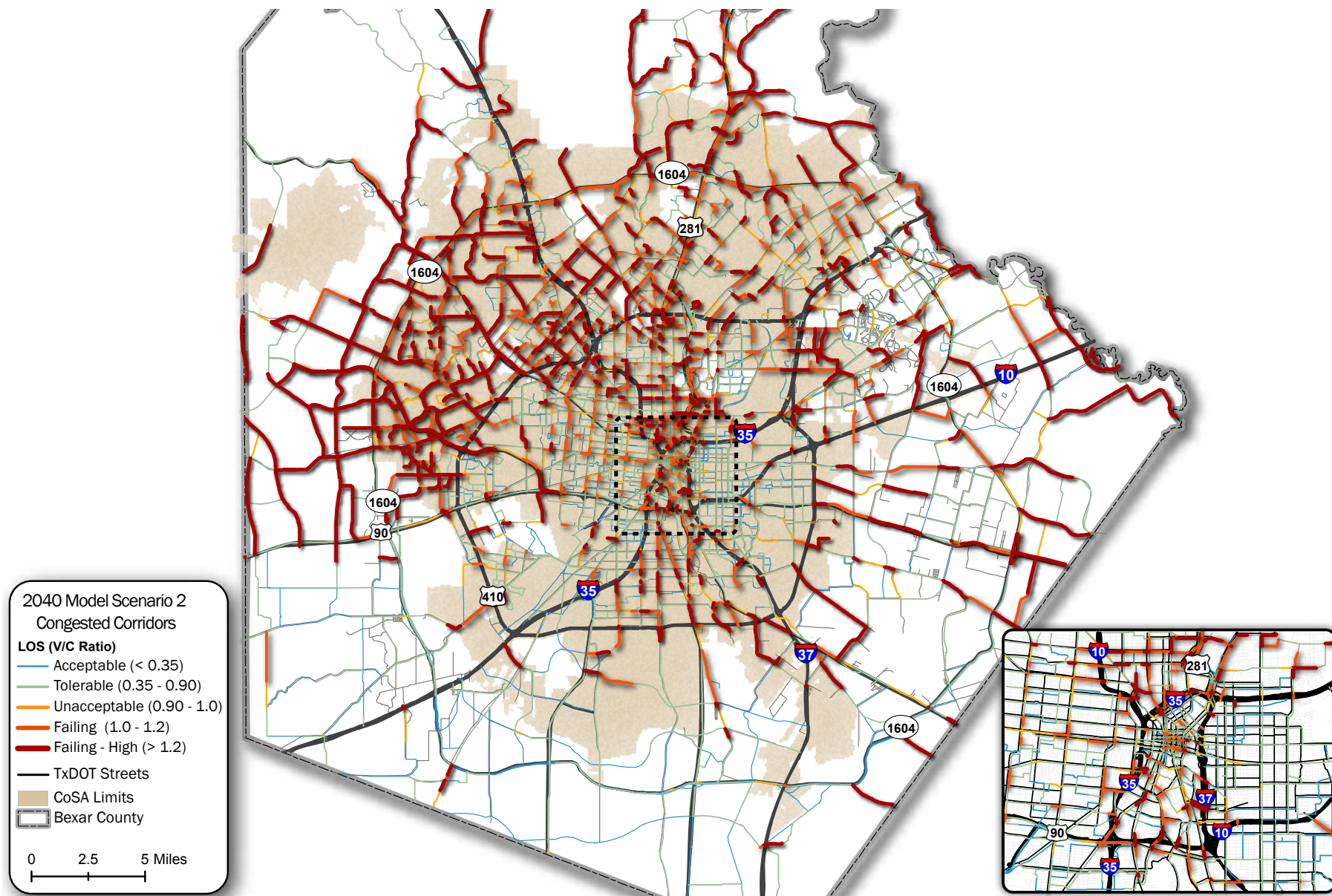


Figure 2: Scenario 2 - Capacity and Connectivity



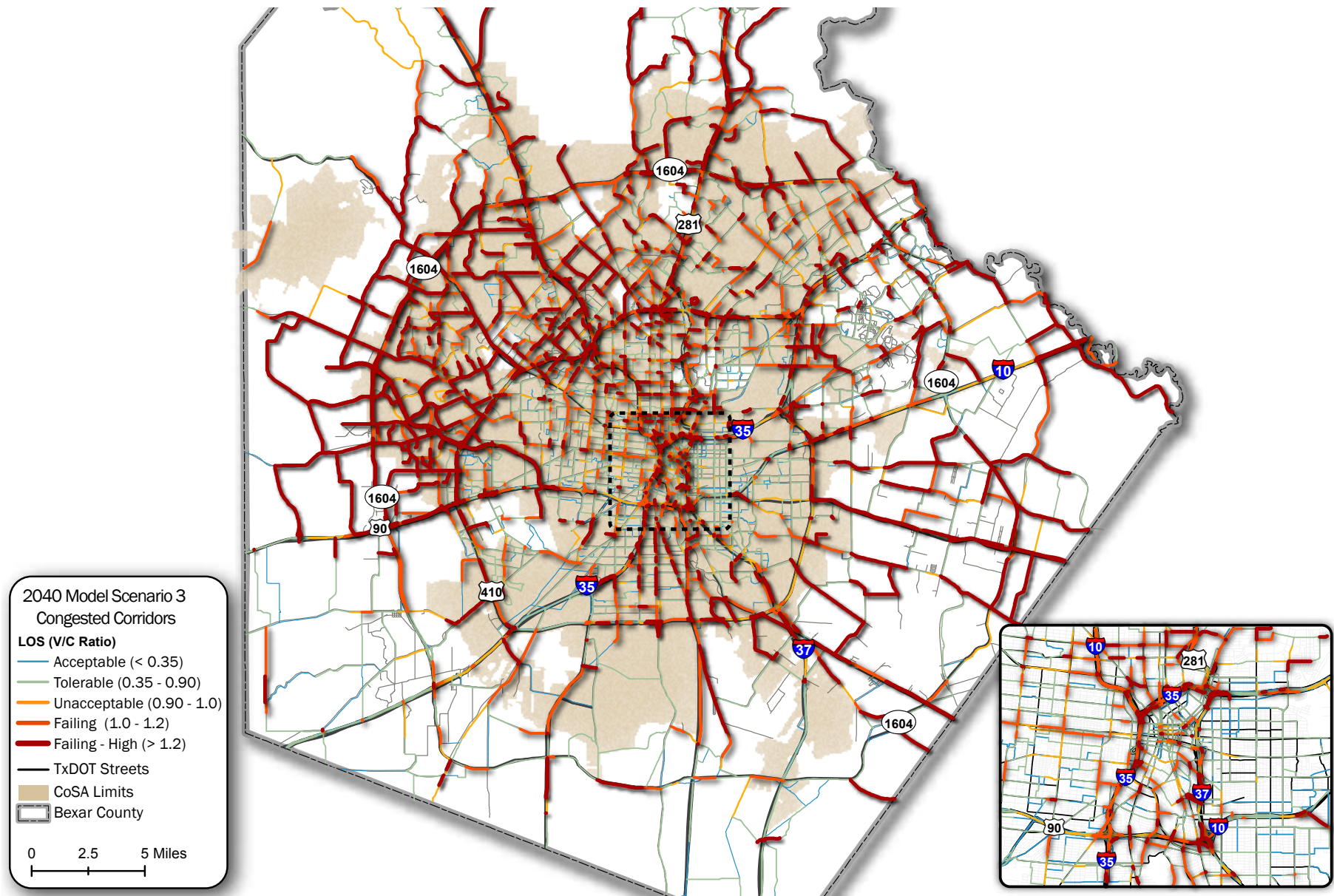


Figure 3: Scenario 3 - Promoting All Modes



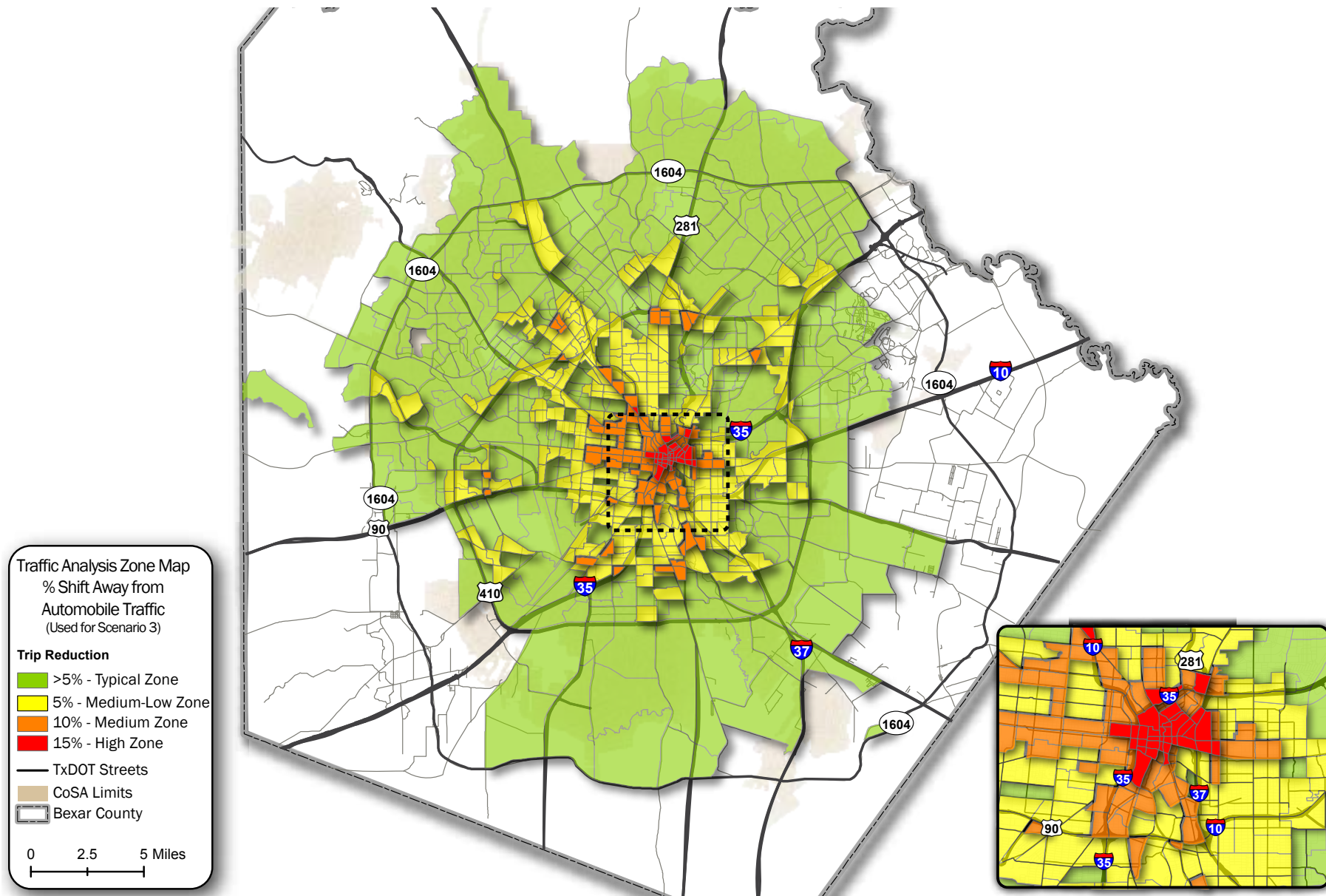


Figure 4: Scenario 3: Traffic Analysis Zone Map - % Shift Away from Automobile Traffic (Used for Scenario 3)

## How does the City make these choices?

San Antonio knows that major growth in population is coming. The question is not *if* the City will grow, but what the City will do to accommodate this growth. **The choices the City makes in defining policy today and its continuous implementation will shape the look, structure, and efficiency of the City and its transportation network.**

Let's take a look at what three other large communities (Chicago, Dallas, and New York City) have done in defining an element of their transportation future.

### Chicago, IL

The Chicago Complete Streets Guidelines were created to:

- » Create complete, safe and sustainable streets;
- » Provide simple, on-point design guidance that empowers CDOT staff;
- » Provide a clear process and direction.

The Complete Streets plan will evaluate the success of the plan using safety and mode share performance measures. These measures are tied to specific metrics, making the goal they are working for extremely defined. For example, one of their safety goals is:

- » Reduce total roadway crashes and injuries from all roadway crashes, each by 10 percent every year.

### Dallas, TX

Dallas (through the local transit agency DART) is currently in the process of updating their 2030 Transit System Plan to develop the 2040 version. The 2040 Plan is being developed using a phased approach. Phase one focuses on the bus network through a Comprehensive Operations Analysis, while Phase Two looks at longer term projects and programs. The key element to the success is continued efforts to expand and enhance the system.

The 2040 Transit System Plan includes:

- » Construction of an extension of an existing light rail line;
- » Project development of the 2nd line through downtown (D2);
- » Platform modifications to 28 red and blue line stations to accommodate 3-car trains; and
- » Continued planning for the Cotton Belt Regional Rail Project.

### New York City, NY

The New York City (NYC) Plaza Program is currently on (as of 2016) its eighth round of applications. The purpose behind the Plaza initiative is:

- » Transform underused streets into public spaces;
- » Create open space environments; and
- » Connect residents with outdoor spaces.

The Plaza Program builds from a one-day set up to a designated plaza with interim materials, and finally becomes a permanent plaza. As of 2015, 71 plazas are currently in development,

## SO WHAT SHOULD SAN ANTONIO DO?

The intent of the SA Tomorrow Multimodal Plan is to define these goals and priorities. In turn, the goals and priorities will give the City and policymakers the basis to make the big decisions that shape the transportation future of San Antonio.

construction, or complete, and of those, 49 plazas are open to the public.

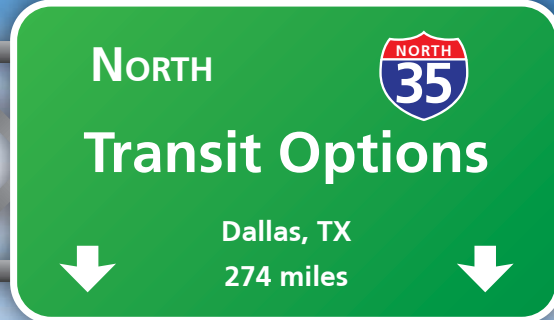
San Antonio's focus and direction should be movement towards a multimodal system. Our attention should be directed at moving more people rather than vehicles. We will need to be a multimodal city if we wish to compete and attract economic development. We must incorporate new strategies like HOV (High Occupancy Vehicle) Lanes, light rail, dedicated BRT (Bus Rapid Transit) and connections to bike and pedestrian facilities. We have to be able to accommodate the additional 1 million people expected to move to the region. This is equivalent to the population of the City of Austin moving to San Antonio!

### 5 Year Action Plan Items

- » Create and adopt a policy ordinance to document SA Tomorrow Transportation Goals.







Dallas made a strategic decision to invest in transit. There are currently 90 miles of light rail in the system, half of which opened in the past five years.



Chicago is committed to having bicycle accommodations within 1/2 mile of every Chicagoan. In 2014 alone, the City installed 51 miles of new bikeways, 36 of which were protected.



The NYC Plaza Program is part of the City's effort to ensure all New Yorkers live within a 10 minute walk of quality open space. From 2008 to 2012, 22 sites were selected for implementation.

*Each plan focuses on an important mode of transportation, which came about from a desire from the public and policymakers to prioritize some element of the transportation network.*