

NEW BRAUNFELS STREET SAFETY ACTION PLAN

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**A BLUEPRINT TO
ACHIEVE ZERO
ROADWAY FATALITIES
IN THE CITY OF NEW
BRAUNFELS BY 2040**

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“THE ACTION PLAN IS A VITAL INITIATIVE FOR THE CITY OF NEW BRAUNFELS, REFLECTING OUR COMMITMENT TO CREATING A SAFER AND MORE SUSTAINABLE ENVIRONMENT FOR OUR RESIDENTS.”

— GARRY FORD
CITY OF NEW BRAUNFELS
TRANSPORTATION AND CAPITAL
IMPROVEMENTS DIRECTOR

EXECUTIVE SUMMARY

The New Braunfels Street Safety Action Plan (SSAP) outlines a vision for a safer New Braunfels where there are no serious injuries and deaths resulting from traffic crashes. The SSAP is based on Vision Zero principles, a global safety initiative positing that traffic-related deaths and injuries are not inevitable; they can be entirely prevented through planning, design, and education. The SSAP analyzes the factors that have historically contributed to serious crashes in New Braunfels and recommends designs, programs, and policies that the City can implement to prevent future serious crashes and achieve **the goal of zero serious or fatal crashes on City-owned roadways by 2040**. This plan provides guidance to City staff, elected officials, and New Braunfels residents on how they can take action to make every street safer. It analyzes why crashes happened in the past, confirms these issues with the community, defines key priorities for street safety, and provides tools to address the issues in a thoughtful programmatic way.

The SSAP safety analysis centers around crash data between 2018 and 2022, the study window of this plan. The data was reviewed to diagnose street safety problems in New Braunfels, with both spatial and non-spatial data analysis showing common roadway characteristics of fatal and severe crashes, changes in crash patterns by year, crash severity by contributing factor, crash severity by day of the week, and differences in severity between vehicle crashes and crashes involving a cyclist or a pedestrian.

Stakeholder and community input is key to any safety action plan. The SSAP Community and Stakeholder Workshop allowed various stakeholders and New Braunfels residents to learn about Safe Streets principles and how they can be applied to New Braunfels streets. Participants provided feedback on street designs they would like to see implemented, ways dangerous intersections could be made safer, and how to craft a mission statement. Idea boards helped to collect responses from community members concerning methods for slowing traffic, the effectiveness of reducing speeds, and areas believed to be unsafe to walk or bike. New Braunfels residents showed a clear preference for the addition of physical traffic calming techniques over relying on enforcement or lowering speed limits alone. Participants also called for an increase in safe multi-modal transportation infrastructure.

The community crafted the following mission statement for this plan:

New Braunfels is committed to eliminating traffic fatalities and severe injuries on all its streets by improving roadway design, expanding safe driving enforcement, and supporting safe and healthy mobility options for all ages and abilities.

Injury Severity: Vehicle vs. Cyclist/Pedestrian Crashes

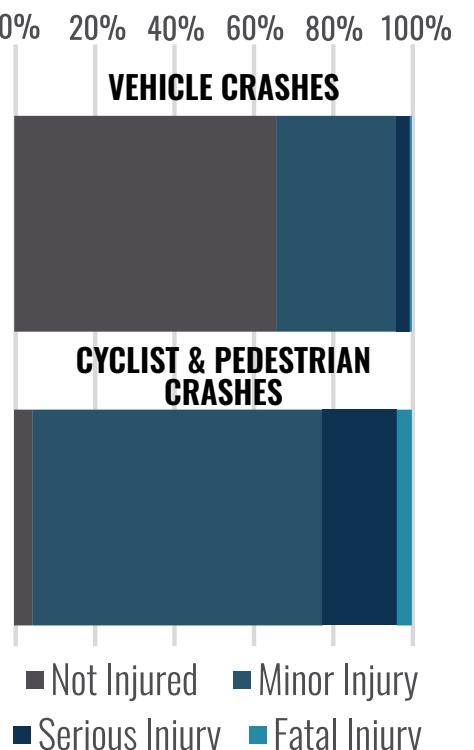


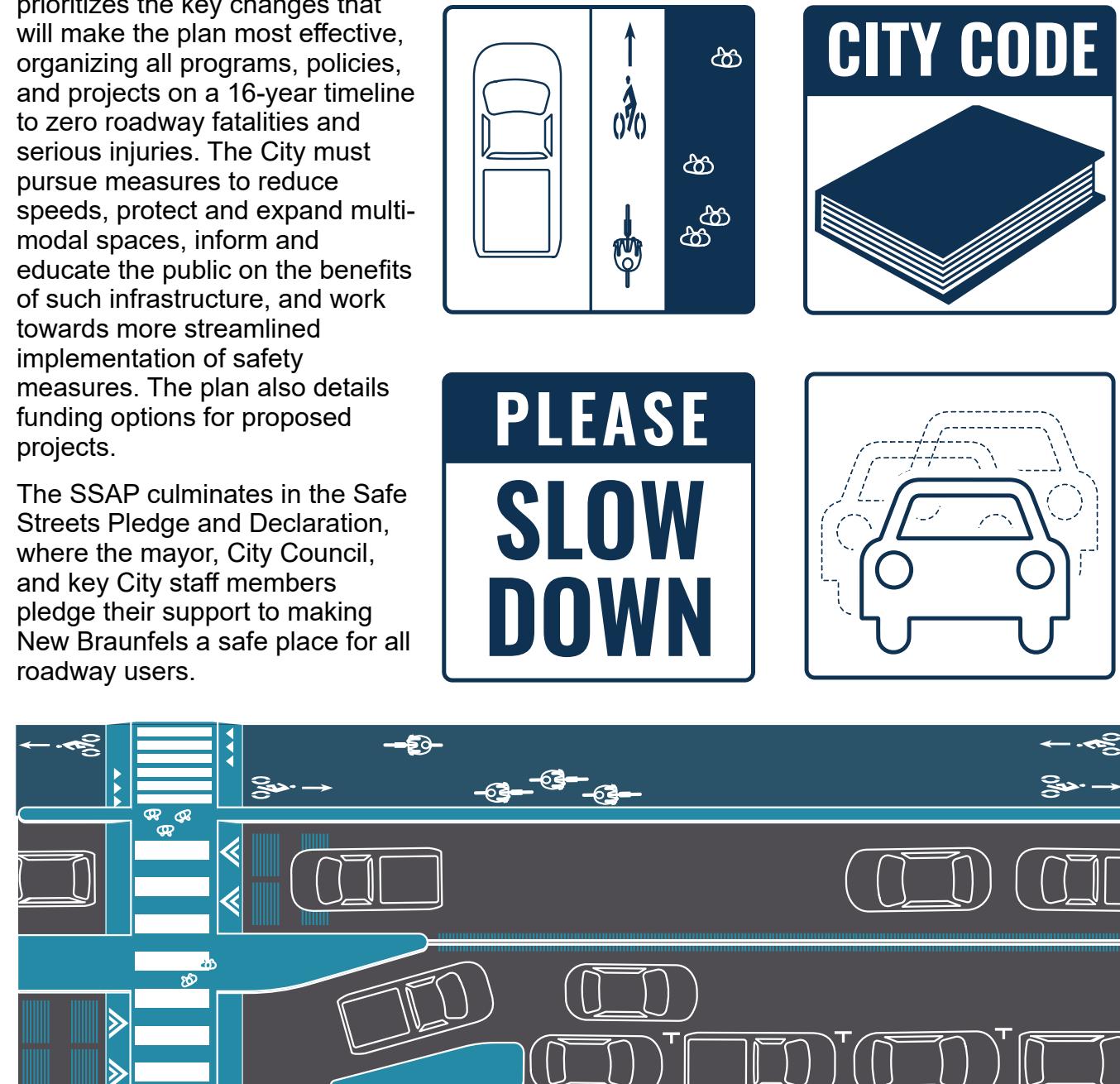
Figure 1.

Engagement activities with key stakeholders and the community at large provided input on factors of key importance, leading to the creation of heat maps for key crash attributes. Community-informed weighting helped to create a Combined Roadway Need Score, which indicates whether a specific roadway or intersection is in the Priority Network. A list of the high-scoring roads and intersections, separated based on roadway ownership, is included.

The SSAP Safe Streets Toolkit describes physical interventions that can be used to calm traffic on priority roadways and intersections, creating a more inclusive roadway environment for all users. The City of New Braunfels Code of Ordinances was analyzed for policies that could be changed to improve safety on New Braunfels roads. To guide support for these new policies as they are implemented, the SSAP recommends essential programs for City staff to manage and report on this plan's 16-year implementation. Such programs include an online street safety dashboard, education campaigns focusing on traffic calming and safety, street safety progress reports, focused enforcement, and partnership with other governments regarding street design. Examples of successful implementation in other cities are included with each policy proposal.

The SSAP discusses and prioritizes the key changes that will make the plan most effective, organizing all programs, policies, and projects on a 16-year timeline to zero roadway fatalities and serious injuries. The City must pursue measures to reduce speeds, protect and expand multi-modal spaces, inform and educate the public on the benefits of such infrastructure, and work towards more streamlined implementation of safety measures. The plan also details funding options for proposed projects.

The SSAP culminates in the Safe Streets Pledge and Declaration, where the mayor, City Council, and key City staff members pledge their support to making New Braunfels a safe place for all roadway users.



INTRODUCTION

WHAT IS A STREET SAFETY ACTION PLAN?

A Street Safety Action Plan (SSAP), also called Comprehensive Safety Action Plan and Vision Zero Plan, serves as the foundation of action in significantly improving roadway safety, aimed at reducing and eliminating serious injury and fatal crashes.

While the New Braunfels SSAP is a planning document with citywide implications, it does not alter existing neighborhood plans, or any other community land use plan. Rather, the New Braunfels SSAP provides implementable strategies for making New Braunfels a safer place to walk, bike, roll, and drive - firmly rooted in Vision Zero and Safe System Principles.

WHAT IS VISION ZERO?

Vision Zero is the global movement to eliminate all traffic deaths and serious injuries through the adoption of safe street design, safety-focused transportation policy, and improved enforcement of traffic laws. More than 42,000 people die on American roads each year, and many thousands more are severely injured. **These deaths and injuries are preventable.**

The Vision Zero approach seeks to create a transportation system in which crashes never result in fatalities or serious injuries; while crashes resulting from human error cannot be eliminated, the traffic environment can be designed so that the force of any crash does not exceed the tolerance of the human body. Vision Zero therefore rejects the traditional approach of traffic safety which places responsibility for crashes on road users, and instead looks to roadway designers to create safer roads for all users.

Many cities across the country and the world have successfully implemented Vision Zero principles, and some places have even met the goal of zero traffic fatalities or serious injuries. For instance, four years after passing their Vision Zero Action plan, Hoboken, New Jersey has not had a traffic death or severe injury in five years. Nearby cities like San Antonio and Austin are already Vision Zero cities, and cities like Seguin are developing their plans in 2024 as well. Furthermore, the Texas Department of Transportation (TxDOT) declared its intention to end traffic fatalities statewide by 2050.

WHY IS THIS PLAN CALLED A STREET SAFETY ACTION PLAN?

While this plan incorporates Vision Zero Strategies, it is at its core a document for the people of New Braunfels. And while Vision Zero may be a clear term to some, the term Street Safety is clear to all. New Braunfels is a deeply historic city with a close knit culture and community. This plan will foster the type of community ownership and stewardship necessary to ensure zero fatalities on New Braunfels roadways.

WHY DOES NEW BRAUNFELS NEED THIS PLAN NOW?

For the first time, the U.S. Department of Transportation (USDOT) is providing localities with funds that can be used for the design and construction of safe street designs, removing a significant barrier to implementing safe infrastructure. In order to access the Safe Streets 4 All (SS4A) funds, the City of New Braunfels must have an adopted action plan. This plan will outline New Braunfels's existing problems with street safety, identifying where and why crashes happen. Then, the plan will turn to outlining what can be done to reduce severe and fatal injuries, providing a toolbox of traffic calming strategies, as well as policies and programs that could be implemented to achieve the goal of zero traffic deaths and fatal injuries.

WHAT IS A SAFE SYSTEM APPROACH?

Deaths and serious injuries are unacceptable—While no crashes are desirable, the Safe System Approach emphasizes a focus on crashes that result in death and serious injuries. Regardless of road users' socio-economic backgrounds, their abilities, and the modes they use, no one should experience deaths or serious injuries when using the transportation system.

Humans make mistakes—Road users will inevitably make mistakes, and those mistakes can lead to crashes. The Safe System Approach expects the road system be planned, designed, and operated to be forgiving of inevitable human mistakes, so that serious injury outcomes are unlikely to occur.

Humans are vulnerable—Humans have limited ability to tolerate crash impacts before harm occurs. Although the exchange of kinetic energy in collisions among vehicles, objects, and road users has multiple determinants, applying the Safe System Approach involves managing the kinetic energy of crashes to avoid serious injury outcomes.

Responsibility is shared—All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must work collaboratively to ensure that crashes don't lead to fatal or serious injuries.

Safety is proactive—Transportation agencies should use proactive and data-driven tools to identify and mitigate latent risks in the system, rather than waiting for crashes to occur and reacting afterwards.

Redundancy is crucial—Reducing the risk of severe crash outcomes requires all parts of the system to be strengthened, so that if one element fails, the others still protect road users.



Source: FHWA.

Figure 2.

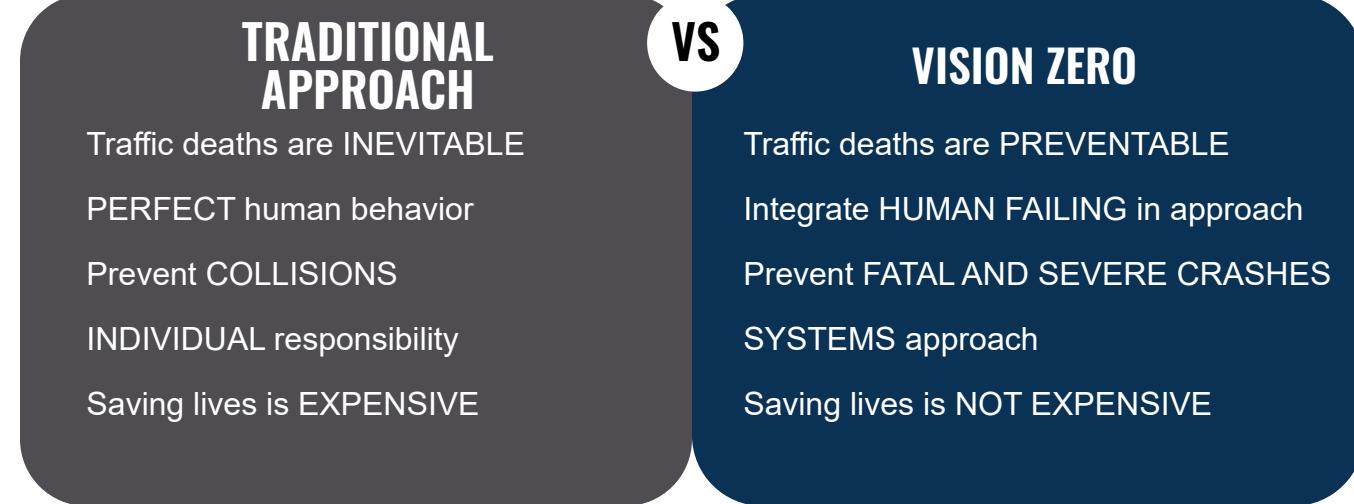


Figure 3.

HOW DOES THE SSAP SUPPORT NEW BRAUNFELS?

Strategically located in the Central Texas region and the Texas Triangle mega region, New Braunfels is a family-oriented tourist hot-spot with an exceptional quality of life, making it an increasingly popular place for residents, businesses, and employers. Located 30 miles from downtown San Antonio and 45 miles from downtown Austin, New Braunfels is easily accessible by Interstate Highway 35. It sits within a four-hour drive of larger cities such as Houston, Fort Worth, and Dallas. The city limits of New Braunfels include areas in both Comal and Guadalupe Counties and its Extra-Territorial Jurisdiction (ETJ) borders many smaller municipalities.

New Braunfels experienced a 38.6% population increase from 2012 to 2022 and the median household income for New Braunfels in 2022 was \$85,827, making New Braunfels a relatively wealthy and fast growing city and presenting unique challenges for accommodating new development with roadway safety features. The historic downtown in New Braunfels is a prototypical example of an urban main street and is surrounded predominantly by single-family home neighborhoods connected by parks, recreational spaces, scenic waterways, and cultural institutions and served by ecotourism, healthcare, schools, jobs, and industries.

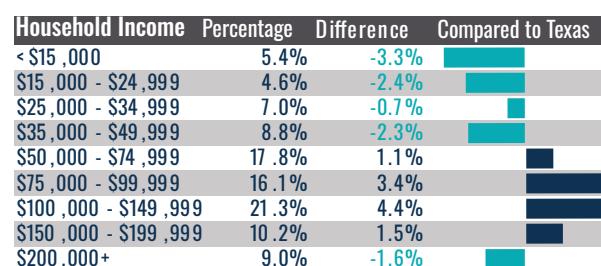


Figure 4.



Figure 5.

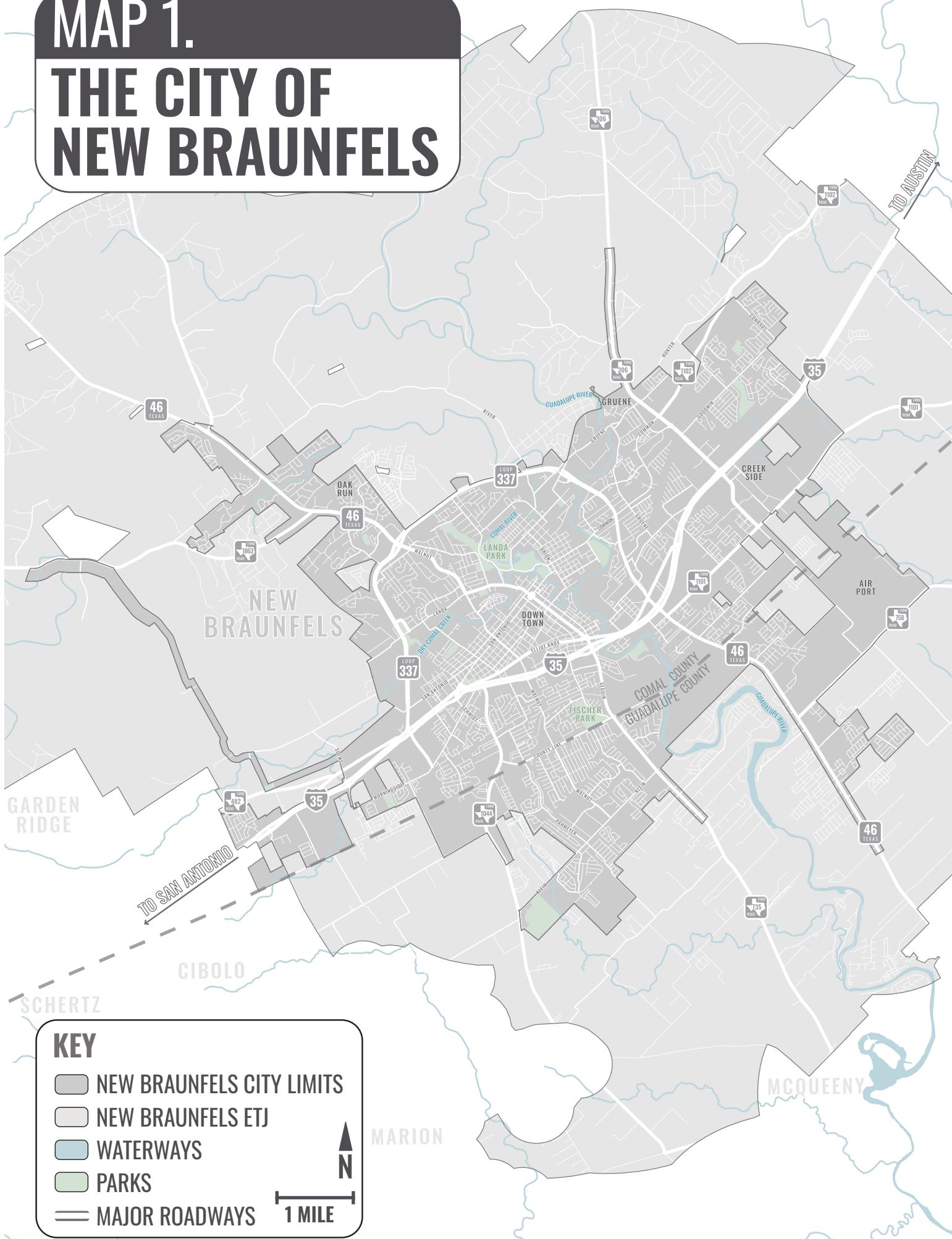
HOW DOES THE SSAP FIT INTO ENVISION NEW BRAUNFELS?

Envision New Braunfels is the City of New Braunfels's comprehensive plan, a city-wide effort to develop a vision and "roadmap" for the city's future through 2030 that captures community-driven goals and objectives to guide local decision and policymakers on the city's growth and development. Thirty-five key actions and many goals outlined in Envision New Braunfels support both roadway safety and an expansion of multi-modal uses on New Braunfels's roadways, including:

- Establish connectivity between parks, facilities and greenways so that they are accessible by pedestrians, bicycles and a large majority of neighborhoods.
- Improve vehicular connections into and within New Braunfels to reduce congestion while mitigating the impacts of the automobile on the urban fabric.
- Promote healthy lifestyles and relieve automobile congestion through improved and increased pedestrian paths, on-street bicycle lanes, and off-street bicycle paths to major hubs within New Braunfels and beyond.
- Promote healthy lifestyles for youth through upgraded and new sporting venues, parkland and trails.
- Promote a compact urban fabric that includes walkable neighborhoods, mixed-use development, high-quality public spaces, and complete streets actions.

The planning area for the New Braunfels SSAP, like for Envision New Braunfels, is the corporate limits of the City of New Braunfels (45 Square Miles) and its extraterritorial jurisdiction (ETJ) (more than 150 square miles) in unincorporated Guadalupe and Comal counties. The plan will also inform the New Braunfels Major Thoroughfare Plan Update, the Alamo Area Metropolitan Planning Organization (AAMPO) short-term and long-term plans, and other planning activities.

MAP 1. THE CITY OF NEW BRAUNFELS



STREET SAFETY TODAY

HOW SAFE ARE NEW BRAUNFELS STREETS?

The first step in prescribing solutions to end severe and fatal crashes on New Braunfels roadways is building a deep understanding of the roadway characteristics, areas with repeated severe crashes, and the key instigators that turn a collision into a fatal crash.

Residents of New Braunfels have consistently stated that all their roads need improvements. There is no one-size-fits-all approach to roadway design or roadway safety, and any intervention must be tailored to the demonstrated safety needs of the space.

To provide this tailored approach, this plan's analysis of crashes and roadway characteristics attempts to identify priority roadways and intersections, as well as prescribe appropriate interventions using existing crash data. The translation of individual crash records into a priority network requires:

1. DOCUMENTATION AND EXAMINATION OF EXISTING DATA.

2. ANALYSIS OF CRASH RECORD CHARACTERISTICS.

3. SCORING ROADWAYS USING A CONSISTENT METHODOLOGY.

4. VALIDATION OF SUCCESSFUL SCORING RESULTS.

IMPORTANT NOTES:

This plan is forward looking - Not just representing where crashes have been in the past, but where crashes could be fatal in the future.

This plan is congruent with existing community visions - As stated in the introduction, with Envision New Braunfels goal of a more bike and pedestrian friendly city and a greater portion of this community commuting by bike or on foot, any crash can turn fatal.

Crashes occur not on a single road, but in a transportation network - All crashes, regardless of whether they are on roadways maintained by New Braunfels, or another entity were analyzed. The only crashes excluded from the analyses were those without a recorded latitude or longitude, and those on the through lanes of an interstate facility as those facilities cannot be amended through local municipal action.

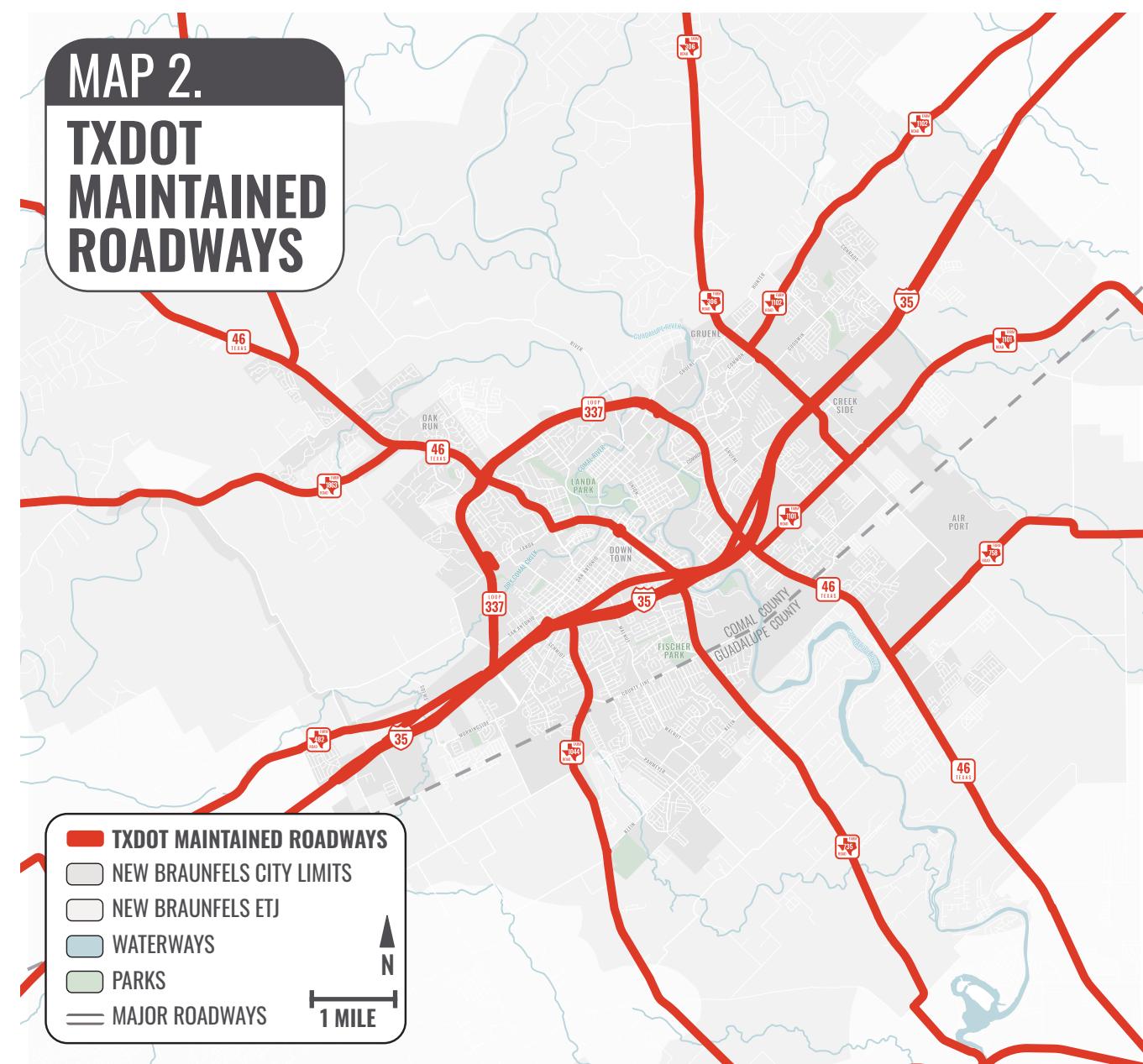
NEW BRAUNFELS ROADWAYS

Using a combination of City of New Braunfels datasets and publicly available data sources such as Google Earth and Google Streetview, this plan began its analysis by creating a unified dataset of all roadways in New Braunfels and their features such as:

- Presence of an active transportation facility
- Owner and operator of facility
- Function of the roadway
- Presence on existing plans

This plan recorded 972 miles of public roadways in the City of New Braunfels, but only 81.5% (793 miles) of roadways in New Braunfels are owned and operated by the City. The remaining 18.5% (179 miles) are operated by TxDOT, including several local serving major thoroughfares such as Seguin Avenue (BUS 46/FM 725), Landa Street (BUS 46), Elliot Knox Blvd (BUS 35) as well as freeway facilities like I-35 and Loop 337.

About 43% of roads on the 2012 Major Thoroughfare Plan (collector and up) feature an active transportation facility, of these 23.5% are compliant with TxDOT's 2022 Roadway Design Manual and only 9.9% are compliant with the NACTO Urban Bikeway Design Manual.



CRASHES IN NEW BRAUNFELS

To analyze crashes in New Braunfels, this plan used data from the TxDOT Crash Records Information System (CRIS) system, which receives records from most law enforcement agencies in the State of Texas. This plan required data to be consistent across jurisdictions as the City of New Braunfels spans two counties and is adjacent to nearly a dozen other municipal governments and their police forces.

This plan set a 5-year crash data analysis window, allowing the plan to analyze trends before, during, and after the COVID-19 pandemic as well as the reconstruction of several major roadways in New Braunfels such as Loop 337 and Creekside Crossing. Using the CRIS Query tool, the team collected crash data for Comal and Guadalupe Counties for the time period between January 1, 2018 and December 31, 2022. Crashes were further narrowed down by using the City of New Braunfels Extra-Territorial Jurisdiction (ETJ) to determine which crashes occurred within these boundaries.

Between 2018 and 2022, 6,588 crashes occurred within the New Braunfels and its ETJ. Thirty-eight (0.6%) of these crashes were fatal, and 216 (3.3%) of these crashes caused serious injuries. The day of the week with the most crashes overall was Friday, with 1,115 crashes, while Sunday had the least crashes with 690. When looking at just serious and fatal injuries, however, Thursday and Saturday had the most crashes with 48 and 47 (both about 20% of all serious injury crashes). Saturday had the most fatal crashes with 9 (about 21% of all fatal crashes).

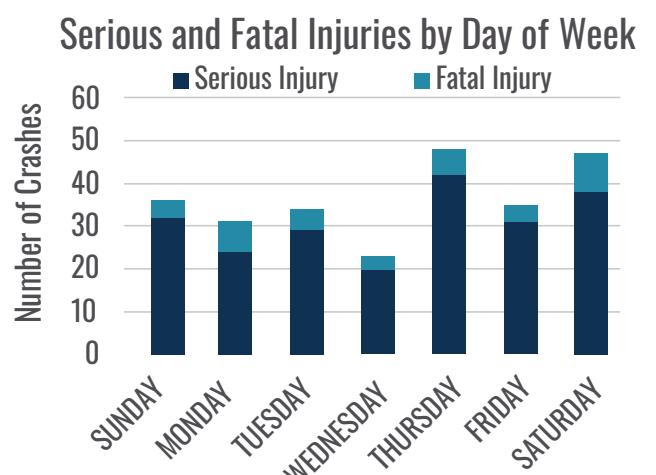


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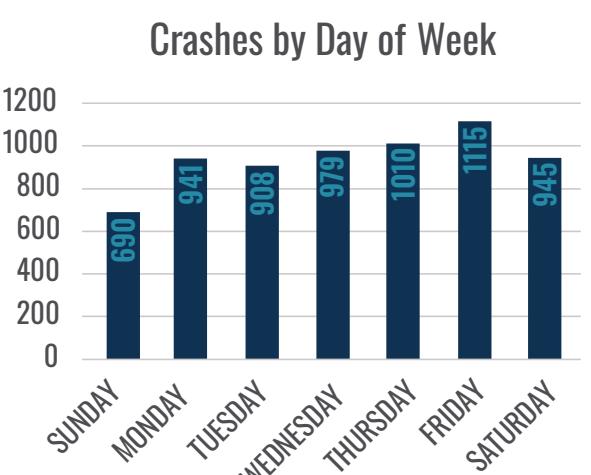
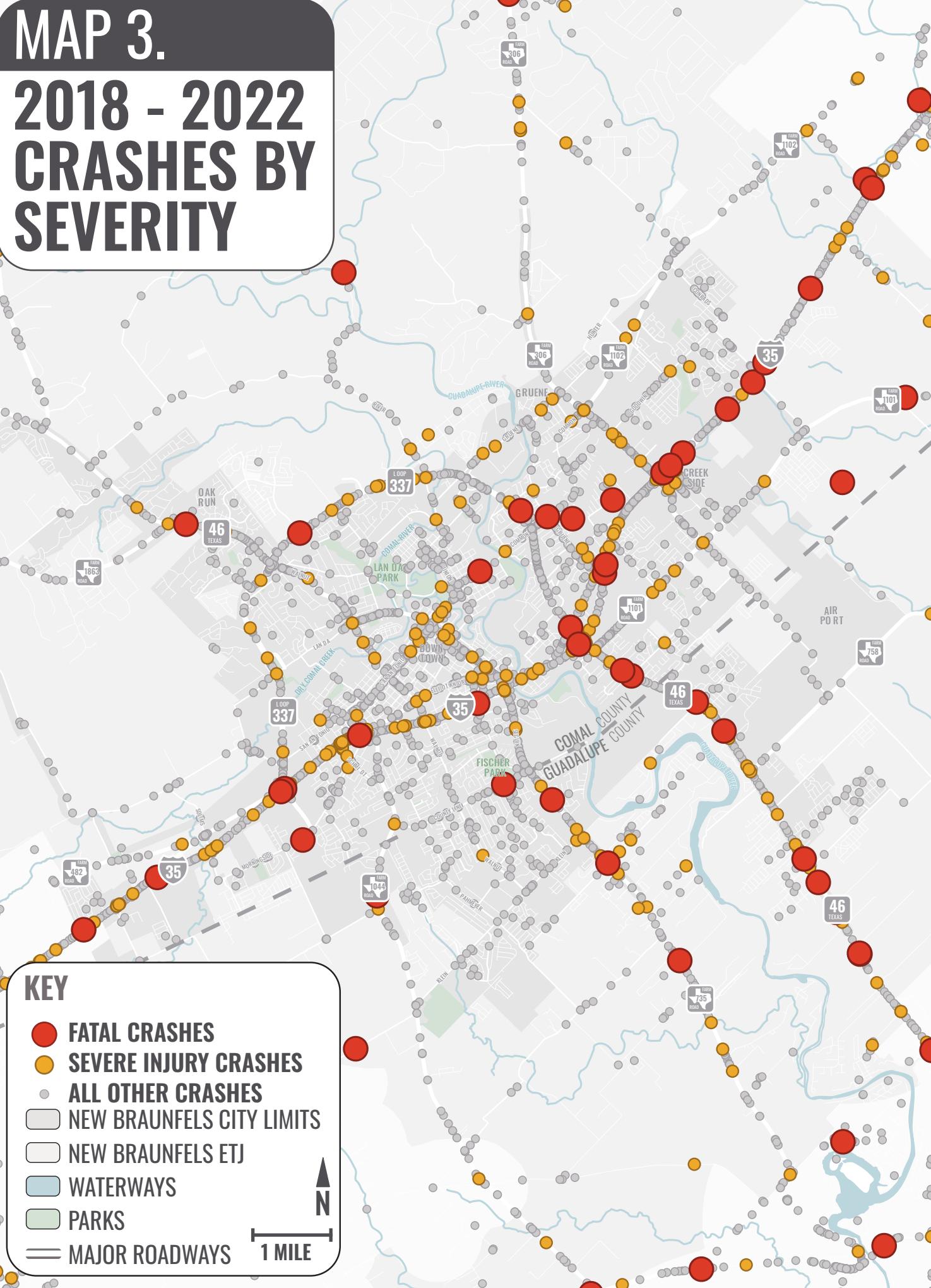


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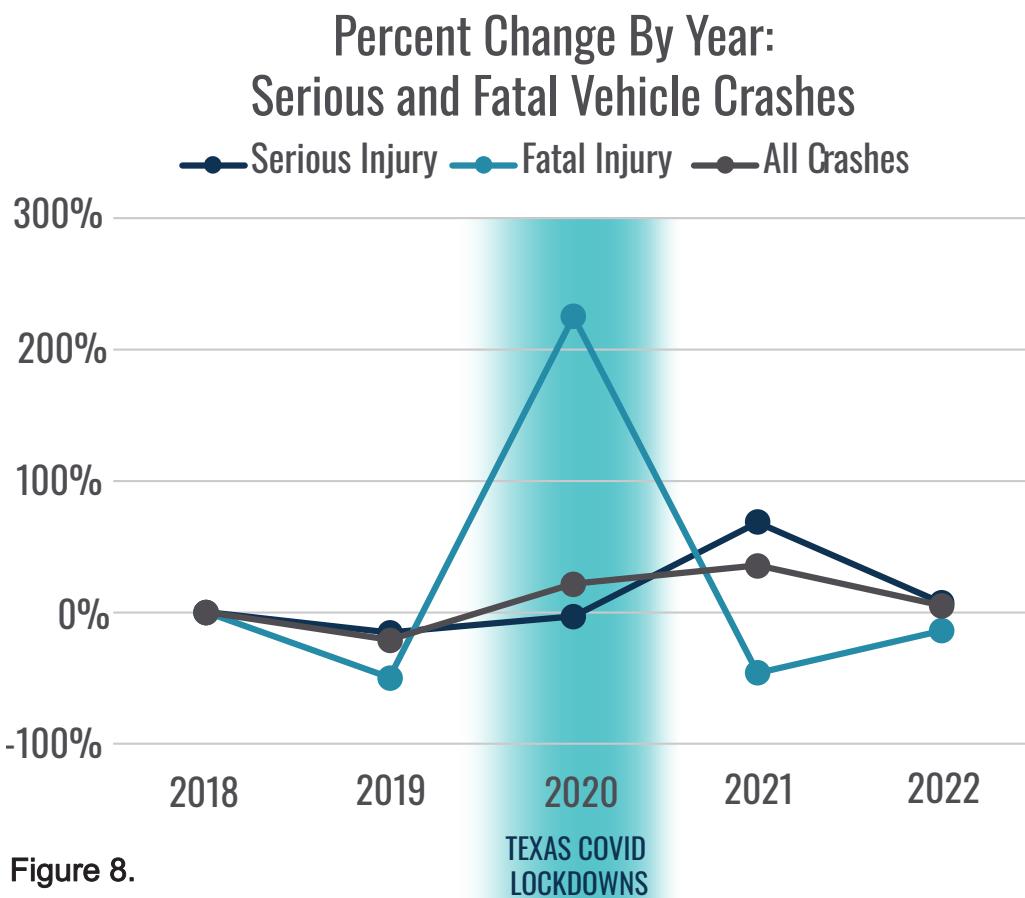
For crashes occurring in New Braunfels during the study window, the recorded manner of collision was a significant determinant of outcome and severity. The manner that had the highest probability of causing a serious or fatal injury was head-on collisions (over 16%), followed by single vehicle crashes (over 7%). However, head-on collisions make up an extremely small percentage of total crashes. Rear-end crashes were the most common manner, followed closely by left turn and then single vehicle. While single vehicle crashes do not have the highest percentage of serious injuries, they do have by far the highest number. With 109 serious or fatal crashes (88 serious and 21 fatal), single vehicle crashes account for 37% of crashes that caused serious injury, and exactly half of all fatal crashes. Left turn is the second most serious manner of collision with 50 serious or fatal crashes, less than half of the single vehicle crashes.



DRUG AND ALCOHOL INVOLVEMENT IN NEW BRAUNFELS CRASHES

In New Braunfels, alcohol and drug use contributed to 525 crashes, which amounts to about 8% of all crashes. However, it contributed to about 19% of crashes that caused a serious injury and about 17% of crashes that caused a fatal injury. Alcohol and drugs being involved in a crash significantly increases the likelihood of sustaining serious or fatal injuries.

The two years that saw the most significant increases in crashes were 2020 (225% increase [from 4 to 13] in fatal crashes) and 2021 (69% increase in serious injury crashes).



These periods of high severity crashes may have been a side effect of COVID-19 lockdowns initiated by Texas Governor Greg Abbott in 2020. During lockdowns (defined as March 12, 2020 to December 31, 2020 for the purpose of this analysis), there were 25% more severe and fatal crashes compared to when lockdowns were not in place, even though there were significantly fewer crashes overall.

According to the TxDOT's Annual Average Daily Traffic Counts for non-interstate facilities in Comal and Guadalupe Counties, there was a 11% reduction in traffic volumes from 2019 to 2020. This decrease in traffic volume allowed for car users to move along roadways at higher speeds, which likely contributed to the higher severity of crashes. Additionally, studies by the National Institutes of Health found that "aggressiveness and inattentiveness of drivers increased significantly after the outbreak of COVID-19, leading to a higher likelihood of severe crashes."

To contrast this finding, this plan also studied periods of higher traffic volumes and with likely resulting slower speeds, such as Wurstfest. Wurstfest is a yearly celebration of German food and Heritage in New Braunfels's Landa Park area which surpassed 220,000 visitors in 2022. As visitors descend on the Marketplatz for the 10-day celebration, the resultant road closures lead to a famously congested New Braunfels and slow-moving traffic. In the November celebration window each year (excluding 2020 when the festival did not take place), there were 61% fewer severe or fatal crashes, though there was a higher number of crashes per day on average.

These findings support the Vision Zero principle that while ending all crashes may be impossible, encouraging slower speeds and more attentive drivers can lead to significant decreases in roadway fatalities and severe injuries.

The CRIS database features hundreds of individual contributing factors to every crash. Many of these are recorded in individual police reports and others are added by staff maintaining the dataset. To analyze the severity of crashes by all contributing factors, factors were consolidated into 11 categories, and compared alongside the CRIS data flag for crashes involving pedal cyclists and pedestrians.

- "Animal" indicates a crash that occurred due to an animal in the road.
- "Driver Condition" was used for crashes in which the driver was fatigued, asleep, or ill.
- "Fleeing/Evading Police" includes all crashes recorded at the time of collision involving a road user attempting to evade a law enforcement officer.
- "Impaired" indicates that the driver at fault had consumed either alcohol or drugs.
- "Inattention" means that the driver was distracted and crashed as a result.
- "Mechanical" usually refers to stalled cars or other vehicular mechanical errors.
- "Non-Compliance" refers to a driver that did not broadly follow the rules of the road, i.e. failing to yield or stop at the proper place.
- "Speeding" refers to a crash that classified a driver as either going over the speed limit, an unsafe speed, or road rage.
- "Vehicle Condition" usually refers to cars driving without headlights or brake lights.
- "Vehicle Operations" was used when a driver made an error in motion, such as a faulty evasive action, failure to stay in one lane, or an unsafe lane change.

Fleeing or evading police contributed to a very small number of crashes, but it had the highest percentage of fatal crashes. Similarly, the number of recorded cyclist and pedestrian crashes is low, but it is the second most lethal, and by far the most injured, category. Driving impaired (under the influence of alcohol or drugs) had the next highest percentage of serious or fatal injuries but a far greater frequency than fleeing the police and cyclist/pedestrian.

Accident Severity Percentage and Contributing Factor

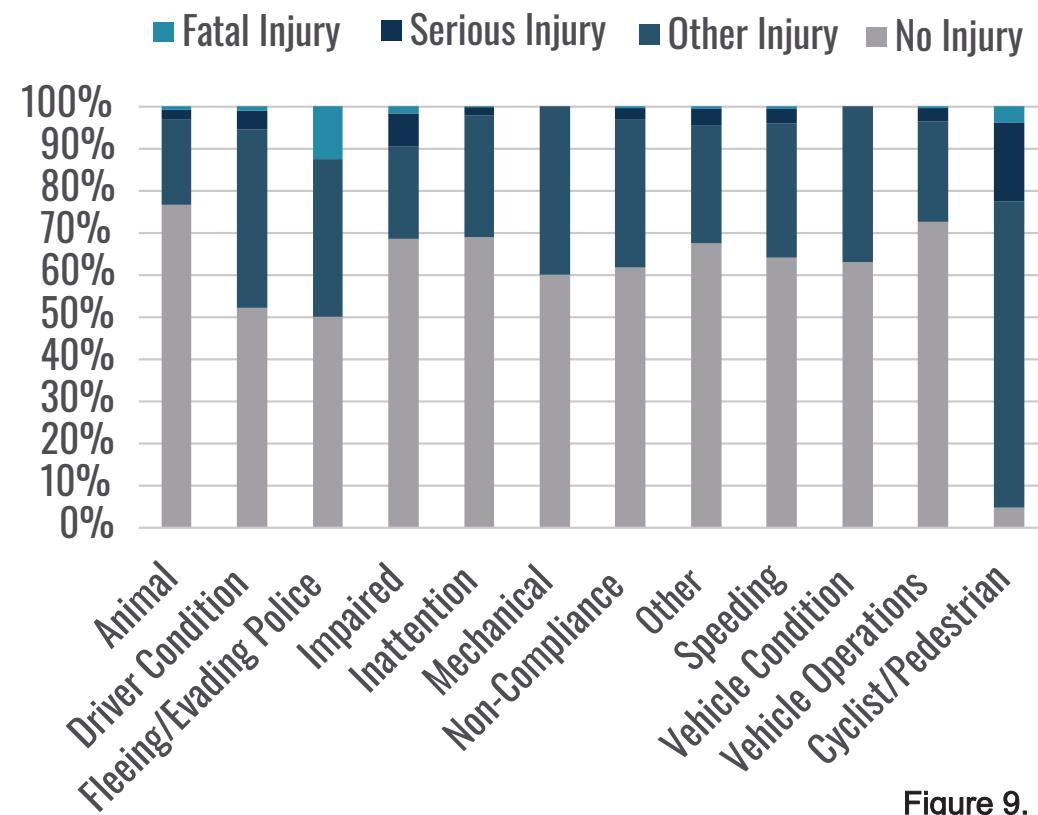


Figure 9.

IMPORTANT NOTES:

After analyzing the data in a non-geographic format, the team found consistent flaws in the data attributes. About 4.2% of crashes within Comal and Guadalupe counties did not contain any latitude and longitude, making them difficult or impossible to represent spatially. These crashes were left out of final analysis. A total of 277 crashes were recorded but lacked latitude and longitude to perform further analysis.

Other fields did not have attribute information for key field. For example, active school zones were only on roadways maintained by TxDOT, making this field unusable for analysis of New Braunfels local facilities. The same fault was found in median barrier and divided roadway and in many cases roadway function.

Furthermore, the team found consistent errors in the locations of these crashes. In the CRIS data system, roadway crashes are attributed to the centerline of the roadway. This means that crashes happen on an interstate facilities access road were attributed to the centerline of the interstate facility. Additionally, any errors in the centerline of a road meant that those crashes were no longer attributable to the roadway, sometimes being up to 600 feet off the actual roadway, especially in rural areas within New Braunfels. **In summary, the planning team found a need to take additional steps to validate and analyze the point crash data available before using it to inform the Priority Network.**

Of all the attributes recorded in the CRIS dataset, the plan uses 10 attributes found to be consistently accurate or correctable with geographic information systems (GIS) analysis:

CRASH SEVERITY **BIKE/PEDESTRIAN INVOLVEMENT**
SPEED RELATED **RIGHT TURN** **LEFT TURN**
LANE CHANGE **LIGHT CONDITION** **INTERSECTION RELATED**
CONSTRUCTION ZONE **SCHOOL/PARK PROXIMITY**
(AT TIMES OF FREQUENT SCHOOL AND PARK TRAVEL)

The above “Analysis Attributes” were also chosen because they all feature attributes of a crash that are essential for prioritizing roadways (the presence of a severe or fatal crash) or that can be changed through design (speeding, left turns, lighting conditions, etc.). Other frequently fatal crash factors, such as Fleeing the Police, are not susceptible to improvement through design, and are thus excluded. Narrowing of the analysis attributes is consistent with this plan’s goal to both prioritize roadways and prescribed interventions.

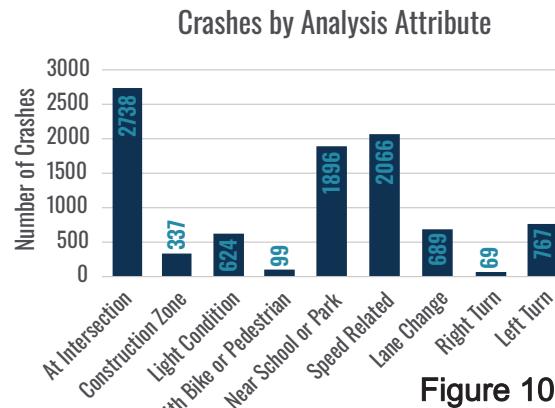


Figure 10.

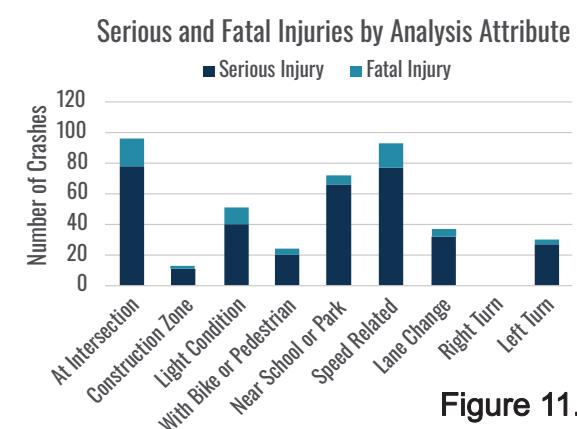


Figure 11.

The factor associated with the highest total number of serious or fatal crashes was intersection related, followed by speed related and school/park proximity. Intersection relation, school/park proximity, and speed are the three factors that apply to the most crashes. But by far, the factor causing the highest proportion of serious injuries and fatalities was bike/pedestrian involvement, followed by light conditions and lane change.

Proportion of Serious and Fatal Injuries by Analysis Attribute

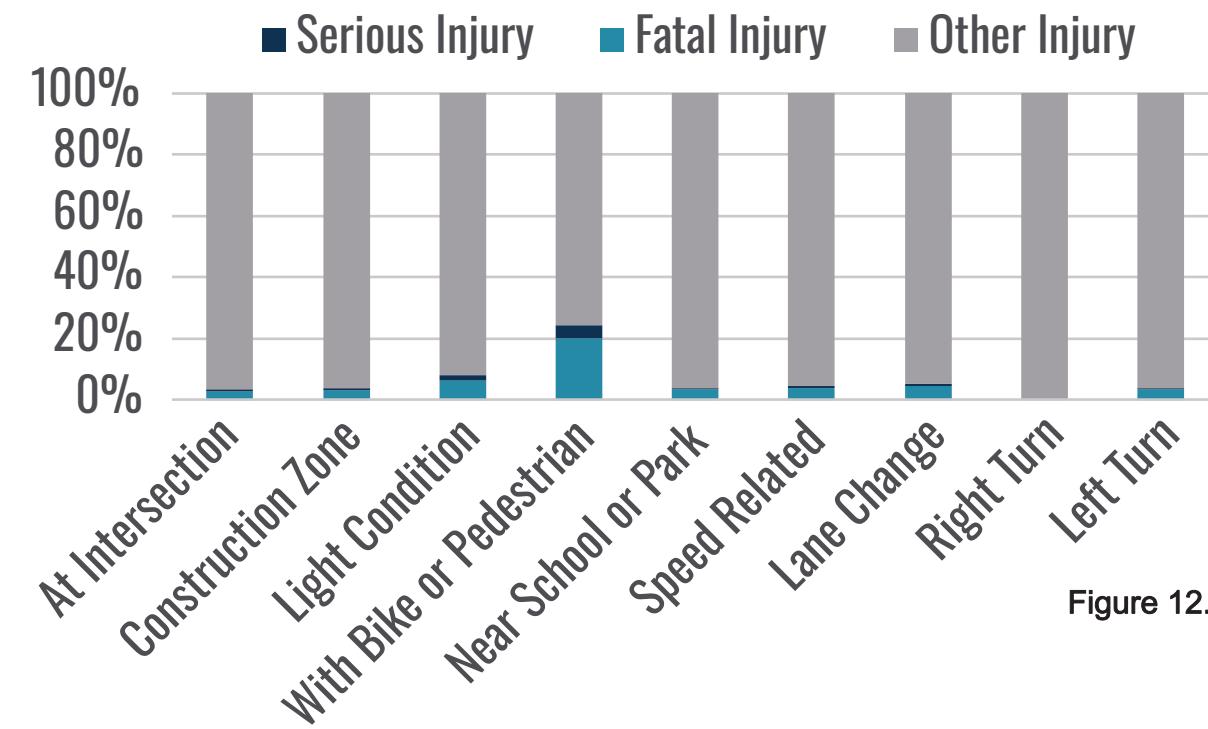
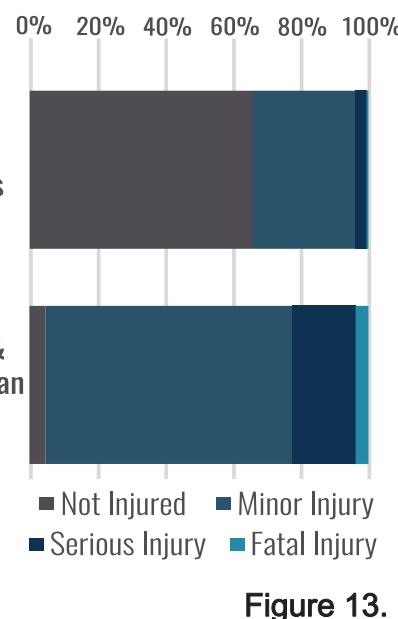


Figure 12.

Pedestrians and cyclists experience increased danger on the road compared to people in vehicles. Pedestrians and cyclists are almost 6 times more likely to sustain a serious or fatal injury than a person who was in a vehicle at the time of the crash (less than 4% of drivers sustained a serious or fatal injury from a crash). If you are in a vehicle at the time of a crash in New Braunfels today, you have about a 64% chance of walking away from the accident uninjured. If you are a cyclist or a pedestrian, your chances of leaving uninjured reduce to under 5%.

Injury Severity: Vehicle vs. Cyclist/Pedestrian Crashes



IMPORTANT NOTES:

Most crashes recording in the CRIS dataset are the result of property damage to vehicles involved in a given crash. As a result, if a bike user or pedestrian is involved in a crash and both the vehicle and the cyclist or pedestrian is unimpacted, this crash may not be entered into the CRIS system and be considered a “near miss”. **These near miss crashes are not included in this analysis.**

NEW BRAUNFELS VULNERABLE ROAD USER SAFETY REPORT

Bike users and pedestrians are particularly vulnerable road users in New Braunfels – accounting for only 1.5% of total crashes, but 10.1% of severe crashes and 9.5% of fatal crashes. Because of the differential severity of crashes involving pedestrians and bike users, this plan features solutions for bikes and pedestrians prominently and includes this Bike and Pedestrian-specific safety report.

Between 2018 and 2022, 107 crashes involving either a bicyclist or a pedestrian occurred in New Braunfels, accounting for only 1.5 % of all crashes. Forty-five (42%) of these crashes involved cyclists and 62 (58%) involved pedestrians. During this time period, there were no cyclist fatalities, but there were 8 serious cyclist crashes (nearly 18% of all cyclist crashes). There were 16 serious or fatal pedestrian crashes (over 25% of all pedestrian crashes). Four (6%) of these pedestrian crashes resulted in fatalities. Twelve (19%) resulted in serious pedestrian injuries.

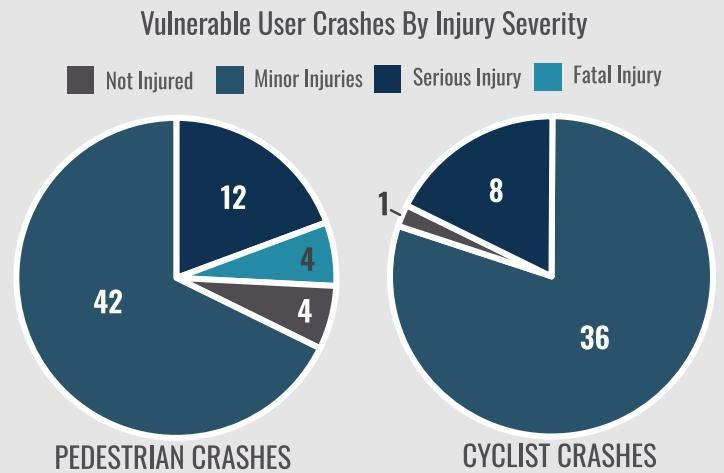


Figure 14.

Bike and pedestrian crashes tend to happen more often in the afternoon and nighttime, with a spike also happening around 8am to 9am. Approximately 66% (71) crashes occurred from 1pm to 5 pm. The most lethal hour was 10pm to 11pm, with two serious injuries and one fatality. Lighting conditions play a large role in late night crashes for cyclists and pedestrians and should be considered for priority roadways for walkability and bike use.

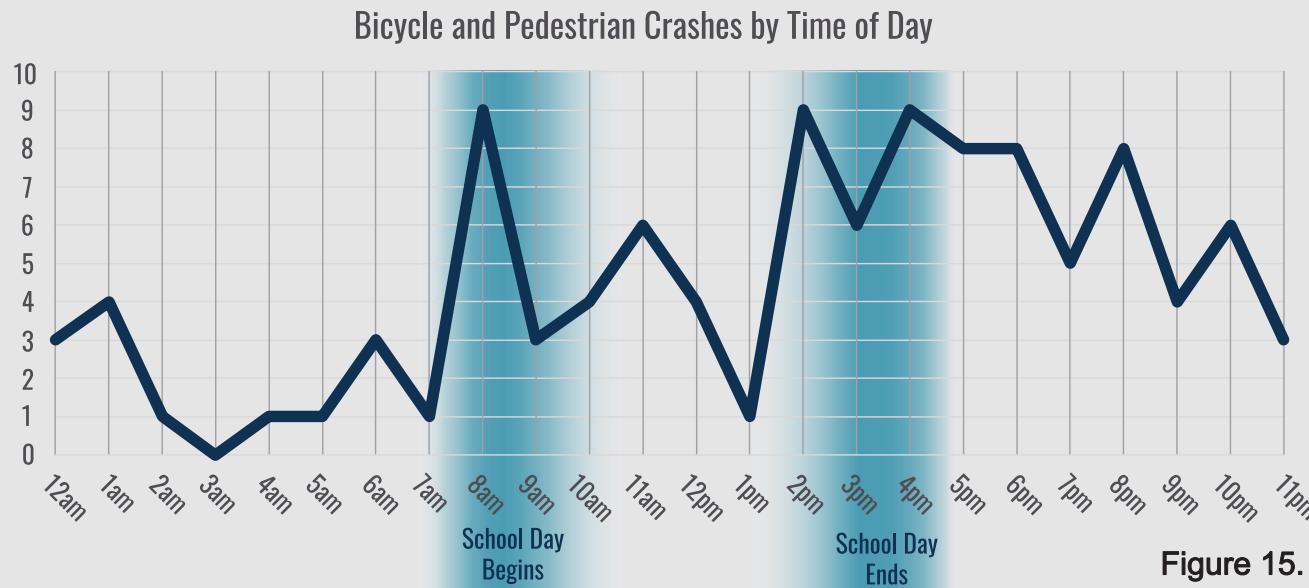


Figure 15.

Pedestrians failing to yield to the right-of-way of vehicles make up the highest percentage of cyclist and pedestrian crashes. This factor is also the highest raw number of pedestrian crashes by far. This highlights the need for more accessible and protected pedestrian infrastructure, as well as pedestrian safety education. Driver errors, including vehicle operations, non-compliance, and inattention, make up 58% of cyclist and pedestrian crashes. Driving impaired, the vehicle's condition, the driver's condition, and other factors caused few accidents relative to other factors.

Cyclist and Pedestrian Crash Factors

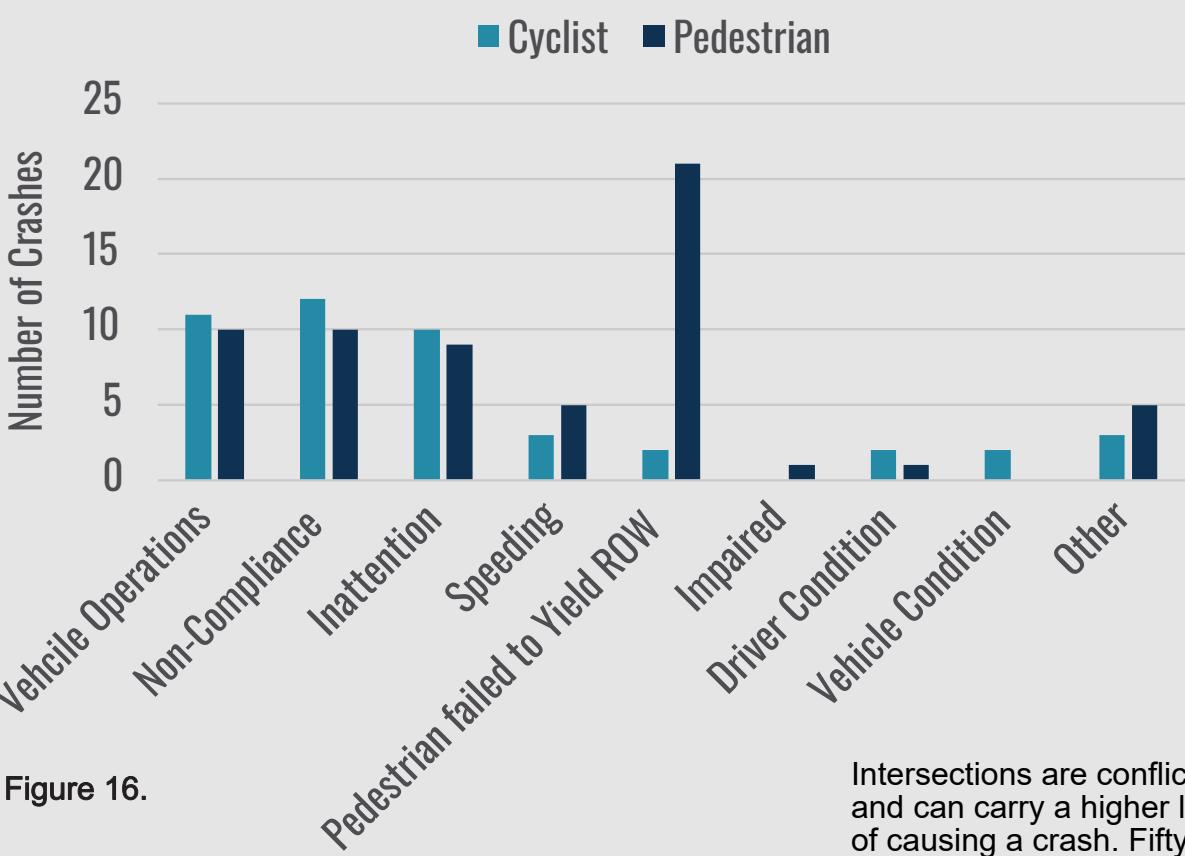


Figure 16.

Intersection Involvement in Bicycle and Pedestrian Crashes

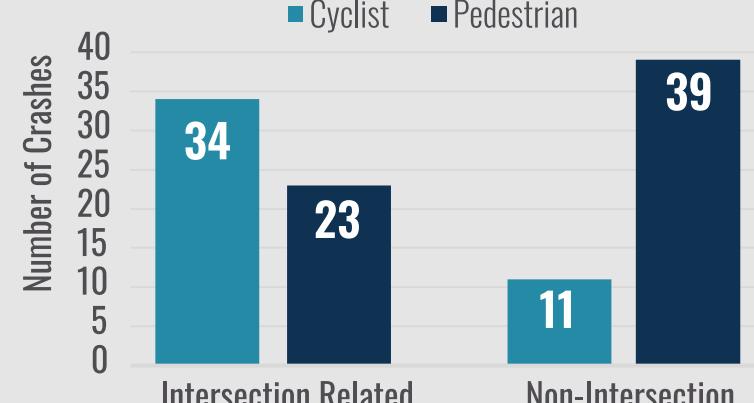


Figure 17.

Intersections are conflict points and can carry a higher likelihood of causing a crash. Fifty-three percent of crashes involving cyclists or pedestrians occurred at an intersection (including driveway access points). Seventy-five percent of cyclist crashes happened at intersections, while intersection crashes accounted for only thirty-seven of pedestrian crashes. Forty percent of crashes that occurred in a non-intersection area were attributed at least partially to the pedestrian's failure to yield right-of-way to the vehicle. This is likely due to jaywalking, which indicates the increased need for strategically-placed mid-block crossings.

PUBLIC & STAKEHOLDER ENGAGEMENT

On November 15, 2023, the City of New Braunfels held a Street Safety Stakeholder workshop followed by a public meeting. Stakeholder and public engagement is a crucial part of the planning process. For the methodology employed by the SSAP, stakeholder and public input was particularly important because their ranking of the factor weighting criteria was used to develop the final high-injury network.

The SSAP relies on support from various members of the New Braunfels community. A group of diverse stakeholders was asked for input and guidance during the SSAP development process as described further in this section. Invitees were decision-makers from the greater New Braunfels area and Comal County who represent agencies that will be impacted by the SSAP, as well those that may be involved in implementing it.



Following adoption of the SSAP by the New Braunfels City Council, the Council's Transportation & Traffic Advisory Board will serve as the SSAP Steering Committee.

The stakeholder meeting began with a presentation on the goals of Vision Zero, how they complement the City's existing safety goals, an overview of the preliminary high-injury network (HIN), and preliminary ideas for addressing high-injury areas. Following the presentation, the team opened the floor to the stakeholders to provide input on their specific safety concerns and what ideas they have to address them.



Overall, the group felt that achieving zero traffic deaths requires a multifaceted approach, including **design, education, planning, and enforcement**. They asked that the City explore **dedicated facilities, bulb-outs at intersections, speed tables, roundabouts, and impactful signage** for improved safety. They also felt that development of a comprehensive traffic plan for the entire city was needed. Stakeholders concurred that **education** was key to the success of the SSAP. They suggested ideas like incorporating the **Safe Streets pledge** into the license process and utilizing various channels like NBU mailouts and social media for traffic law education. Enforcement was discussed extensively as well. Stakeholders felt that the potential impact of increased police presence on overall safety should be assessed, and that the City should consider **shifting policy priorities from congestion to safety**. The group agreed that increased DWI enforcement was necessary and recognized that it may require additional funds for hiring more officers.

Following completion of the stakeholder meeting, the planning team opened the space up for a public meeting seeking for similar input but placing a higher priority on specific activities that were designed to encourage participants to think outside the box when it comes to safety and quality of life in New Braunfels.

11/15/23

COMMUNITY & STAKEHOLDER WORKSHOP



LOCALIZING THE VISION ZERO APPROACH

The planning team created five activity stations for both stakeholders and the public to learn about Vision Zero principles and practice applying them to streets in their own communities. These stations allowed them to provide input spatially, graphically, and textually to create a community-driven action plan. Stakeholders and members of the public demonstrated a strong interest in adopting both safe street design and improved enforcement of safe driving behaviors.

RESIDENT FEEDBACK WHEN MAKING RECOMMENDATIONS

Responding to public input, the planning team was able to adjust its crash analyses. Crashes involving pedestrians or cyclists, crashes occurring at intersections, and speeding-related crashes were weighted more heavily than other types of crashes in follow-up analyses, yielding a community-driven list of high priority roadways. Public input afforded New Braunfels both a data- and community-driven plan and process.

ACTIVITY 1: WALL OF OPTIONS



Using hundreds of images representing different urban amenities and street designs from across the world, the public was tasked with placing images in two different categories on the wall: features that would make them feel safer on New Braunfels streets and features they want to see more of in their city. As a broad visioning exercise, this station helped reveal a strong preference for protected bike infrastructure to allow residents of all ages and abilities to ride in the street without fear of being struck by a vehicle. The public also showed a preference for human-scale, mixed-use developments as opposed to car-oriented design, signaling that public wants land-use that accommodates walking, biking, and transit.



Wall of Options Results

- What Do You Hope or Want to See in Your Neighborhood?
- What Would Make You Feel Safe on New Braunfels Streets?

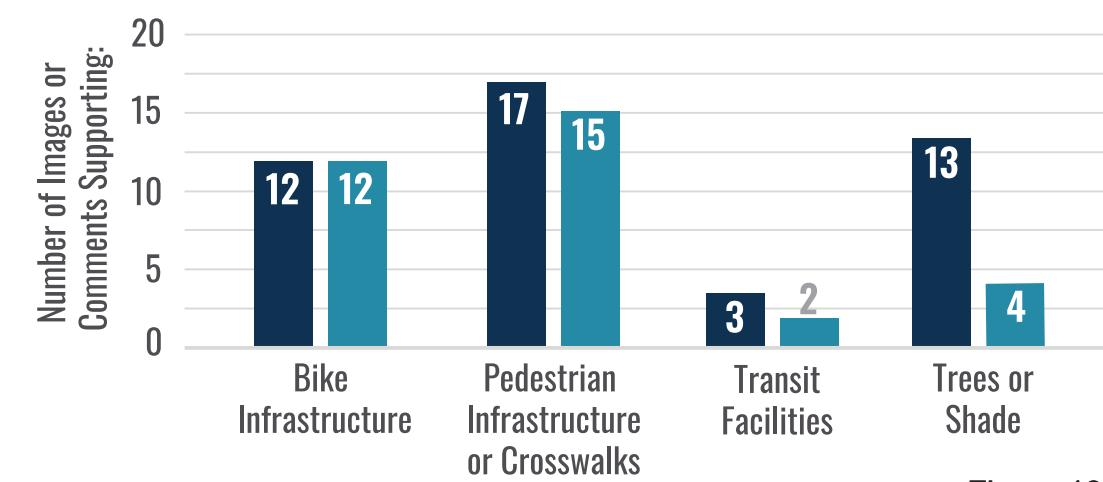
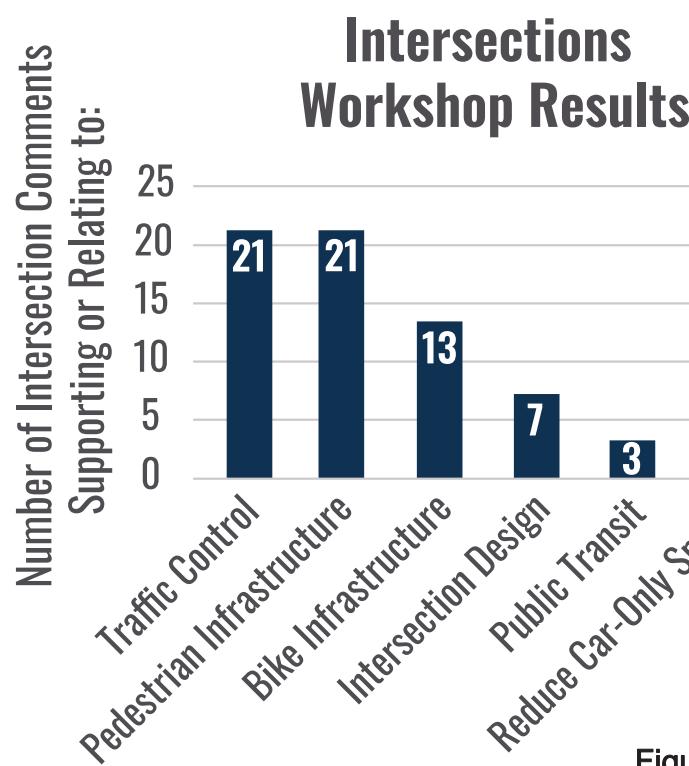
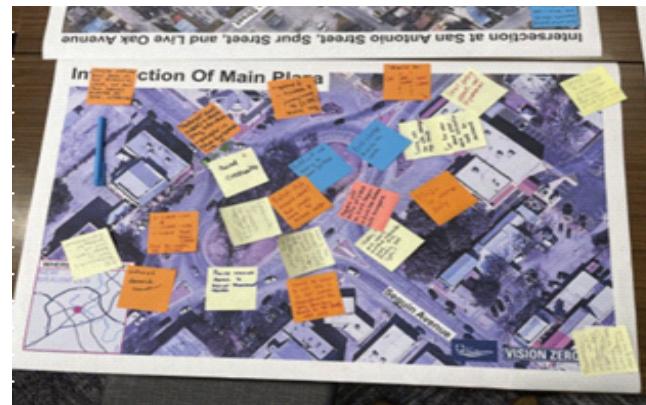


Figure 18.

ACTIVITY 2: PRIORITY INTERSECTIONS

Ten of the most dangerous intersections were presented to the public—five on local roads and five on TxDOT facilities. They were then asked to identify both problems with the intersections' current designs and ways to make them safer. Many participants suggested adding dedicated facilities for pedestrians and cyclists on streets accommodating only cars. Narrowing vehicular travel lanes, improving signage and street markings, and improving crosswalks were also suggested. Additionally, people were concerned about the pedestrian and bike safety for intersections with slip lanes.

Multiple members of the public shared their experiences walking and biking in New Braunfels and said that due to the missing pedestrian and bike infrastructure, they were less likely to walk or bike because it felt unsafe. They said they would be willing to walk or bike more frequently if streets had dedicated facilities for each type of user, rather than combining all road users into one facility.



MAIN PLAZA

Members of the New Braunfels public had many thoughts about the current design of the center of their city, Main Plaza. Attendees suggested adding crossings to the center of the plaza, adding rumble strips to the approach of the roundabout, and reducing the roundabout to one lane. Some attendees questioned why the intersection couldn't be shut down to vehicular traffic permanently.

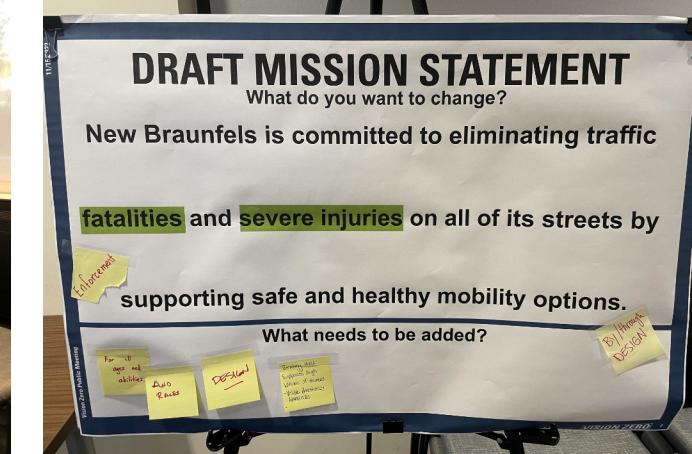


ACTIVITY 3: MISSION STATEMENT

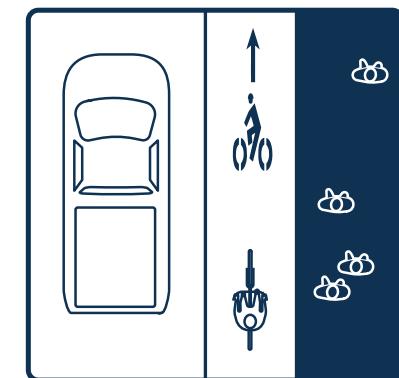
The draft Safe Streets mission statement was displayed for stakeholders and the public. To localize Vision Zero principles to the unique context of New Braunfels, they were asked to add their thoughts and suggest changes to a draft mission statement. An emphasis on design and enforcement of unsafe behaviors was evident in the comments received, revealing the public supports both safe design and enforcement to prevent severe and fatal crashes. In short, the residents of New Braunfels want to achieve Vision Zero in their city.

The draft mission statement presented to stakeholders and the public read as follows: New Braunfels is committed to eliminating traffic fatalities and severe injuries on all of its streets by supporting safe and healthy mobility options. Half of all notes placed on the board were related to street design. Through further discussion with members of the public, the team also determined that enforcement of safe driving behaviors—especially driving under the influence—is necessary to achieve zero deaths and serious injuries on New Braunfels's streets.

Input from both stakeholders and the public led to the update of the New Braunfels Safe Streets mission statement:



NEW BRAUNFELS IS COMMITTED TO ELIMINATING TRAFFIC FATALITIES AND SEVERE INJURIES ON ALL OF ITS STREETS BY IMPROVING ROADWAY DESIGN, EXPANDING SAFE DRIVING ENFORCEMENT, AND SUPPORTING SAFE AND HEALTHY MOBILITY OPTIONS FOR ALL AGES AND ABILITIES.



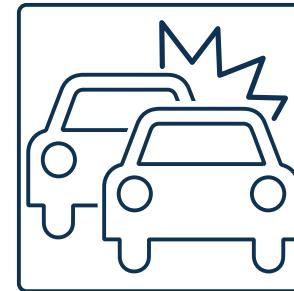
ACTIVITY 4: IDEA BOARDS

The public was asked to respond to the following broad questions regarding street safety and strategies to make streets safer:

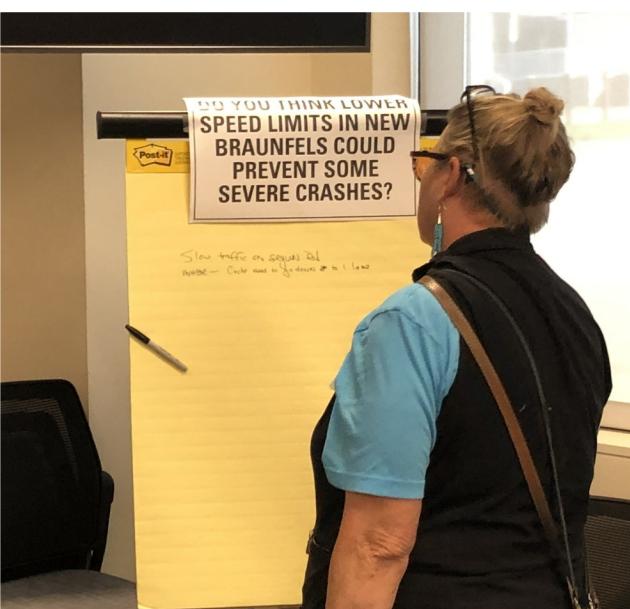
1. WHAT DO YOU THINK WOULD SLOW TRAFFIC DOWN, OR MAKE DRIVERS BEHAVE DIFFERENTLY, ON YOUR STREET?

2. DO YOU THINK LOWER SPEED LIMITS IN NEW BRAUNFELS COULD PREVENT SOME SEVERE CRASHES?

3. WHAT PART OF NEW BRAUNFELS DO YOU FEEL IS THE LEAST SAFE TO WALK, BIKE, OR DRIVE?



Analyzing the unfiltered responses, the planning team found that stakeholders and the public emphasized design as a main solution to street safety in New Braunfels; enforcement of traffic laws and educational campaigns were also frequently mentioned. Traffic calming techniques that make it difficult or impossible for people to drive erratically were favored over simply lowering speed limits. Even then, stakeholders and the public recognized that some unsafe behaviors, such as drunk driving, could not be addressed solely through design, and that enforcement would be needed to prevent severe crashes.



“Lower speeds will give people more time to react, decreasing stopping distance, and reduce crash severity”

Attendees also expressed strong support for educational campaigns about safe driving and traffic calming infrastructure, targeting new drivers and existing drivers alike to encourage safe travel and inform the public about new traffic calming infrastructure.

ACTIVITY 5: CRASH FACTOR PRIORITIZATION

Using data from the TxDOT CRIS database and a unique attribute prioritization method, the planning team created a fine-tuned heat map of all collisions in the City of New Braunfels, weighting each crash factor equally.

Participants were then asked to comment on the team's methodology by giving input about what types of crashes should be highlighted in the Vision Zero analysis. Attendees placed dots on the crash factors that were the most important to them, which revealed that crashes involving pedestrians or cyclists, crashes at intersections, and speeding-related crashes were the biggest concerns for people living in New Braunfels.

Stakeholders and the public also used the heat maps to point to places they felt were particularly unsafe but were not flagged in the planning team's original analysis.

This exercise allowed the public to use data to identify locations along New Braunfels's streets where design intervention is needed, helping to create a community-driven approach for prioritizing street improvements.

CRASH FACTORS ANALYZED:

FACTOR:	WHY IT WAS CHOSEN:
Bike/Pedestrian Involvement	Increased bike or pedestrian can increase safety in areas where bike/ped-related crashes are frequent and/or severe.
Crash Severity	Crash severity ranges from No Injury to Fatality. Traffic control measures should be implemented to prevent serious crashes.
Lane Change	Additional traffic control measures may be needed where lane changes consistently result in crashes.
Light Conditions	Unlit areas may warrant streetlights or traffic control measures.
Occurred in Construction Zone	Construction workers (pedestrians) are present in close proximity to moving vehicles, as well as more hazardous road conditions.
Occurred at Intersection	Intersections are potential points of conflict, and they may have more options for implementing/changing the traffic control methods.
Speed Related	Reduced speed limits may be indicated in areas where speed-related crashes are more frequent.
Turns	Additional turn-specific traffic control measures may be needed where left and/or right turns consistently result in crashes.

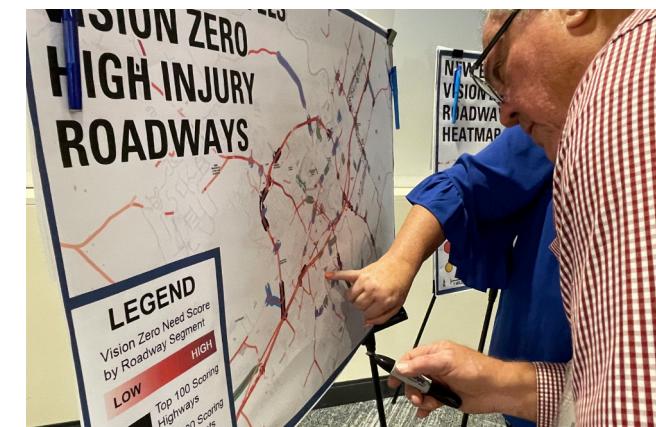
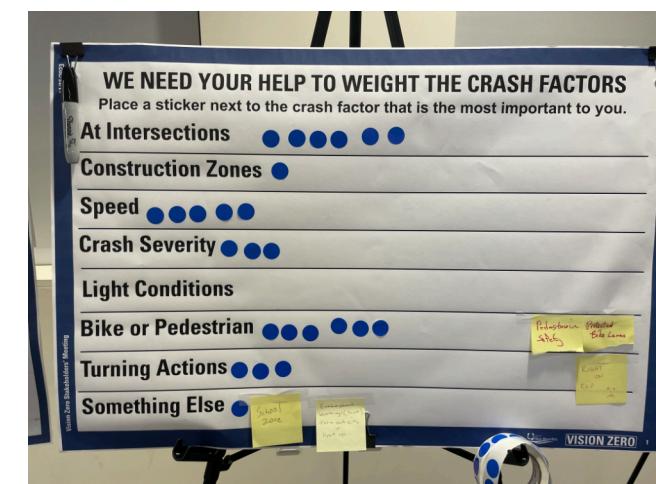


Figure 20.

DEFINING PRIORITY ROADWAYS

HOW DOES THIS PLAN DEFINE ITS HIGH PRIORITY ROADWAYS?

The New Braunfels SSAP employs a unique methodology to develop the New Braunfels Priority Network. This method was designed to accomplish two equally important goals of the SSAP:

1. Prioritize roadways based on the quantity and frequency of severe and fatal crashes
2. Prescribe potential solutions based on specific crash attributes and contributing factors for both severe/fatal crashes and non-severe crashes.

Understanding both the cause and the result of crashes plays a role in developing safety solutions. Knowing where the highest number and the most severe crashes are happening is important to begin the work of preventing these crashes, but determining what factors have the potential to contribute to more frequent and/or more severe crashes allows for the recommendation of targeted interventions. This analysis culminates into the New Braunfels Safe Streets Priority Network.

The Safe Streets Implementation Table (pages 38 and 39) lays out a statistically-based methodology for determining where crashes are happening and why. This methodology is based on the fact that many crashes are caused by street designs that can be changed.

The Safe Streets Toolkit (page 40) then provides street and intersection design options for addressing crashes that happen for a variety of reasons and in different contexts. This toolbox provides the City with a catalog of traffic calming strategies that can be deployed on its path to zero traffic deaths and severe injuries.



METHODOLOGY

This plan combined TxDOT CRIS data with other essential data points including the type of roadway facilities and 10 “Analysis Attributes.” However, the transformation of this data from points and lines on a map to a priority network is complicated by the inaccuracy of exact crash locations. Shown below is a flow chart detailing the process for creating the Priority Network, which will be expanded on in maps included in this chapter.

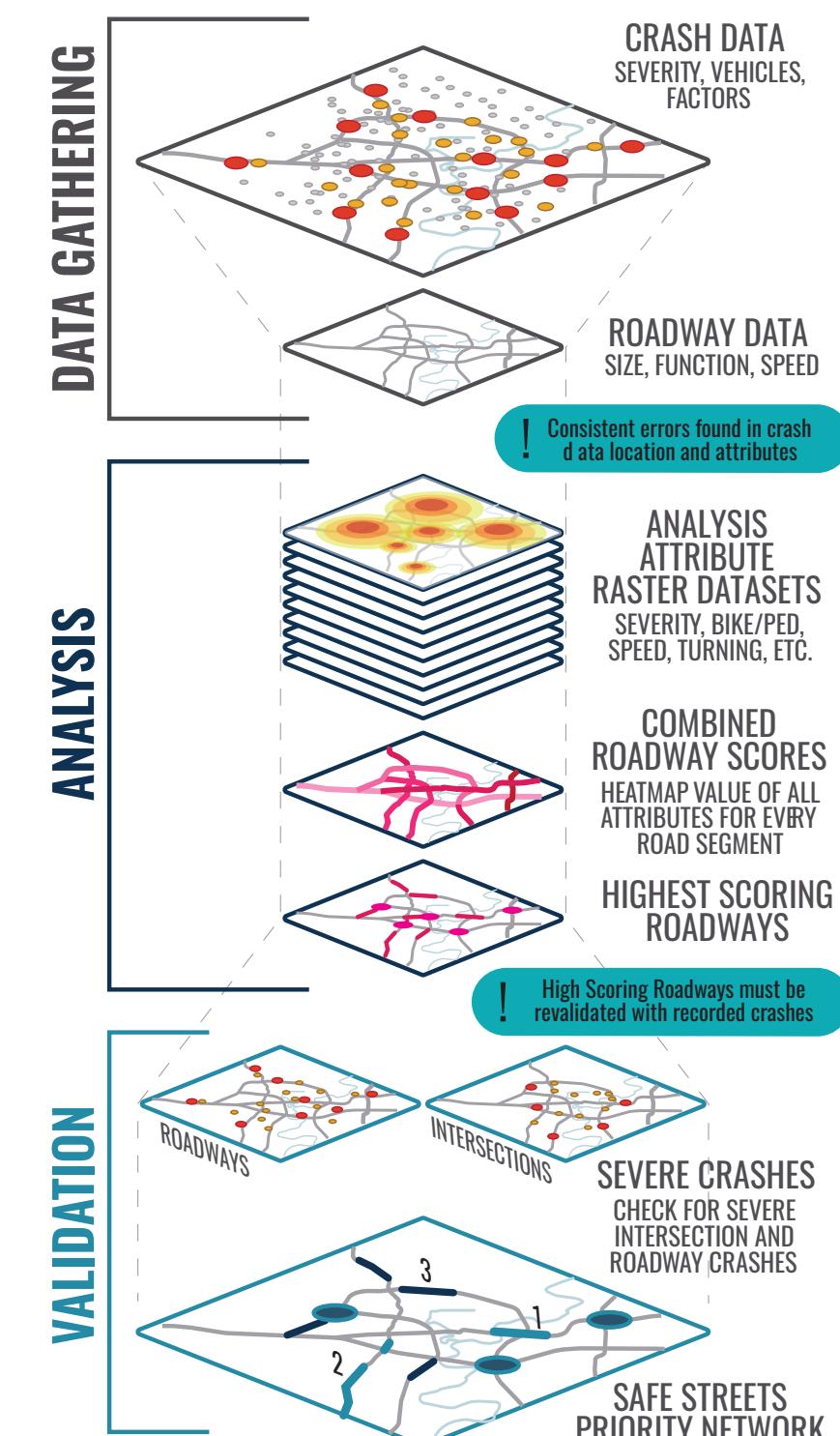


Figure 21.

This analysis controls for small errors in the location of individual crash points by aggregating the point data into Inverse Distance Weighted (IDW) heat maps for each of the ten analysis attributes. These datasets control the spread of the “peaks” (locations with frequent crashes of the same analysis attribute) to 60 feet (the average width of the Right-of-way in Downtown New Braunfels Streets). This creates scores to account for frequent crashes of the same type at the same locations along New Braunfels Roadways. All these values are added together to create a Combined Roadway Score for every roadway. The highest scoring roadways and intersections are then selected.

Finally, high scoring roadways that have not had any severe or fatal crashes in the analysis window are filtered out.

ANALYSIS ATTRIBUTES:

This plan identified ten Analysis Attributes to be included in the Priority Network analysis. To transform this point data into heat maps, each attribute had to be given a “weight”. These attributes, their justification for inclusion, and their weighting for the heat map datasets is shown in the table below.

ANALYSIS ATTRIBUTE	DATA ORIGIN	REASON CHOSEN	WEIGHTING IN HEAT MAPS
AT INTERSECTION	CRIS Location Details	Crashes may have a higher chance of occurrence at intersections because of the multiple potential points of conflict.	Binary 10 Yes, otherwise 0
CRASH SEVERITY	CRIS Severity	In areas with a higher concentration of more serious crashes, traffic control measures may need to be reevaluated.	10 for fatal injury, 7 for severe, 3 for possible and minor injuries, otherwise 0
LIGHT CONDITIONS	CRIS Driving Conditions	Areas where crashes typically occur during the night in unlighted areas may need additional streetlights or traffic control.	Binary 10 Dark Not Lighted, otherwise 0
CONSTRUCTION ZONE	CRIS Driving Conditions	Construction zones often have construction workers (pedestrians) present in close proximity to moving vehicles	Binary 10 Yes, otherwise 0
LANE CHANGE	CRIS Contributing Factors	If crashes occur while one or both involved units were changing lanes, such locations warrant additional traffic control measures.	Binary 10 Changed Lane When Unsafe, otherwise 0
LEFT TURN	CRIS Contributing Factors	This factor identifies whether the crash happened while one or both involved units was turning left, potentially indicating the need for additional turn-specific traffic control measures.	Binary 10 Turning Left Cut Corner on Left, otherwise 0
RIGHT TURN	CRIS Contributing Factors	This factor identifies whether the crash happened while one or both involved units was turning right, potentially indicating the need for additional turn-specific traffic control measures.	Binary 10 Wide Right, otherwise 0
SPEED RELATED	CRIS Contributing Factors	Areas where speed-related crashes are more frequent could benefit from traffic control strategies that reduce speeds.	Binary 10 Speeding, Failed to Control Speed, Unsafe Speed, otherwise 0
VULNERABLE ROAD USER	CRIS Person Type Details	Areas with frequent crashes that involve pedestrians or cyclists could indicate that increased bike or pedestrian infrastructure is needed to increase safety.	Binary 10 If Involving a bike or pedestrian, otherwise 0
PROXIMITY TO SCHOOLS AND PARKS	Calculated Location Details	Crashes that occurred closer to schools or parks have a higher probability of injuring pedestrians or children walking in the area and could indicate the need for increased traffic control methods.	Binary 10 for crashes within $\frac{1}{4}$ mile from school or park occurring between the hours of 7am-10am and 2pm-5pm, Monday through Friday, otherwise 0

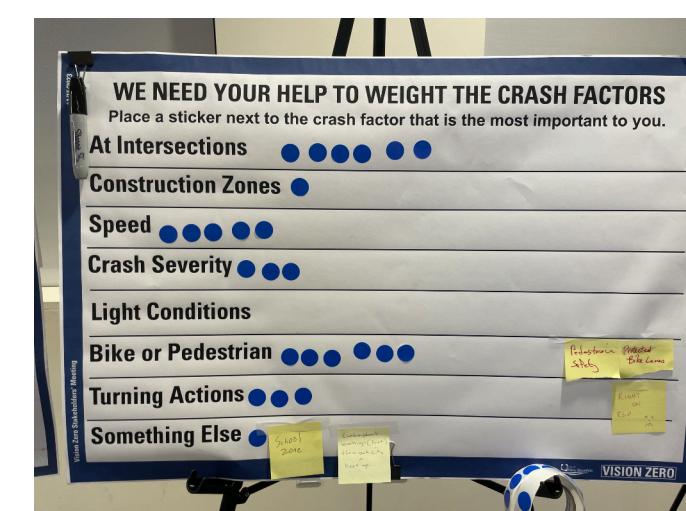
Figure 22.

NOTES ON DATA TRANSFORMATION:

The process of creating heatmaps is below:

1. Using ArcGIS Pro and Microsoft Excel, Binary fields (with either 0 or 10) were weighted so that individual heat maps could be created; these are the heat maps that show only crashes that happened in a specific scenario, e.g. during the night in an area with no lighting. The Crash Severity field was ranked 0 through 10 based on increasing crash severity. These weights were recorded in a separate third spreadsheet with each classification corresponding to a numbered weight. Referencing this spreadsheet, individual Excel VLOOKUPs were performed to match the weight designations to each weight field in the primary spreadsheet.
2. Merge the Crash Point Dataset with a blank point dataset for Comal and Guadalupe Counties with points spaced 60 feet apart. This was done to create a baseline value of zero for all IDW rasters to prevent the “bleeding” of values away from the point locations of crashes. Sixty feet was chosen as the spacing due to its standard distance of base ROW widths for collector roadway facilities and it being one-fifth the distance of the standard block in New Braunfels’s urban core.
3. Produce a raster using the IDW tool by selecting each analysis attribute field as the chose Z-Value Field, an output cell size of 150, and a power of 1. These settings were chosen to create a high resolution raster and constrained heatmap.
4. Ascribe the Z value of each of these rasters to fields in the Roadways and Intersections datasets using the Add Surface Information tool in ArcGIS Pro.

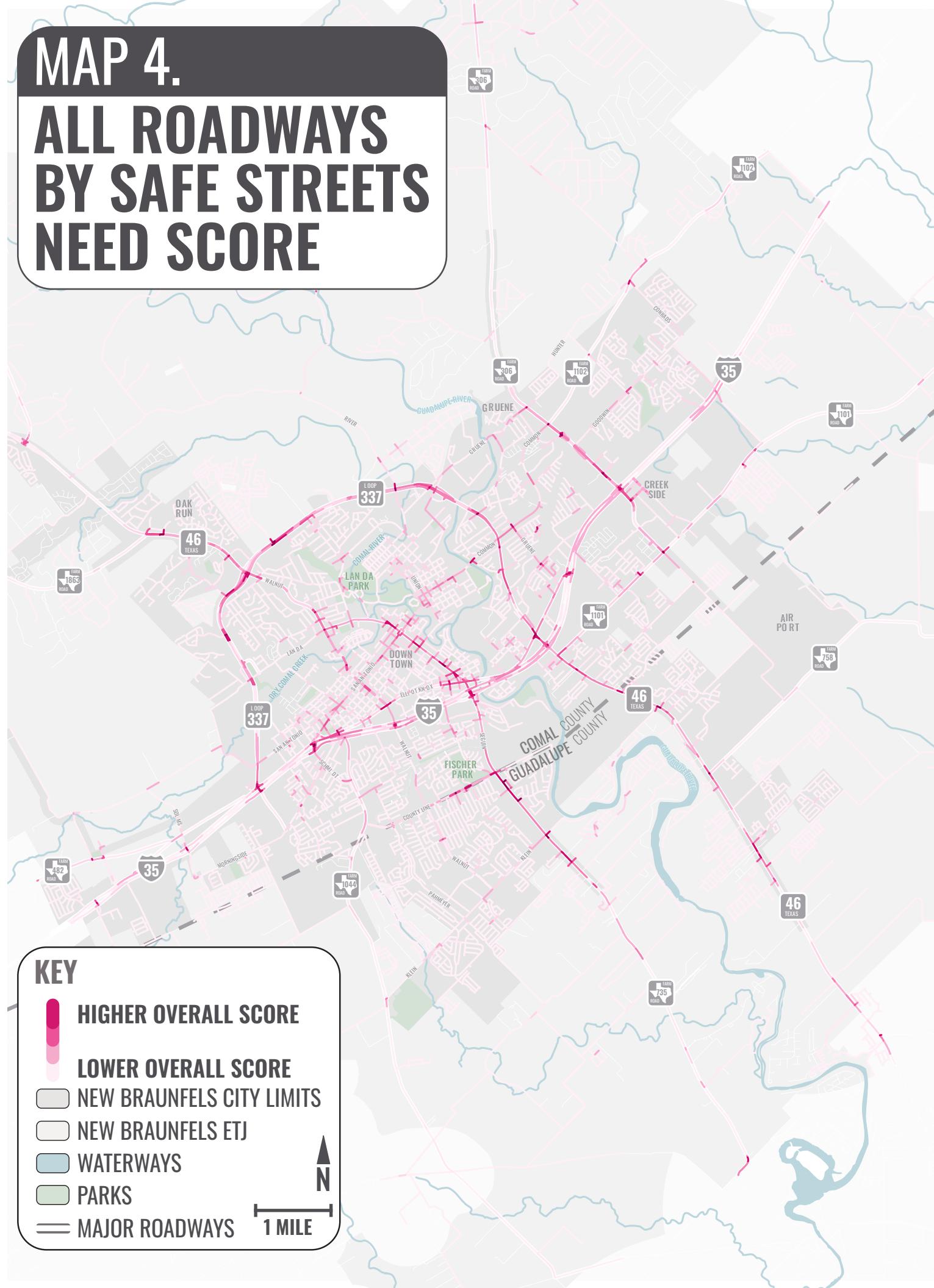
The value of each Analysis Attribute raster was added together into an overall priority score. Before the final analysis, different Analysis Attribute scores were weighted differently, as right turn crashes and speed related crashes do not have the same potential for severe injury. The focus of the Vision Zero approach is to end severe and fatal crashes, which is why severe and fatal crashes were weighted most highly. To ensure that any weighting of final scores reflected the concerns of the New Braunfels community, the weighting methodology for the overall scoring was validated through community engagement. In the Heat Maps activity of the Stakeholder and Community Workshops, workshop attendees rated their priority attributes. The most frequently selected attributes were bike and pedestrian crashes, intersection related crashes, and speed related crashes. These properties were translated into the overall scoring formula below:



(CRASH SEVERITY X 10) + (VULNERABLE ROAD USERS X 7) + (AT INTERSECTIONS X 7) + (SPEED RELATED X 7) + (PROXIMITY TO SCHOOLS AND PARKS X 4) + (LEFT TURN + RIGHT TURN) X 4) + LANE CHANGE + CONSTRUCTION ZONE + LIGHT CONDITIONS = OVERALL SCORE

MAP 4.

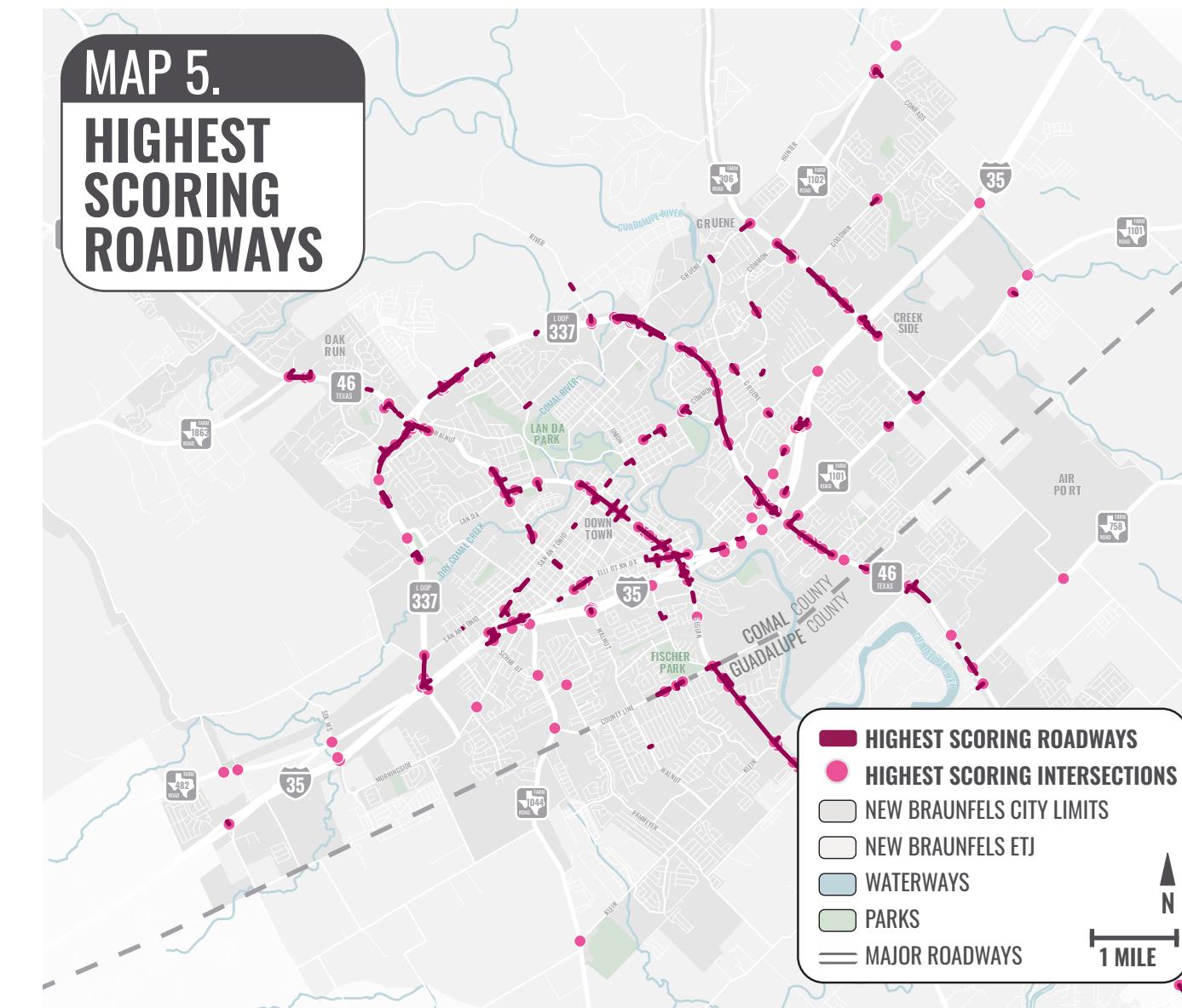
ALL ROADWAYS BY SAFE STREETS NEED SCORE



HIGHEST SCORING ROADWAYS:

Shown in Map 4 are the results of the overall scoring for every roadway. The mean overall score was only 6.42 out of 420 points, showing that most roadways have not experienced fatalities, severe injuries, or crashes across all categories. This roadway “heatmap” is a helpful tool to see key corridors and intersections that may warrant improvement as well as how these roadways connect as a network.

To further refine the prioritization process, roadways and intersections with an overall score greater than two standard deviations above the mean were highlighted as the preliminary priority network. These roadways are highlighted in Map 5.



IMPORTANT NOTE:

High scores indicate that the City should prioritize roadways and intersections that feature frequent severe and fatal crashes and with similar contributing factors. However, to ensure that roadway interventions are not prioritized solely on the total volume of crashes, this Plan revalidates scores with the recorded severe and fatal roadway and intersection crashes within the City of New Braunfels.

SAFE STREETS PRIORITY NETWORK:

The final step in this Plan's analysis of crash data is the identification of the Safe Streets Priority Network (SSPN). This step takes the highest scoring roadways and intersections from the previous analysis and revalidates their scores against raw crash point data, separating roadways from intersections in order to recommend appropriate interventions. Intersections and roadways that scored two standard deviations above the mean score for either category were included in the SSPN if a severe or fatal collision occurred on them in the study window. These top priority intersections and roadways for implementation are shown in bold in the following tables and shown as large lines and circles in Map 6.

Other intersections and roadways that scored two standard deviations above the mean but did not feature a severe or fatal crash are shown in grey. These intersections and roadways may feature frequent non-fatal crashes, which still warranting analysis.

NEW BRAUNFELS OWNED

Roadways

Intersections

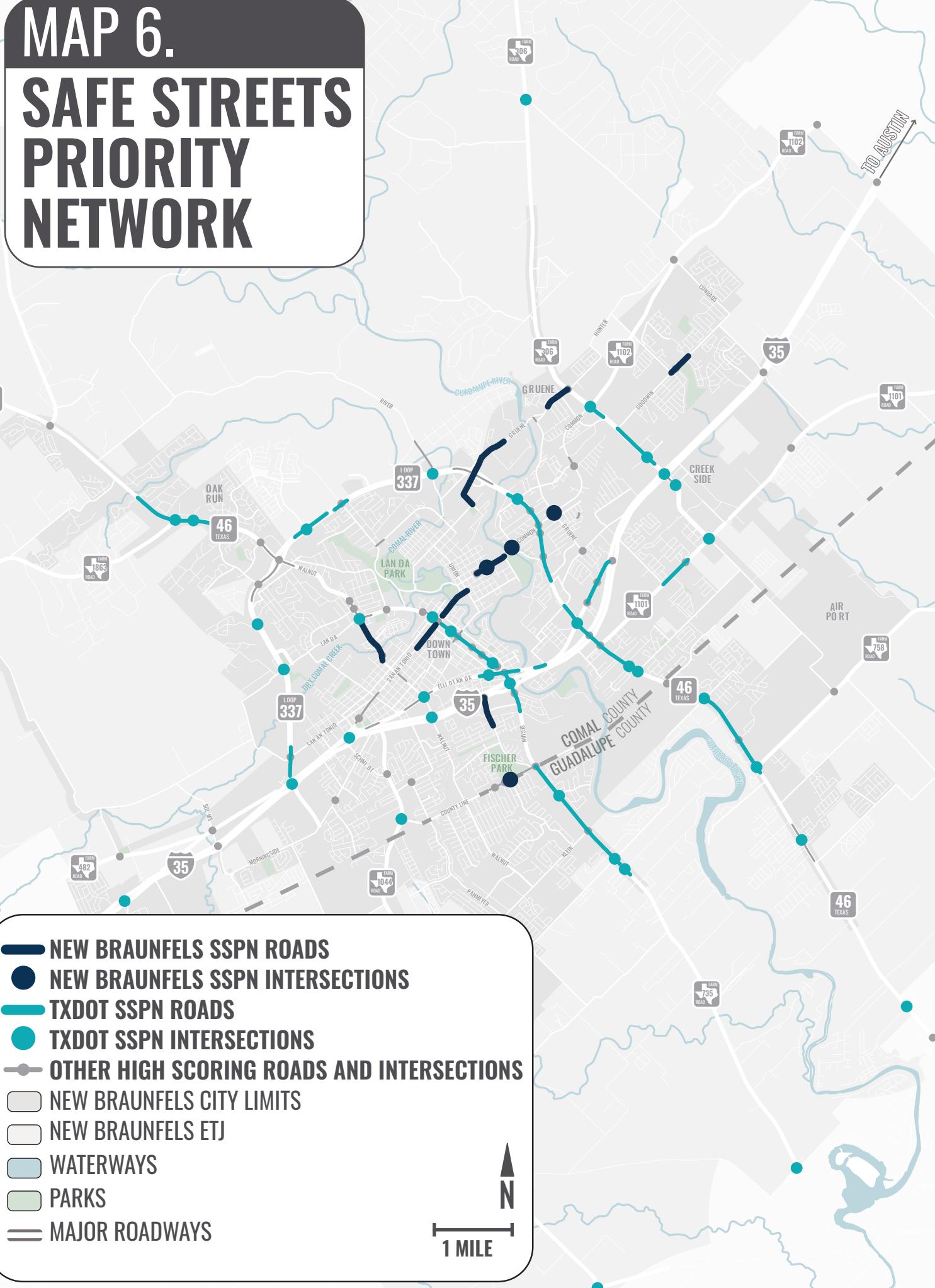
Walnut Ave (Landa St to Bridge St)	Common St at Grant Ave
Common St (Central Ave to Peace Ave)	Common St at Fair Ln
San Antonio St (Comal Ave to Union Ave)	Common St at Gruene Rd
San Antonio St (Ferguson St to Main Plaza)	County Line Rd at Dove Crossing Dr
McQueeny Rd (IH-35 to Melody Ln)	
Gruene Rd (Torrey St to Ewelling Ln)	
Hunter Rd (Rapids Rd to FM 306)	
Goodwin Ln (Orion Dr to Pader)	
Spur St (Hackberry St to Grape Ave)	
Walnut Ave (San Antonio St to Lee St)	
County Line Rd (FM 725 to Cornerstone Dr)	
River Rd (Loop 337 to Edwards Blvd)	
Lakeview Blvd (California St to Lakeview Terrace)	
Garden St (Comal Ave to Castell Ave)	
Denise Dr (Amy Ave to Melissa Ln)	
Common St (Club Crossing to Sundance Pkwy)	
Gruene Rd (New Braunfels St to Hunter Rd)	

Figure 22.

TRAFFIC SIGNALS ON TXDOT-OWNED INTERSECTIONS MARKED WITH AN * ARE OPERATED BY THE CITY OF NEW BRAUNFELS

TXDOT OWNED	
Roadways	Intersections
SH 46 (Sigel Ave to Oak Run Pkwy)	Common St at FM 306*
Loop 337 (NBHS to Castlewood Dr)	FM 306 at Longhorn Industrial Dr*
Loop 337 (California St to Oakwood Blvd)	FM 306 at IH-35
Loop 337 (IH-35 to San Antonio St)	Town Center Dr at Creekside Crossing*
Seguin Ave (Main Plaza to Faust St)	FM 1101 at Barbarosa*
Elliot Knox Blvd (Kuehler Ave to McQueeny Rd)	SH 46 at Avery Pkwy*
Loop 337 (River Terrace to Madison Ave)	SH 46 at FM 758*
SH 46 (Church Hill Dr to Caddell Ln)	SH 46 at Saengerhalle Rd
Seguin Ave (Elliot Knox Blvd to Green Valley Rd)	SH 46 at Rivertree Dr*
FM 306 (Goodwin Ln to Longhorn Industrial Dr)	SH 46 at Elliot Knox Blvd*
FM 1101 (Kowald Ln to Rainy Creek)	Loop 337 at Hanz Dr*
SH 46 (Mary Blvd to FM 758)	Loop 337 at River Rd*
FM 725 (County Line Rd to Joanne Cove)	Loop 337 at Borchers Blvd*
Elliot Knox Blvd (IH-35 to Skyview Ave)	FM 1863 at SH 46*
Walnut Ave (Independence Dr to Ohio St)	SH 46 at Oak Run Pl*
Loop 337 (Walnut Ave to Ridge Hill Dr)	Loop 337 at Stone Crossing
Elliot Knox Blvd (Huisache Ave to Mesquite Ave)	Loop 337 at IH-35
Landa St (Walnut Ave to Primrose St)	Spur St at IH-35
Elliot Knox Blvd (Grape Ave to Magnolia Ave)	County Line Rd at FM 1044
Creekside Crossing (IH-35 to Town Center Dr)	Walnut Ave at IH-35
FM 306 (Common St to Old FM 306)	Seguin Ave at IH-35
Loop 337 (Rock St to Ranch Pkwy)	Elliot Knox Blvd at Castell Ave*
Seguin Ave (Zink St to Main Plaza)	Seguin Ave at Nacogdoches St*
SH 46 (Pieper Rd to Deer Crest Dr)	Elliot Knox Blvd at Walnut*
Walnut Ave (Howard St to Landa St)	FM 725 at Zipp Rd*
Elliot Knox Blvd (McKenna Ave to IH-35)	FM 725 at Southbank Blvd*
	Engel Rd at IH-35
	Seguin Ave at Coll St*
	Seguin Ave at Mill St*
	SH 46 at Alves Ln*
	Landa St at Walnut Ave*
	FM 735 at Redbud Blf
	Landa St at Loop 337 Off Ramps

Figure 23.



SAFE STREETS IMPLEMENTATION TYPE ANALYSIS:

With its SSPN defined, this plan now seeks to determine which of the analysis attributes, and by extension the attributes of frequent and severe crashes, should be addressed to decrease crash severity most effectively on SSPN roadways and improve overall roadway safety and comfort. To analyze needed projects on SSPN roadways, this plan breaks down the overall SSPN score (sum of all analysis attribute scores [see page 31]) into the individual analysis attribute scores.

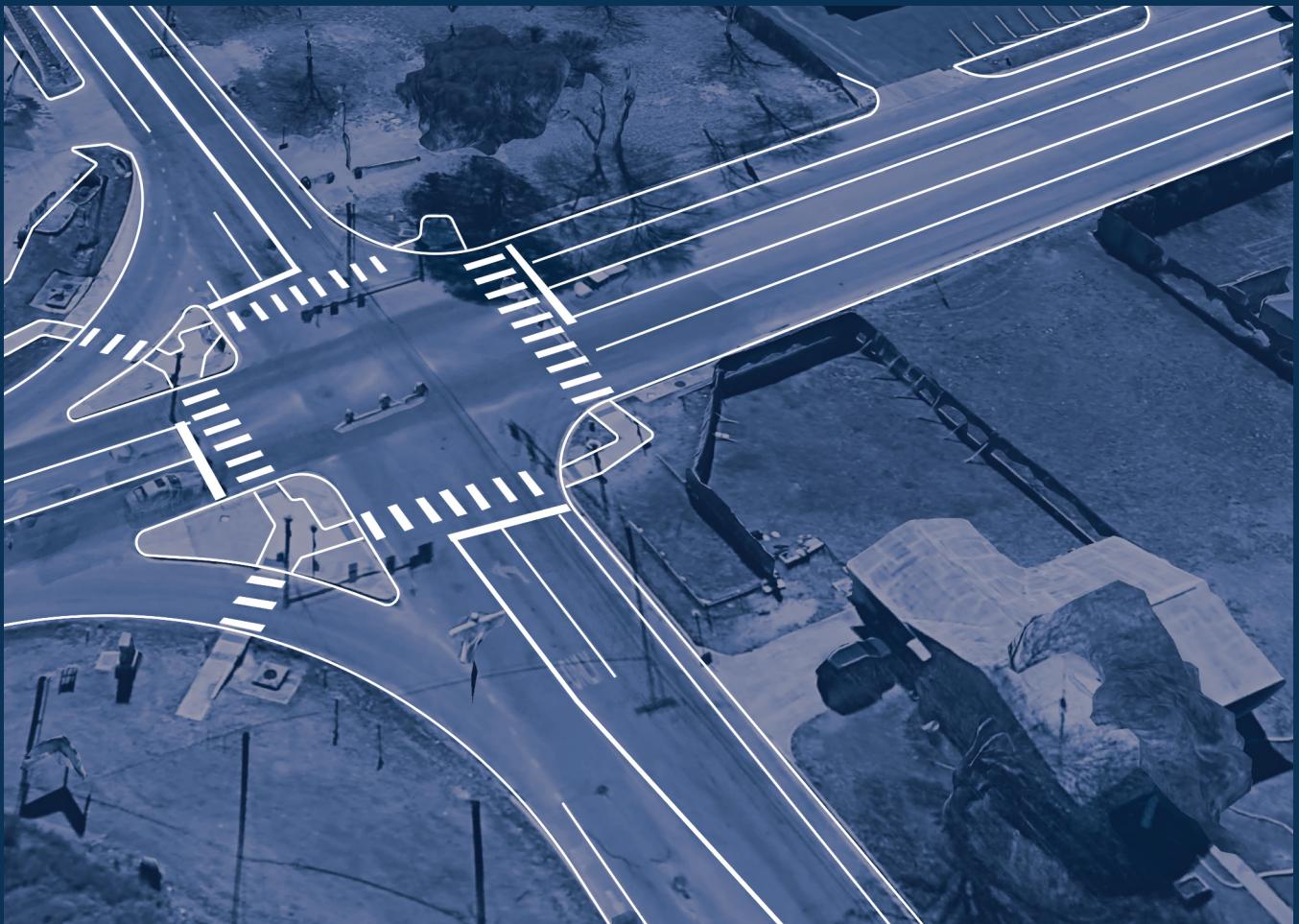
Figure 24 below shows each SSPN roadway segment, those in teal or navy in Map 6, as well as other high scoring roadways, in grey in Map 6. The ten analysis attributes are shown alongside the segments. In the cells below, the score of each applicable roadway for every analysis attribute is grouped by color and number, blank or containing a 1, 2, or 3, to show that roadway's score for that attribute (i.e. whether it falls outside the first [1], second [2], or third [3] standard deviation above that attribute's mean score).

Roadway	Extent	Crash Severity	Proximity	Light Conditions	Left Turn	Right Turn	Lane Change	Speed Related	Vulnerable Road User	At Intersection	Construction
Spur St	Hackberry Ave to Grape Ave					2	1	2		2	
Walnut Ave	San Antonio St to Lee St		3					2		1	
County Line Rd	FM 725 to Cornerstone Dr	1	3		1	1			1	2	
River Rd	Loop 337 to Edwards Blvd			2				1			
Lakeview Blvd	California Blvd to Lakeview Terrace	1	3		1					2	
Garden St	Comal Dr to Castell Ave	1	1	1				1		1	
Denise Dr	Amy Ave to Melissa Ln	3						1		2	
Common St	Club Crossing to Sundance Pkwy	2	2		1					2	
Gruene Rd	New Braunfels St to Hunter Rd							1	3	2	
Walnut Ave	Landa St to Bridge St	1	3		1			1			
Common St	Central Ave to Peace Ave	1	1					1	1	1	
San Antonio St	Comal Dr to Union Ave	2	1		1		1			1	
San Antonio St	Ferguson St to Main Plaza	2			1		2				
Hunter Rd	Rapids Rd to FM 306	1						1		1	
Goodwin Ln	Orion Dr to Pader	1		1				1			
McQueeny Rd	IH-35 to Melody Ln	1			1				2	1	
Gruene Rd	Torrey St to Ewelling Ln										
SH 46/Walnut Ave	Independence Dr to Ohio Ave	1			1		1	2		1	
Loop 337	Walnut Ave to Ridge Hill Dr	2	3					2		1	3
Elliot Knox Blvd	Huisache Ave to Mesquite Ave	2	3		1		1		1	1	
Landa St	Walnut Ave to Primrose Cir	1	3		2			2	2		
Elliot Knox Blvd	Grape Ave to Magnolia Ave	1	2	2	2				1	3	
Creekside Crossing	IH-35 to Town Center Dr	2			1		2	3		1	3
FM 306	Common St to Old FM 306	1						3			
FM 337	Rock St to Ranch Pkwy	2		3			1	2	1	1	3
Seguin Ave	Zink St to Main Plaza		3				3	2		3	
SH 46	Pieper Rd to Deer Crest Dr	2		2	1		1	2		2	
Walnut Ave	Howard St to Landa St	2	1					2		1	
SH 46	Sigel Ave to Oak Run Pkwy			1				1			
Loop 337	NBHS to Castlewood Dr	1	2					3			3
Loop 337	California Ave to Oakwood Blvd	3						3			3
Loop 337	IH-35 to San Antonio St	1		1	3			3			1
Seguin Ave	Main Plaza to Faust St	1	3				1	3			
Elliot Knox Blvd	Kuehler Spur to McQueeny Rd	3			1		2	2		1	2
Loop 337	River Terrace to Madison Ave	3	1		1	1		1		1	1
SH 46	Church Hill Dr to Caddell Ln	3	2		3		1	2			
Seguin Ave	Elliot Knox Blvd to Green Valley Rd	1			3		2	2		2	1
FM 306	Goodwin Ln to Longhorn Dr	2				1		3			
FM 1101	Kowald Ln to Rainy Creek	2	2			2			3		
SH 46	Mary St to FM 758	2		1	1		1	1		1	
FM 725	County Line Rd to Joanne Cove	2	2	2				3		1	
Elliot Knox Blvd	IH-35 to Skyview Ave	1	1			1	2	1		1	1
Elliot Knox Blvd	McKenna Ave to IH-35	1	1			3		2		1	1

This table can be used as a tool to quickly explain why a segment needs attention and what the best course of action might be. Every road in New Braunfels has room for improvement to increase safety, especially for pedestrians and cyclists. The list of roadways below is not exhaustive, but provides a starting point how to prioritize implementation. The first two analysis attributes – Crash Severity and Proximity to Vulnerable Users – are important factors, but do not prescribe specific design solutions. The other eight factors can yield prescriptive design solutions.

For example: County Line Road between FM 725 and Cornerstone Drive scores moderately highly for crash severity and very highly for proximity to vulnerable users, due to its bordering Fischer park. To find solutions to these needs, plan users should look to the other high scoring analysis attributes: intersections, left turns, right turns, and vulnerable road users. These would encourage implementation along this roadway to better manage turning movements, control movement through intersections, and provide space along County Line Road for bike users and pedestrians. The following chapters of this plan will detail solutions to accomplish these goals.

SAFE STREETS TOOLKIT



Following the prioritization of locations to slow vehicular traffic and improve roadway safety, the following sections articulate what should be done along these roadways. First, this plan defines a series of traffic calming devices that can be implemented for the purpose of slowing speeding traffic, reducing traffic volumes, or improving pedestrian and bike accessibility. Many of the following “tools” can be combined with each other to create safer streets for all users.

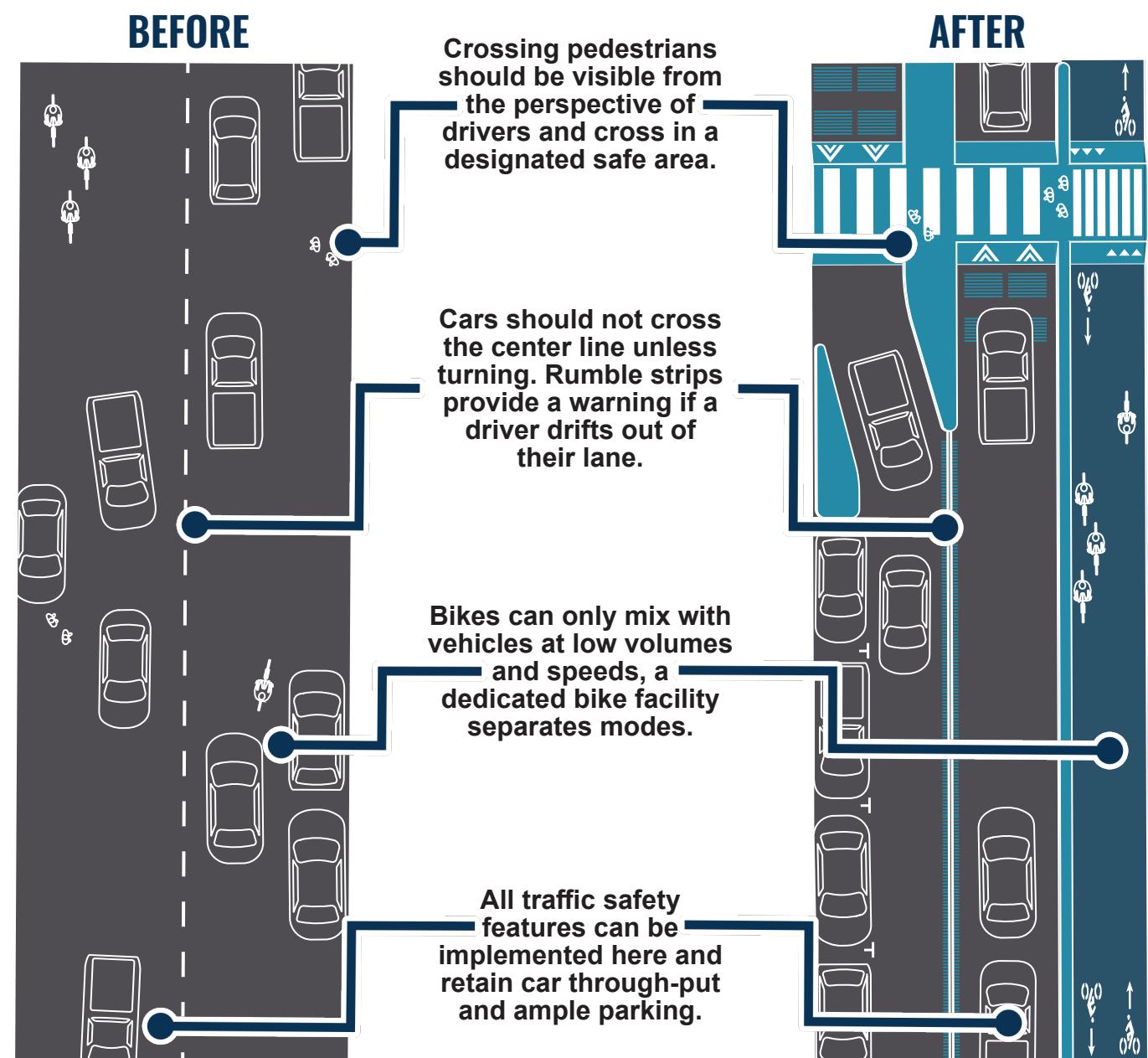
There are a range of construction techniques used to build this infrastructure, which can have large impacts on the safety and cost of an installation. For instance, quick-build construction that creates a bike lane out of flex posts will cost less than constructing a concrete curb-protected bike lane, but it may be perceived as unsafe to some users, leading to less use.

In addition to making the streets safer, all of these traffic calming strategies can be designed to include landscaping or public art, adding beauty to the streetscape.

However, not all tools are appropriate for all roadways or intersections. The following pages detail the benefits, challenges, and key contexts for the tools in the Safe Streets Toolkit.

ROADWAY TOOLS

A typical 40-foot wide road segment in New Braunfels consists of one lane in each direction with parking on each side. Car and bike traffic mix, and pedestrians are only allowed to cross at intersections. However, street space can be re-purposed to provide dedicated facilities for each type of road user, improving safety while still allowing vehicle traffic to flow. The graphic below shows a typical roadway in New Braunfels and how it could be reconfigured to provide space for pedestrians, bikes, car traffic, and car parking. These safety interventions may be limited on neighborhood streets, where driveway access and parking need to be maintained.

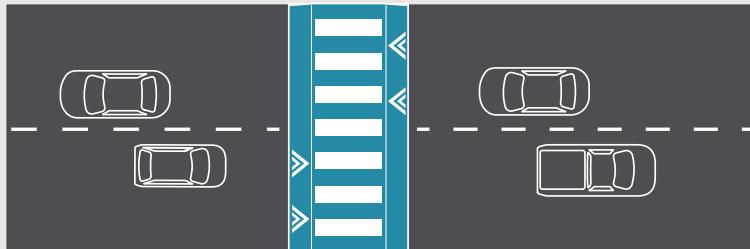


THE CITY OF NEW BRAUNFELS OWNS AND OPERATES OVER

750 MILES OF ROADWAYS

AFTER

1 RAISED MID-BLOCK CROSSWALK



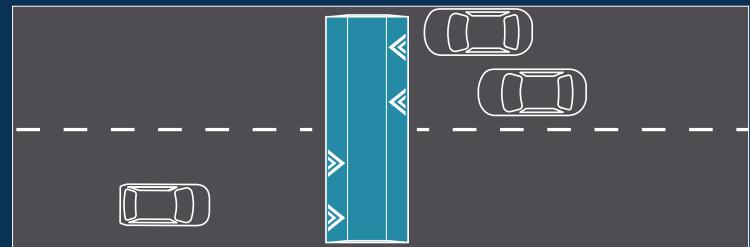
A raised mid-block crosswalk is like a speed table in that it causes drivers to slow to go over it, but also includes paint and signage that marks it as a crosswalk. Raised mid-block crosswalks improve accessibility for pedestrians since they do not require a ramp into the street. It also improves pedestrian visibility.

Raised crosswalks range in price between \$5,000 and \$7,000.

This traffic calming strategy is most applicable for places with high pedestrian traffic, such as by schools, parks, or commercial areas. Raised mid-block crosswalks present an opportunity for a pop of color or public art, helping reinforce a neighborhood's sense of place.

Raised mid-block crosswalks can impact drainage, since they span the entire road. However, gaps on the ends of the crosswalk with a ramp can allow water to flow through the installation while still enhancing pedestrian accessibility.

2 SPEED TABLE

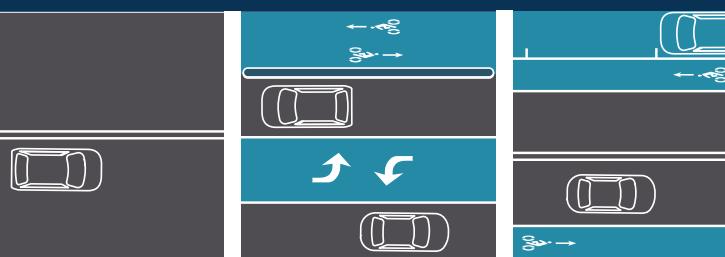


A speed table is like a speed hump, but with a flat top extending the length of a passenger vehicle. While still significantly slowing cars and light trucks, this allows larger vehicles such as ambulances and firetrucks to more easily traverse the road. According to the FHWA, speed tables reduce speeds between 4 and 11 mph, reducing the number of experienced crashes between 36 and 64%.

Speed tables present the opportunity to build a raised mid-block crosswalk, helping to improve accessibility and the pedestrian experience. They can also be painted to add public art or a pop of color to the street, improving a neighborhood's aesthetics.

Speed tables can affect drainage, meaning water flow should be taken into account when considering their placement.

3 ROAD RE-CONFIGURATION



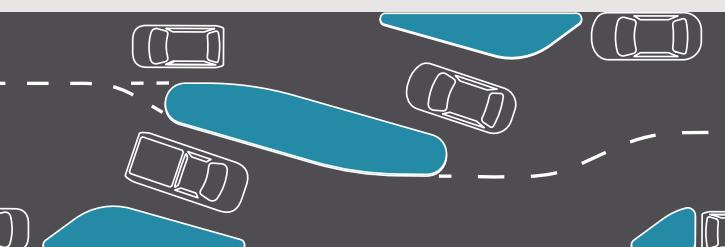
Changing the configuration of a road can recover space that can then be used for bike lanes, sidewalks, parking, and/or a center turning lane. New road configurations can range from re-striping the street to adding concrete features such as planters.

Lane re-allocations are a specific type of road reconfiguration that narrows and/or reduces the number of vehicle travel lanes. According to the FHWA, field studies recorded that lane re-allocations can reduce the number of total crashes between 19 and 47 percent. The center turn lane reduces conflicts between left-turning and through traffic, allowing traffic to flow more smoothly. Other road configurations are meant to slow all traffic in the road, shifting the road's focus from through-traffic to local traffic. Re-configuring the road is generally low cost.

Depending on the type of infrastructure chosen, road re-configurations can cause changes to drainage, which may result in the need for more drainage facilities.



4 CHICANE



Source: NACTO

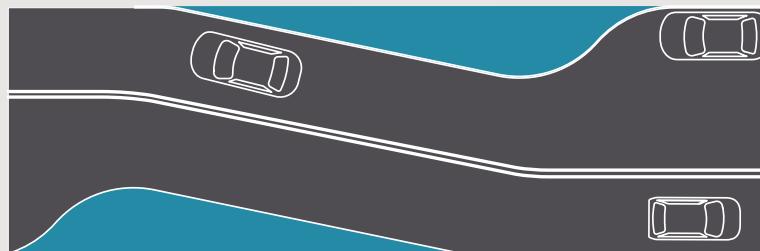
A chicane forces traffic to steer around a series of small concrete islands, shifting a straight travel path into one with multiple curves. The driver must steer back and forth, causing them to moderate their speed. According to the FHWA, chicanes can reduce speeds between 3 and 9 mph.

When combined with a center median, chicanes prevent head-on collisions. Chicanes are usually made out of concrete and present opportunities for landscaping as well as parking.

This traffic calming strategy should not be combined with a crosswalk since drivers will be focused on maneuvering through the street. Placement of chicanes should take into account drainage infrastructure in order to reduce costs.

Chicanes can be designed with gaps between islands and the curb, allowing water to flow through. Chicanes with curb extensions should be analyzed for impacts to drainage.

5 LATERAL SHIFT



Source: City of Aspen

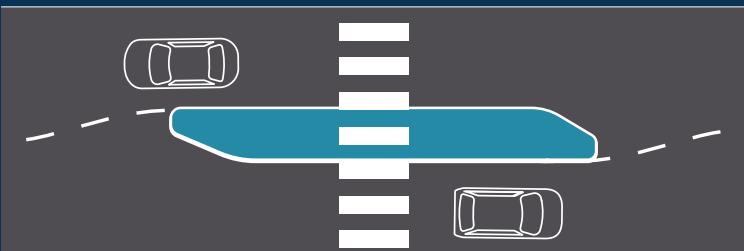
Like a chicane, a lateral shift prevents traffic from moving in a straight direction, but with one shift instead of multiple. It typically uses two curb extensions, which reduces speeding.

Lateral shifts can be made out of concrete, plastic installations, or a combination of both. Placement of a lateral shift should be coordinated around existing drainage features to reduce construction costs.

Lateral shifts can be combined with a crossing to create a mid-block crosswalk, improving the pedestrian experience. They can also be used to create street parking. Lateral shifts present an opportunity for landscaping, both in the curb extensions and the center island.

Lateral shifts may alter drainage, depending on their placement. Special care should be taken to place lateral shifts in areas that have minimal impact on water flow.

7 MEDIAN ISLAND



A median island is a raised concrete curb in the middle of the roadway. Combined with a mid-block crosswalk, median islands allow pedestrians to cross the street in two segments rather than in one long stretch. Not only does this enhance pedestrian safety, but it also prevents head-on collisions.

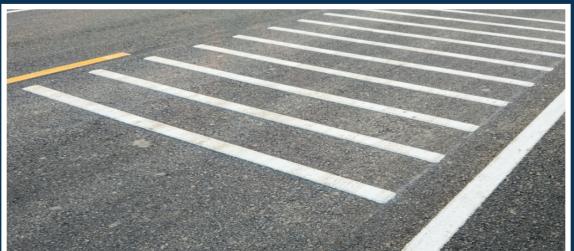
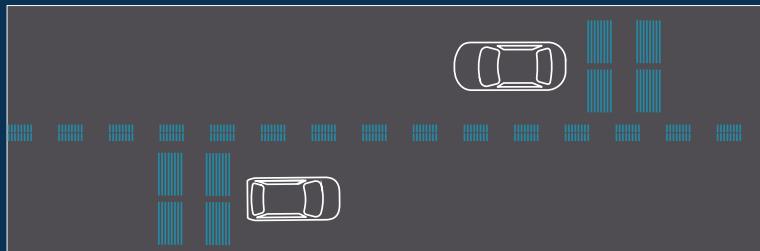
This traffic calming strategy is a great opportunity to add landscaping, helping to beautify the neighborhood it is in neighborhood.

Median islands usually cost between \$2,000 and \$40,000 to construct, depending on the amount of landscaping added and the size of the islands, which usually range from four to eight feet wide.

Median islands have little impact on drainage. They can also be placed to prevent through-traffic at an intersection.



6 RUMBLE STRIPS



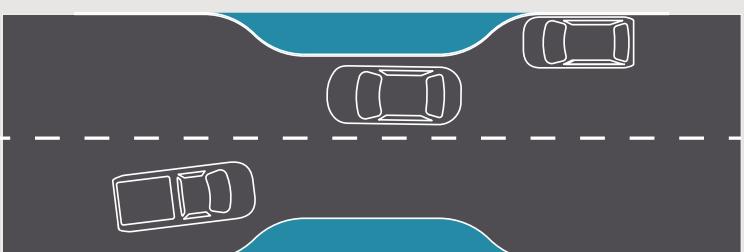
Rumble strips are strips of concrete or asphalt in the road that cause vehicles to vibrate as they roll over them. Rumble strips on roadways can be placed to span the entire width of the roadway, signaling drivers to slow down, or they can be placed in the middle of the roadway to separate opposite directions of traffic, alerting drivers that they have drifted into the wrong lane.

Rumble strips are a low-cost strategy to reduce the likelihood of head-on collisions. They cost about \$1,500 per mile to install.

Rumble strips do not necessarily prevent dangerous driving behaviors because they do not force a driver to slow. However, they can be effective in encouraging drivers to moderate their speeds.

With no impact on drainage, rumble strips can be useful in almost any location, ranging from streets with high pedestrian traffic to intersections. However, their use may be limited in residential areas due to noise.

8 NECK-DOWN



Source: Illinois.gov

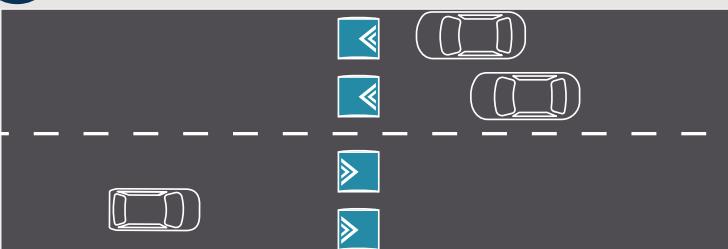
A neck-down, or a bulb-out, is the extension of the curb to narrow vehicle travel lanes, encouraging drivers to lower their speed. Median islands can be paired with a neck-down. Neck-downs can also be implemented to create a pinch point in a road, where a two lane road turns into one shared lane, causing drivers to have to slow or sometimes stop to let a car through.

Neck-downs range from \$5,000 to \$20,000, depending on changes needed to drainage features.

This traffic calming strategy can be combined with a crosswalk to lower the distance that pedestrians must cross, improving accessibility. Neck-downs are also present the opportunity to add landscaping.

Neck-downs can impact drainage if a curb extension is used. However, islands can also be used to create chokers, allowing water to flow through the installation.

9 SPEED HUMP



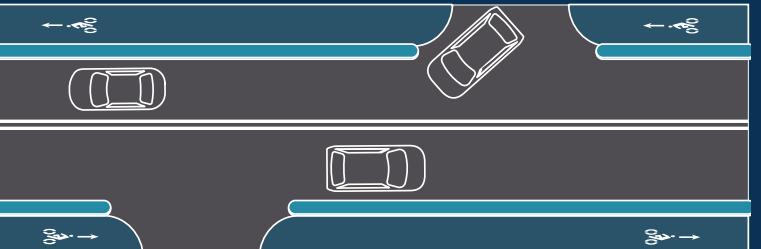
A speed hump is a three-inch-high mound spanning the width of the road, which causes drivers to slow in order to drive over them. According to the FHWA, field studies recorded that speed humps reduce speed between 6 and 13 mph and can reduce crashes between 33 and 48%.

Speed humps can be built out of concrete or pre-assembled plastic installations. Concrete speed humps cost approximately \$7,500 each and are effective in pairs. Speed humps slow cyclists in addition to drivers. If designed with a gap in the middle, cyclists can pass through the without having to slow down. Speed humps should be used as a last resort to slow traffic because of the potential disruptions they could have for emergency response vehicles and their impact on noise.

Speed humps are most applicable in areas with high pedestrian activity, due to the dramatic reduction in speeds they result in. They have little impact on drainage.



10 PROTECTED BIKE LANE



Source: Seattle DOT

A protected bike lane uses a physical barrier to separate bikes from vehicle traffic, improving safety for cyclists while improving the flow of traffic for drivers. Providing a physical barrier that can stop cars from driving in the bike lane—such as a curb—can help create a bike network that appeals to riders of all ages and abilities, due to the improved safety. Creating a network of protected bike lanes can increase the mode-share of biking.

Protected bike lanes can range in cost from \$5,000 to \$50,000 per mile, depending on the type of construction. Using paint and flex posts or jersey barriers can help cut construction costs.

Bike lanes can use street parking or planters to act as a buffer between vehicle traffic. Painted buffers can also improve safety for certain street contexts, though they may be intimidating to ride on for less-experienced bikers. Guidance from the FHWA should be used to determine what level of separation is needed for different streets. Depending on the construction technique used, protected bike lanes can impact drainage. However, designing protected bike lanes to have small gaps can allow water to flow while providing protection for cyclists.

INTERSECTION TOOLS

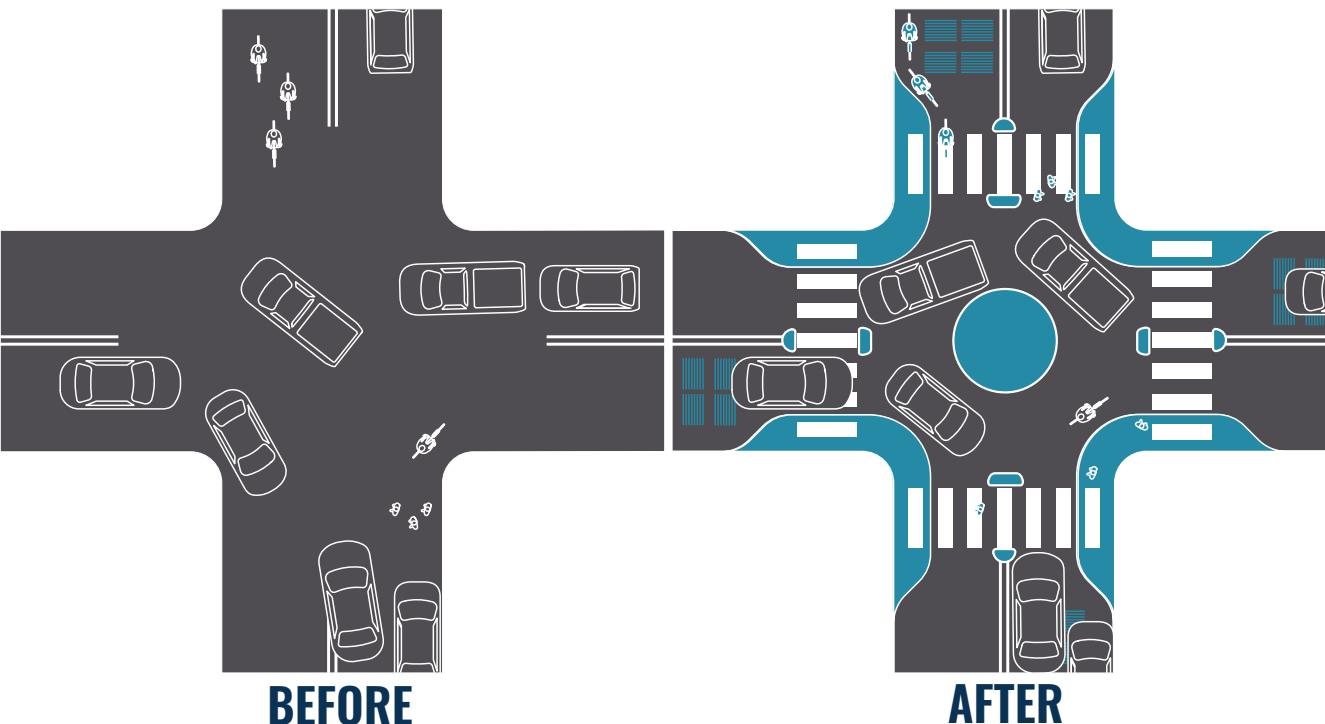
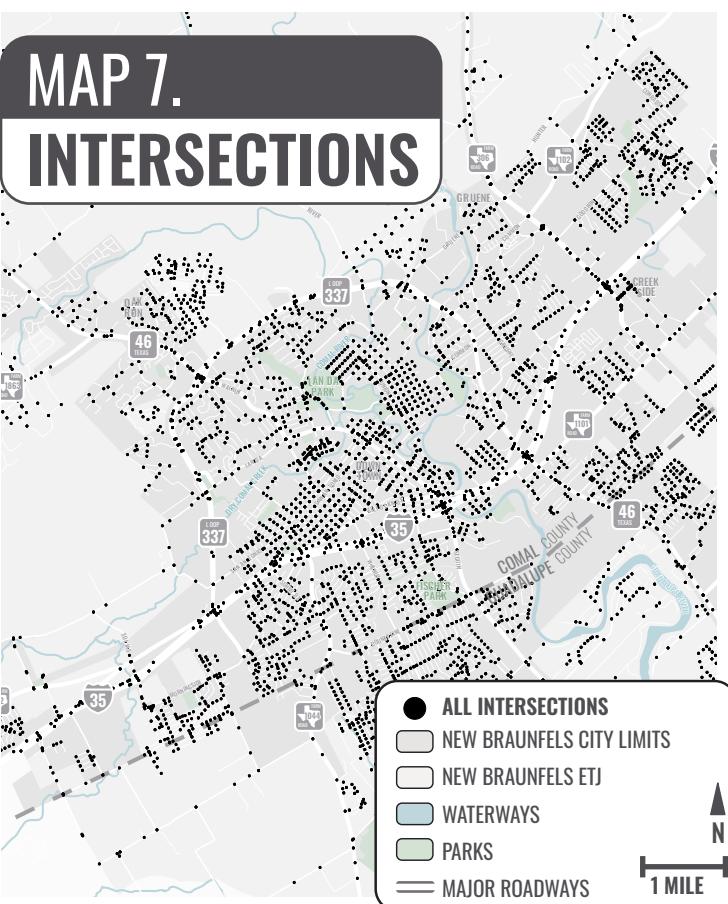


Figure 26.

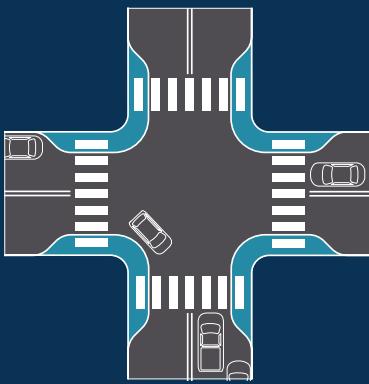


Pedestrians and cyclists are especially vulnerable at intersections, which is why it is crucial to retrofit intersections in order to eliminate traffic deaths and severe injuries.

According to the FHWA, one quarter of traffic deaths occur at intersections. The planning team's crash analysis found that 75% of all cyclist crashes in New Braunfels occurred at intersections.

There are a variety of techniques to retrofit intersections to provide the highest level of safety for all road users. The graphics above illustrate how a typical intersection could be modified to reduce conflict points, reduce crossing distances for pedestrians, and improving pedestrian visibility from the perspective of drivers. In addition to improving safety, many of these strategies can be combined with landscaping or public art to enhance a neighborhood's beauty.

11 CURB EXTENSION



A curb extension, also known as a bulb-out, is the extension of a sidewalk into an intersection, lowering a pedestrian's crossing distance. This also reduces a vehicle's turning distance, causing vehicles to slow when they turn.

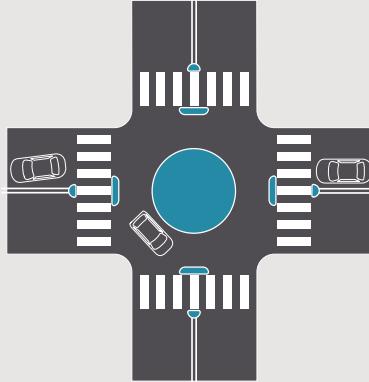
Curb extensions improve the visibility of crossing pedestrians, creating a safer pedestrian experience. A curb extension is best paired with on-street parking.

Curb extensions range in cost between \$2,000 and \$20,000 per corner, depending on the type of construction that is chosen. Quick-build options using paint and planters can be just as effective as pouring a new curb. This traffic calming strategy presents an opportunity for landscaping or public art.

Curb extensions have the potential to impact drainage, though islands or flex posts can be used instead of a concrete curb, allowing water to flow through the installation.



12 TRAFFIC CIRCLE



A traffic circle is a raised island in the middle of an intersection that causes drivers to turn counter-clockwise around the circle, reducing the number of conflict points while passing through the intersection. A traffic circle is a smaller version of a roundabout, suited for smaller local and neighborhood streets. Traffic circles prevent speeding by forcing drivers to slow to traverse the intersection.

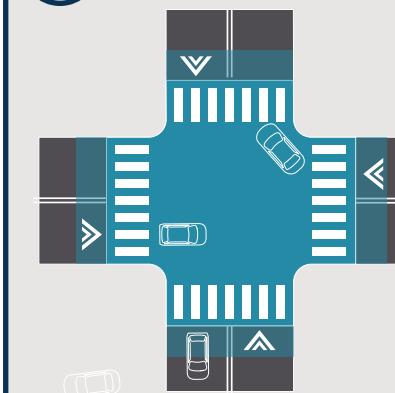
Traffic circles cost about \$6,000-\$8,000 to install. They can be coordinated with landscaping to enhance a neighborhood's beauty.

While one traffic circle will have little effect on traffic volumes, placing traffic circles in a series will reduce traffic counts.

Traffic circles generally do not have an impact on drainage, as water is able to flow around the circle.



13 RAISED INTERSECTION



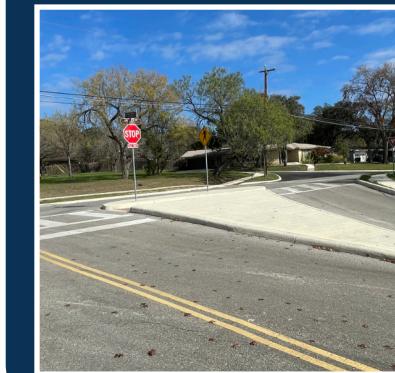
A raised intersection is a large speed table that spans the entire intersection, causing drivers to slow as they pass through. This improves pedestrian visibility through the intersection and makes the crossing more accessible.

Raised intersections range in price between \$25,000 and \$70,000, depending on the size of the intersection and changes needed to maintain adequate drainage.

This traffic calming strategy is most applicable for places with high pedestrian traffic, such as downtown. Raised intersections present an opportunity for a pop of color or public art, helping reinforce a neighborhood's sense of place.

A raised intersection can impact drainage, meaning special consideration is needed when determining where to place raised intersections.

14 REALIGNED INTERSECTION

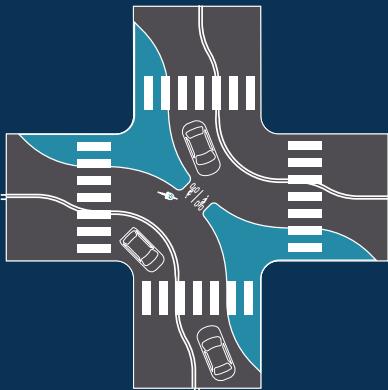


A realigned intersection changes the alignment of a T-intersection by extending the curb in the middle of it. This turns a straight street into one with a curve, causing drivers to slow as they pass through it. A realigned intersection ranges in price from \$10,000 to \$50,000 depending on the type of construction. Quick-build options using flex posts are less expensive than changing the curb, which may require changes to drainage infrastructure.

This traffic calming strategy presents an opportunity to add landscaping, helping to reinforce a neighborhood's sense of place.

Realigned intersections are only applicable at T-intersections, and they have the potential to impact drainage, though islands can be used instead of curb extensions, allowing water to flow through the installation.

15 DIAGONAL DIVERTER



A diagonal diverter reduces traffic volumes by closing the intersection to through traffic, making drivers turn rather than going through the intersection. Diagonal diverters can be designed to allow pedestrians and cyclists to pass through the intersection.

This traffic calming strategy costs between \$15,000 to \$45,000 to implement, depending on the landscaping added.

Placement of diagonal diverters should take into consideration disruptions to emergency response vehicles. This traffic calming strategy can be constructed to be collapsible to improve emergency vehicle response times.

Because diagonal diverters have gaps in them for cyclists and pedestrians, this traffic calming installation has no impact on drainage.



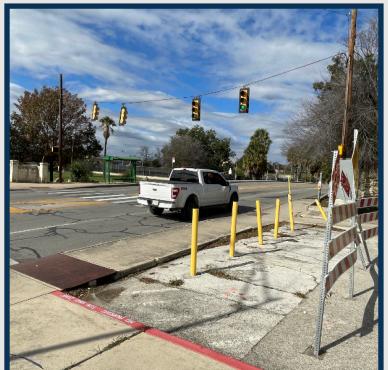
16 FULL CLOSURE



A full road closure completely closes an intersection to through traffic, reducing traffic volumes. Like a cul-de-sac, full closures redirect traffic to other streets, improving pedestrian and cyclist safety. Full closures can be designed to accommodate pedestrians or cyclists that are going through the intersection. Placement of full closures should take into consideration where traffic will be redirected to.

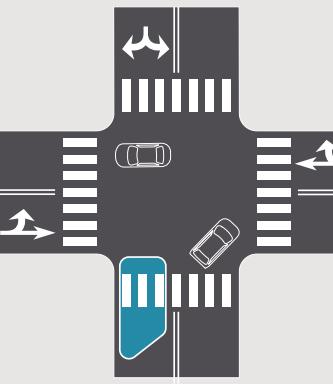
Full closures can be constructed with a variety of methods, ranging from extending the curb to using planters or flex posts.

Like diagonal diverters, full closures can be designed to be collapsible to allow emergency vehicles to pass through and be designed to allow drainage on either side.



The example to the right was installed on San Pedro Road, blocking an adjoining street from entering the major roadway and improving the connecting pedestrian crossing between San Antonio College and San Pedro Springs Park.

17 HALF CLOSURE



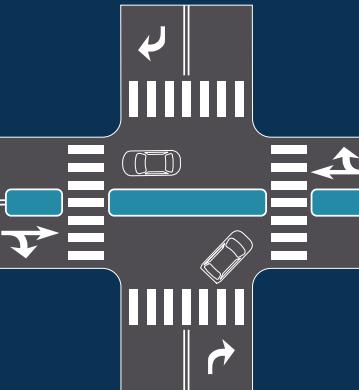
Half closures are large concrete or plastic delineation barriers blocking uni-directional through-traffic in one direction while allowing the other directions to pass through. Half closures are designed to block undesirable traffic from advancing in one direction on two-way streets. For one-way streets, it seeks to make illegal cut-through actions uncomfortable, preventing drivers from breaking the law.



This traffic calming strategy can be installed with a variety of construction techniques, ranging from extending the curb to adding planters and signs.

Half closures are most applicable for places with high amounts of through traffic in residential areas. The example on the right prevents traffic from the highway frontage road to pass through the neighborhood. This improves safety by reducing traffic volumes and speeds.

18 MEDIAN BARRIER



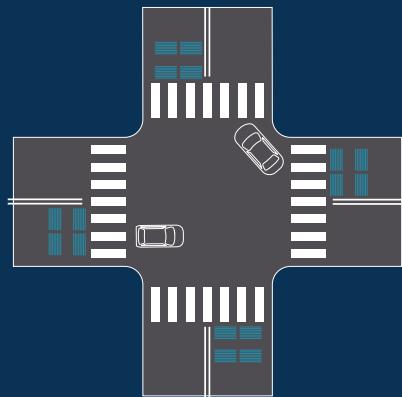
A median barrier is placed in the middle of the road to prevent through-traffic or turning actions in the intersection. This strategy is most applicable for intersections on busy roadways where turning left is dangerous.



Median barriers are typically smaller than median islands. They can be designed with gaps in the middle to allow bikes to pass through the intersection. The cost of median barriers depends on the length of a barrier and the materials used to construct it, which can range from flex posts to a concrete curb.

Median barriers can also slow traffic, if their placement results in the reduction width of travel lanes.

19 RUMBLE STRIPS



Rumble strips can be placed before an intersection to signal drivers to slow down as they roll over it. While this does not prevent speeding, it alerts drivers that they are coming to an intersection, potentially encouraging them to slow or stop.

This traffic calming strategy costs about \$1,500 per approach.

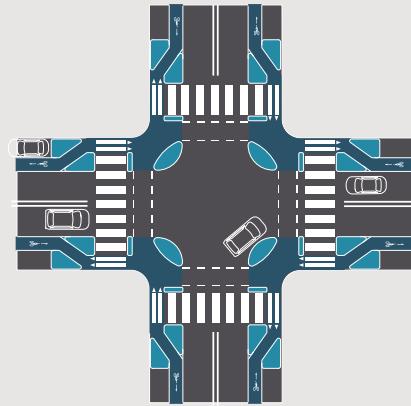
Rumble strips are most applicable on streets with high amounts of pedestrian traffic or higher speed roads.

Rumble strips have no impact on drainage, but their use may be limited in residential areas due to noise considerations.



Source: Walkable Princeton

20 DUTCH INTERSECTION



A Dutch intersection provides space for cyclists at the intersection behind a concrete curb, reducing conflicts between turning vehicles and bikes. Dutch intersections reduce the turning radii of vehicles, causing them to slow while turning. This improves pedestrian safety.

This traffic calming infrastructure costs about \$100,000 per intersection if made with concrete. Quick-build options using flex posts offer less protection but at a lower price.

Also known as protected intersection, Dutch intersections improve safety for cyclists by reducing the unprotected crossing distance. The smaller vehicle turning radius improves the visibility of crossing pedestrians and bikes.

Dutch intersections have little to no impact on drainage, due to its use of islands.



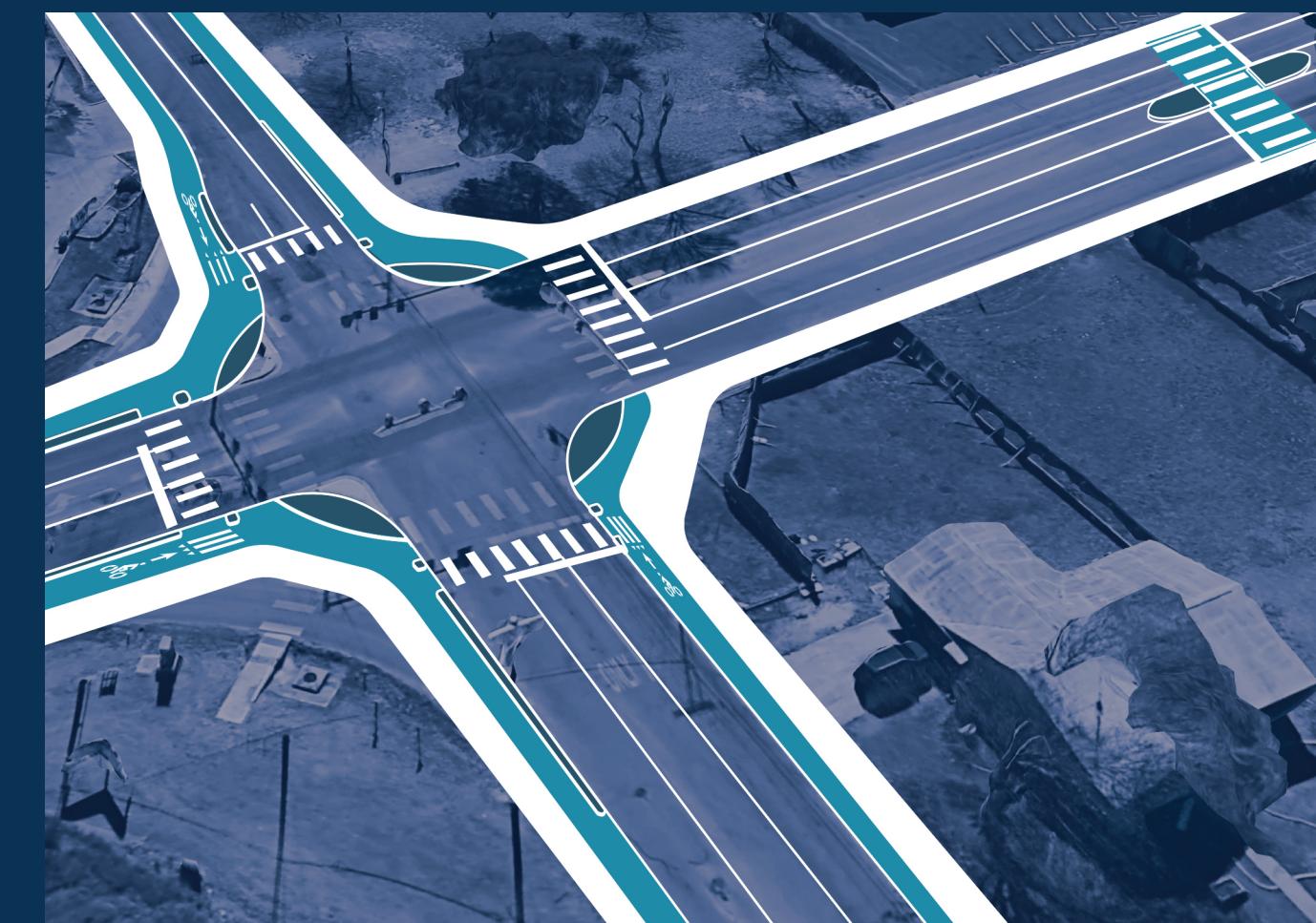
Source: LongBeach.gov

HOW TO USE THIS TOOLBOX

This toolbox is intended to provide residents, staff members, and elected officials with knowledge about traffic calming strategies to better inform requests and decision-making. Residents can contact staff with speeding concerns, and staff will determine what strategies, if any, are warranted or appropriate based on objective evaluation criteria for each strategy in the toolbox.

The following tools are separated between roadway and intersection installations. A short description of the traffic calming strategy is included, along with the types of road they are most applicable to. All of these tools seek to slow vehicle speeds and alert drivers, but many feature other benefits for vulnerable road users and adjacent land owners.

Many of the strategies can be combined with one another to improve safety. It is important to note that street safety installations are not a one-size-fits-all strategy to reducing traffic deaths and injuries. In order to create safe streets for all road users, policy changes and the establishment of programs are necessary to achieving zero traffic deaths and serious injuries.



ROADWAY TOOLS:

TOOL BENEFITS FOR:

TOOL	GRAPHIC	DESCRIPTION	APPROPRIATE ROADWAY	CHALLENGES	PEDESTRIANS AND CYCLISTS	CAR USERS
1 RAISED MID-BLOCK CROSSWALK		A raised crosswalk is an extension of the sidewalk through the road increasing pedestrian visibility and causing vehicles to slow at the approach.	<ul style="list-style-type: none"> ● LOCAL ● COLLECTOR ● ARTERIAL <p>SPEED: MED TRAFFIC: MED</p>	Raised crosswalks can impact drainage if curb extensions do not have gaps for water flow.	Improved pedestrian visibility, improved accessibility.	Improved visibility of pedestrians.
2 SPEED TABLE		A speed table is a raised concrete pad extending the width of the roadway, with a flat top requiring a longer slowed traversal by vehicles.	<ul style="list-style-type: none"> ● LOCAL ● COLLECTOR ○ ARTERIAL <p>SPEED: MED TRAFFIC: LOW</p>	Speed tables can impact drainage, though they can be designed with gaps on the sides to allow water to flow.	Opportunity for raised crosswalk.	Improved alertness.
3 ROAD CONFIGURATION		A road reconfiguration changes the local and throughput serving features of the roadway. Removing through lanes for parking or vice-versa while creating multi-modal space.	<ul style="list-style-type: none"> ● LOCAL ● COLLECTOR ● ARTERIAL <p>SPEED: ANY TRAFFIC: ANY</p>	A road reconfiguration may not be viable if a street has many driveway entrances or if parking on both curbs must be maintained.	Extra room for sidewalks and bike lanes.	Turning lane reduces conflicts when making left turns.
4 CHICANE		A chicane uses multiple curb extensions, concrete islands, or medians to create a street path with multiple curves, causing drivers to slow and be more attentive.	<ul style="list-style-type: none"> ● LOCAL ● COLLECTOR ○ ARTERIAL <p>SPEED: MED TRAFFIC: LOW</p>	A chicane with curb extensions could impact drainage. Chicanes can slightly reduce parking availability.	Does not impact bike users' ability to move through the roadway unabated. If paired with a crosswalk, shortens crossing distances for pedestrians.	Prevents head on collisions
5 NECK-DOWN		A neck-down is a curb extension into the street that narrows the roadway, causing vehicle users to be more attentive and reduce their speed. It also lowers the crossing distance for pedestrians.	<ul style="list-style-type: none"> ● LOCAL ● COLLECTOR ● ARTERIAL <p>SPEED: MED TRAFFIC: ANY</p>	A neck-down should be placed so as to not impact drainage and is most useful in conjunction with other traffic calming tools.	Smaller crossing distance when combined with a crosswalk.	Smaller crossing distance when combined with a crosswalk.

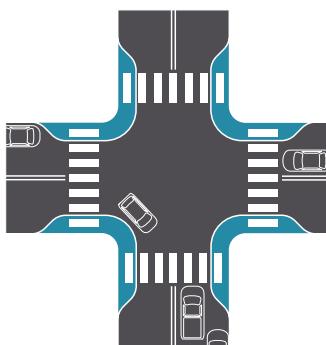
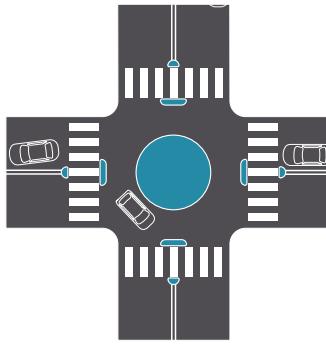
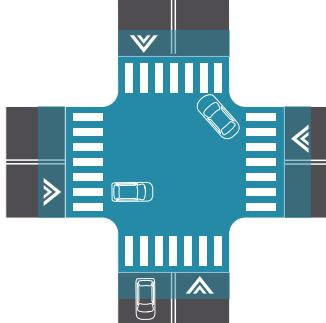
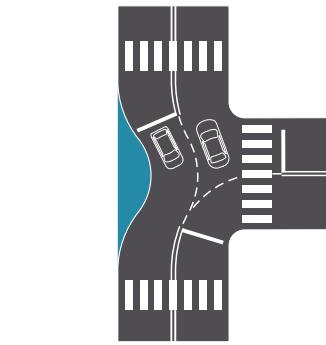
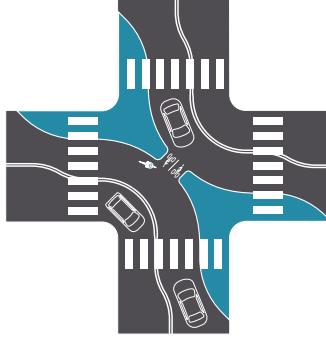
ROADWAY TOOLS:

TOOL BENEFITS FOR:

TOOL	GRAPHIC	DESCRIPTION	APPROPRIATE ROADWAY	CHALLENGES	PEDESTRIANS AND BIKES	CAR USERS
6 RUMBLE STRIPS		Rumble strips are small bumps on the edges or center of travel lanes that cause vibrations when driven over, alerting drivers that they have either left their lane or should slow down.	<input type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input checked="" type="radio"/> ARTERIAL SPEED: ANY TRAFFIC: ANY	Rumble strips do not force cars to physically slow. Rumble strips should be avoided in residential neighborhoods due to the noise they can produce.	Does not impact bike users' ability to move through the roadway unabated.	Improved alertness, without requiring drivers break or turn.
7 MEDIAN ISLAND		A median island is a raised concrete island in the center of the street that reduces roadway width, causing drivers to slow, and creates a safe waiting area for pedestrians crossing.	<input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input checked="" type="radio"/> ARTERIAL SPEED: ANY TRAFFIC: ANY	Median islands alter the center line of a roadway slightly, not impacting drainage but potentially affecting slopes on roadways with steep grades.	Opportunity to be combined with a mid-block crosswalk, lowering crossing distances.	Prevents potentially dangerous turning actions.
8 LATERAL SHIFT		A lateral shift uses curb extensions and median islands to cause travel lanes to shift, turning a straight street into one with a slight curve, reducing vehicle speeds.	<input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input type="radio"/> ARTERIAL SPEED: MED TRAFFIC: ANY	Lateral shifts can impact drainage if curb extensions do not have gaps for water flow.	Opportunity for a crosswalk with shorter crossing distances.	Prevents head-on collisions.
9 SPEED HUMP		A speed hump or cushion is a concrete bump spaced throughout the roadway that requires drivers to slow while approaching and going over them.	<input checked="" type="radio"/> LOCAL <input type="radio"/> COLLECTOR <input type="radio"/> ARTERIAL SPEED: LOW TRAFFIC: LOW	Due to the noise they produce, speed humps should be considered for deployment if speed tables and other traffic calming devices are not appropriate.	Gaps in the bumps allow bikes to traverse unobstructed.	Improved alertness, does not require a full stop.
10 PROTECTED BIKE LANE		A protected bike lane uses a physical object—such as curbs, flex posts, or parked cars—to separate cyclists from vehicles, reducing conflicts between faster and slower-moving traffic.	<input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input checked="" type="radio"/> ARTERIAL SPEED: ANY TRAFFIC: ANY	Protected bike lanes can have impacts on drainage depending on the design. Protected bike lanes offer less protection when on streets with many driveway entrances.	Lower-stress biking experience, allowing less experienced cyclists to ride.	Providing a dedicated space for cyclists separates slower traffic from faster cars, reducing conflicts.

INTERSECTION TOOLS:

TOOL BENEFITS FOR:

TOOL	GRAPHIC	DESCRIPTION	APPROPRIATE ROADWAY	CHALLENGES	ADJACENT LANDOWNERS	PEDESTRIANS AND BIKES	CAR USERS
11 BULB OUT		A curb extension extends the sidewalk into the street, making the vehicular turning radius tighter. This gives better visibility to pedestrians and slows turning vehicles.	<ul style="list-style-type: none"> LOCAL COLLECTOR ARTERIAL <p>SPEED: ANY TRAFFIC: ANY</p>	If located on a freight corridor, a sharper turning radius could impact large trucks while turning.	Opportunity for landscaping or public art.	Better visibility at intersections, shortens crossing distances.	Improves visibility of crossing pedestrians.
12 TRAFFIC CIRCLE		A traffic circle is a raised circle in the middle of the intersection that is not traversable by pedestrians. This causes drivers to slow through the intersection.	<ul style="list-style-type: none"> LOCAL COLLECTOR ARTERIAL <p>SPEED: LOW TRAFFIC: LOW</p>	Available right-of-way must be large enough to accommodate a traffic circle. On smaller roadways, narrow turn-radii circles may be appropriate.	Opportunity for landscaping or public art.	Center protectors for pedestrians at crosswalks.	Reduces possibility of left-turn crashes by forcing traffic into a counter-clockwise direction
13 RAISED INTERSECTION		A raised intersection is an extension of the sidewalk through the intersection with ramps on all approaches, causing vehicular traffic to slow through the intersection.	<ul style="list-style-type: none"> LOCAL COLLECTOR ARTERIAL <p>SPEED: LOW TRAFFIC: LOW</p>	Raised intersections impact drainage and elevate car users to the level of pedestrians, impacting drainage and requiring additional separators like bollards.	Opportunity for landscaping.	Improves accessibility, improves safety by making the pedestrian more visible.	Improves visibility of crossing pedestrians.
14 REALIGNED INTERSECTION		A realigned intersection adds a physical barrier to the middle of a T-intersection, creating a curved street. This causes a reduction in vehicle speed through the intersection.	<ul style="list-style-type: none"> LOCAL COLLECTOR ARTERIAL <p>SPEED: LOW TRAFFIC: ANY</p>	Realigned intersections may only be appropriate at 3-point intersections.	Opportunity for public art.	Turning vehicles can pull forward beyond the crosswalk while waiting, clearing the crosswalk for pedestrians.	Improved visibility of other cars stopped at the intersection.
15 DIAGONAL DIVERTER		Meant to reduce traffic volumes by preventing traffic moving through the intersection, diagonal diverters are placed diagonally in the intersection with a crossing provided for pedestrians and cyclists.	<ul style="list-style-type: none"> LOCAL COLLECTOR ARTERIAL <p>SPEED: LOW TRAFFIC: LOW</p>	Diagonal diverters redirect traffic - if through-traffic is required, this is not appropriate. Depending on the type of construction, they can also impact drainage.	Opportunity for landscaping or public art. Businesses near bike amenities have shown improved sales in studies.	Improves safety due to a reduction in traffic volumes and slower vehicle speeds in the intersection.	Removes conflicting traffic at the intersection.

INTERSECTION TOOLS:

TOOL	GRAPHIC	DESCRIPTION	APPROPRIATE ROADWAY	CHALLENGES	ADJACENT LAND OWNERS	PEDESTRIANS AND BIKES	CAR USERS
16 FULL CLOSURE		A full closure completely closes the street to through-traffic. Also known as a cul-de-sac, this strategy shifts traffic to other streets and is applicable for subdivision and local streets.	<ul style="list-style-type: none"> <input checked="" type="radio"/> LOCAL <input type="radio"/> COLLECTOR <input type="radio"/> ARTERIAL <p>SPEED: TRAFFIC: LOW LOW</p>	A full closure prevents through traffic from entering the intersection, redirecting traffic to different streets.	Reduction in traffic volumes and opportunity for landscaping.	Improves safety due to a reduction in traffic volumes.	Improves safety due to a reduction in traffic volumes and slower vehicle speeds in the intersection.
17 HALF CLOSURE		A half closure blocks vehicle travel in one direction, briefly turning a two-way street into a one-way street, causing traffic to shift onto different streets.	<ul style="list-style-type: none"> <input checked="" type="radio"/> LOCAL <input type="radio"/> COLLECTOR <input type="radio"/> ARTERIAL <p>SPEED: TRAFFIC: LOW LOW</p>	A half closure prevents through traffic in one direction, redirecting traffic to different streets. This may pose challenges if traffic must be able to enter the roadway.	Reduction in traffic volumes and opportunity for landscaping.	Opportunity for a crosswalk with shorter crossing distances.	Improves safety due to a reduction in traffic volumes and slower vehicle speeds in the intersection.
18 MEDIAN BARRIER		A median barrier prevents through traffic from passing in one direction. It also prevents unsafe turning movements.	<ul style="list-style-type: none"> <input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input type="radio"/> ARTERIAL <p>SPEED: TRAFFIC: ANY ANY</p>	Median barriers prevent through traffic from passing through an intersection.	Reduction in traffic volumes, opportunity for landscaping.	Improves safety due to a reduction in traffic volumes.	Improves safety due to a reduction in traffic volumes.
19 RUMBLE STRIPS		Rumble strips can be placed at the approach to an intersection to encourage drivers to slow down. While they do not stop speeding, they help make drivers more alert when reaching a conflict point.	<ul style="list-style-type: none"> <input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input checked="" type="radio"/> ARTERIAL <p>SPEED: TRAFFIC: ANY ANY</p>	Rumble strips do not force cars to physically slow. Careful consideration should be taken when placing rumble strips in residential neighborhoods due to the noise they can produce.	Simple and quick implementation, no alteration to curb line.	Does not impact bike users' ability to move through the roadway unabated.	Improved alertness.
20 DUTCH INTERSECTION		A protected intersection uses concrete islands to narrow the turning radii of vehicles, causing drivers to slow when turning and also providing a dedicated space for cyclists in the intersection.	<ul style="list-style-type: none"> <input checked="" type="radio"/> LOCAL <input checked="" type="radio"/> COLLECTOR <input checked="" type="radio"/> ARTERIAL <p>SPEED: TRAFFIC: ANY ANY</p>	If located on a freight corridor, a sharper turning radius could impact large trucks comfort and ability to turn.	Opportunity for public art and landscaping.	Provides dedicated space for cyclists at the intersection. Improves visibility for crossing pedestrians, as drivers slow when turning.	Reduces conflicts with cyclists at intersections. Improves visibility of crossing pedestrians.

RECOMMENDED PROJECTS

The projects recommended in this section are the logical result of combining the SSPN and the Safe Streets Toolkit—identifying where New Braunfels can deploy the toolkit solutions based on context-sensitive, data-driven analysis. In cases where roadways on the SSPN are not owned or maintained by the City of New Braunfels, this plan presents more generalized project recommendations for the City to pursue with partner agencies like TxDOT, Comal County, and Guadalupe County.

Next, this section identifies corridors that should be considered for future study and potential future safety initiatives. Finally, the guidance in this section addresses deploying Safe Streets Toolkit elements on local facilities, though it's important to note that some of these local implementations require collaboration with external partners to ensure project success.

For all of these projects, the implementation team must remember that the toolkit recommendations are not a replacement for meeting TxDOT compliance. Safe Street Priority Projects will go through three implementation stages, detailed below. Projects identified in this plan are at different stages, but many of them are projects that can be addressed entirely by the City of New Braunfels.

STEP 1: FUNDING, DESIGN AND DISCUSSION

- Priority projects are designed and presented to the community for input.
- Designs are refined based on community input.
- Projects are funded through local funds such as a bond election or the City's operating budget, and matched with state and federal granted opportunities

STEP 2: QUICK-BUILD AND IMPLEMENTATION

- Before full installation of a traffic calming tool or roadway redesign, quick build versions of such infrastructure is installed to test driver response.
- Designs are updated based on driver response.
- Full project is installed.

STEP 3: EVALUATION AND ANALYSIS

- After installation, City staff monitors driver response and any crashes at or along the project for 5 years.
- Community feedback is recorded and published for City Council review.
- Designs on future projects are altered based on the successful or unsuccessful reduction in severe and fatal crashes.

PRIORITY CITY OF NEW BRAUNFELS PROJECTS

Projects to prioritize for the City of New Braunfels can be determined using Figure 24 as a road map. Safety improvements for roadway segments in dark blue can be chosen by identifying the top-scoring attributes along that segment and matching those needs with appropriate features in the toolkit and funding availability.

	NAME	EXTENT	ATTRIBUTES	RECOMMENDATIONS	STATUS
1	Walnut Ave	Landa St to Bridge St	Proximity, Left Turn, Speed Related	Turning Control and Pedestrian Crossings	Step 1
2	Common St	Central Ave to Peace Ave	Proximity, Speed Related, Vulnerable Road User, At Intersection	Roadway Reallocation (Center Turn Lane and Bike Lanes), Pedestrian Crossings and Traffic Circles	Step 1
3	San Antonio St	Comal Ave to Union Ave	Proximity, Left Turn, Lane Change, Vulnerable Road user	Roadway Reallocation (Narrow Lanes, Controlled Left Turn), Pedestrian Crossings, Bulbouts, Rumble Strips	Step 3
4	San Antonio St	Ferguson St to Main Plaza	Left Turn, Lane Change	Roadway Reallocation (Center Turn Lane and Bike Lanes), Pedestrian Crossings, Bulbouts, Left Turn Controls, Rumble Strips	Step 1
5	Goodwin Ln	Orion Dr to Pader	Light Conditions, Speed Related	Roadway Reallocation (expansion), Pedestrian Improvements and Crossings	Step 2
6	Hunter Rd	Rapids Rd to FM 306	Speed Related, At Intersection	Chicanes, Median Island, Crosswalks	Step 1
7	McQueeny Rd	IH-35 to Melody Ln	Left Turn, Vulnerable Road User, At Intersection	Chicanes, Median Islands, Crosswalks	Step 1
8	Gruene Rd	Torrey St to Ewelling Ln	None outside Standard Deviation	Roadway Reallocation, Bicycle and Pedestrian Improvements	Step 2
9	Common St	Grant Ave	Unlighted at night, bike ped	Roundabout, Bulbouts, or Dutch Protected Intersection	Step 1
10	Common St	Fair Ave	Speed related	Roundabout and Bulbouts, or Dutch Protected Intersection	Step 1
11	Common St	Gruene Rd	Left turn, speed related	Dutch Protected Intersection	Step 2
12	County Line Rd	Dove Crossing Dr	Lane change, left turns, unlighted	Evaluate the success of the signalized intersection, consider rumble strips.	Step 3

Figure 27.

PRIORITY PARTNER PROJECTS

Partner projects to prioritize in the Safe Streets Implementation Plan can also be determined using Figure 24. Because these projects are on Right of Way not owned or maintained by the City, not all toolkit features may be approved or appropriate on these roadways or intersections. For this reason, only Partner roadway projects are detailed below. Partner intersection projects should be explored through the Recommended Programs section for partner design.

	NAME	EXTENT	ATTRIBUTES	RECOMMENDATIONS	STATUS
1	SH 46	Sigel Ave to Oak Run Pkwy	Light Conditions, Left Turn, Speed Related	Lighting and Rumble Strips	Step 1
2	Loop 337	NBHS to Castlewood Dr	Proximity, Speed Related, Construction	Rumble Strips, Median Island, Crosswalks	Step 1
3	Loop 337	California Blvd to Oakwood Blvd	Speed Related, Construction	Rumble Strips, Median Island, Crosswalk	Step 1
4	Loop 337	IH-35 to San Antonio St	Light Conditions, Left Turn, Speed Related, Construction	Lighting, Remove or Control Left Turn Actions	Step 1
5	Seguin Ave	Main Plaza to Faust St	Proximity, Lane Change, Speed Related	Roadway Reallocation, Bulbouts at Intersections	Step 1
6	Elliot Knox Blvd	Kuehler Ave to McQueeney Rd	Left Turn, Lane Change, Speed Related, At Intersection, Construction	Control or Limit Left Turns, Median Island, Rumble Strips	Step 1
7	Loop 337	River Terrace to Madison Ave	Proximity, Left Turn, Right Turn, Speed Related, At Intersection, Construction	Control or Limit Left Turns, Median Islands, Rumble Strips, Bulbouts at Intersections	Step 1
8	SH 46	Church Hill Dr to Caddell Ln	Proximity, Left Turn, Lane Change, Speed Related	Control or Limit Left Turns, Median Island, Rumble Strips	Step 2
9	Seguin Ave	Elliot Knox Blvd to Green Valley St	Left Turn, Lane Change, Speed Related, At Intersection, Construction	Control or Limit Left Turns, Median Island, Rumble Strips	Step 1
10	FM 306	Goodwin Ln to Longhorn Industrial Dr	Right turn, Speed Related	Rumble Strips, Bulbouts, Median Islands, Crosswalks	Step 1
11	FM 1101	Kowald Ln to Rainy Creek	Proximity, Right Turn, Vulnerable Road User,	Protected Bike Lanes, Bulbouts, Median Islands, Crosswalks	Step 1
12	SH 46	Mary Blvd to FM 758	Light Conditions, Left Turn, Lane Change, At Intersection	Lighting Rumble Strips, Signalized Intersections	Step 1
13	FM 725	County Line Rd to Joanne Cove	Proximity, Light Conditions, Speed Related, At Intersection	Lighting, Rumble Strips, Chicanes, Controlled Intersections	Step 1
14	Elliot Knox Blvd	IH-35 to Skyview Ave	Proximity, Right Turn, Lane Change, Speed Related, Vulnerable Road User, Construction	Protected Bike Lanes, Roadway Reallocation, Rumble Strips, Bulbouts, Median Island	Step 1

Figure 28.

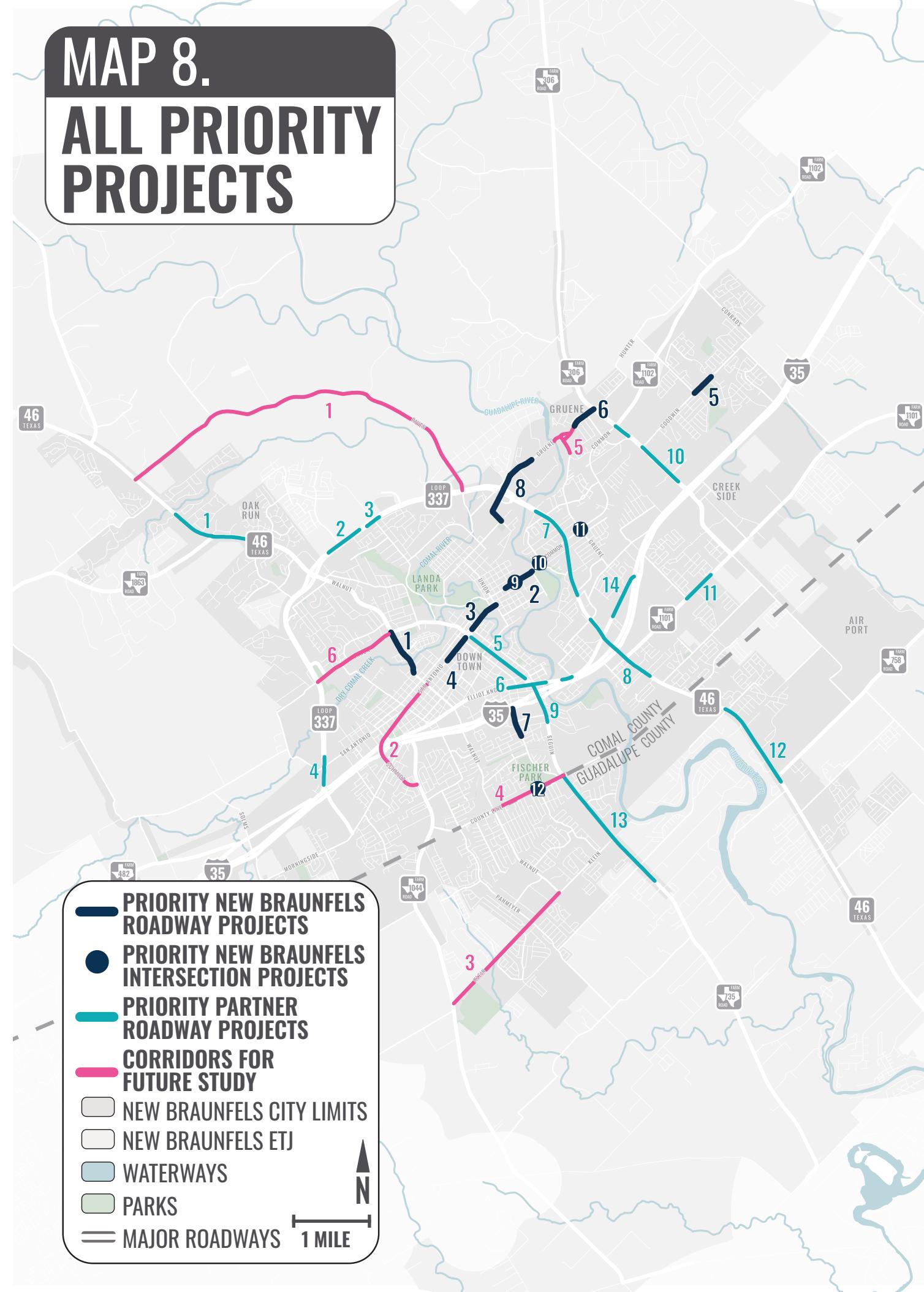
CORRIDORS FOR FUTURE STUDY

The City of New Braunfels maintains 793 miles of roadways, and there are an additional 179 miles of roadways maintained by TxDOT or Comal County within the City and the ETJ. Because of the sheer number of roadways, not all priority corridors will be obvious based on this analysis. This plan defines the following group of five corridors for future study. These corridors were chosen based on their analysis attribute scores and the likelihood of a future increase in fatal and/or serious collisions.

	NAME	EXTENT	CONSIDERATIONS
1	River Rd/Hueco Springs Loop	Loop 337 to SH 46	The new Veramendi development will soon place remarkable traffic stress on these roadways. While the Loop 337 underpass at River Road and Loop 337 may help travel movements, further study is required. River Road connects directly to Headwaters at the Comal, a priority recreational destination.
2	San Antonio St/Spur St and Schmidt Ave	FM 1044 to San Antonio St	Spur at I-35 is one of the highest scoring non-signalized intersections analyzed by this plan, currently featuring only a stop sign. Additionally, the intersection of Morningside and Schmidt is a priority intersection for signalization. Extreme variations in roadway widths and lanes cause travel confusion. San Antonio St. is a priority bike corridor.
3	Klein Rd	1044 to Walnut Ave	Nearby new development and the upcoming construction of the New Braunfels Recreation Center will offer travel patterns. Klein road currently features a multi-use path but with few safe crossings to adjoining facilities.
4	County Line Rd	FM 725 to Walnut Ave	Extremely High Turning and Intersection Score along this corridor, showing the need to better control intersections. Nearby new development will offer travel patterns especially when connecting to Fischer Park.
5	Gruene Rd	Gruene Historic District	Gruene is one of the priority tourist, and therefore pedestrian, activity Areas in the region, highlighting the need for better signed, dedicated Bike/Ped facilities. This is met with the challenge of drainage and constrained ROW creating an opportunity for a raised Intersection or Raised Roadbed.
6	Landa St	Walnut Ave to Loop 337	Extreme variations in roadway widths and lanes cause travel confusion and may be over-built for current travel demand. Sidewalk improvements, narrower lanes, additional sidewalks, and pedestrian crossings may be needed.

Figure 29.

MAP 8. ALL PRIORITY PROJECTS



DEPLOYING THE SAFE STREETS TOOLKIT ON LOCAL FACILITIES

In addition to projects deploying traffic calming infrastructure that feature set boundaries defined by the SSPN, the City can also deploy the Safe Streets Toolkit on local facilities.

While much of this plan prioritizes roadways and implementations using analysis attribute scores based on crash data and defined in Figure 20, many local facilities have not experienced a crash in this plan's analysis window, and may not have any SSPN score. Therefore, identifying specific safety solutions for a specific local roadway segment and looking at its high scoring analysis attributes, may not be appropriate.

Instead, the City can begin by continuing its robust sidewalk program, building basic infrastructure on all local streets and intersections. Led by community request or to address emerging issues on local roadways, the City should analyze potential traffic calming infrastructure using a three-step process:

STEP 1: LISTEN TO THE COMMUNITY

- Community comments usually seek to address specific issues.
- Different tools in the toolkit are useful in different contexts. Chicanes and/or speed humps may improve safety while median barriers best address through traffic.
- Center the approach on the desire of the community.

STEP 2: IDENTIFY CONSTRAINTS

- Not all Safe Street Tools are appropriate at all locations - whether based on technicalities like drainage and slope or community preferences like the need for parking or turning actions.
- Based on these constraints and challenges, the City should remove tools from consideration that are not feasible in the context of a local roadway.

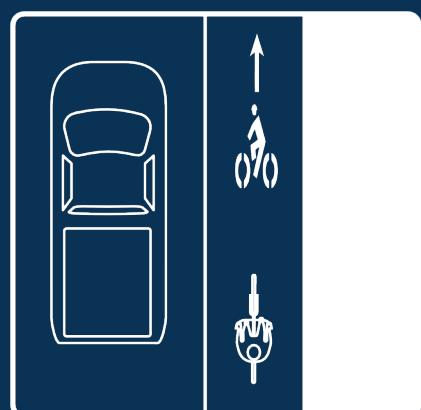
STEP 3: QUICK-BUILD, EVALUATE, INSTALL

- Once a tool is selected, the City should first deploy a quick build of this infrastructure to demonstrate to the community what a final implementation may look like.
- After 6 months, the City should analyze community comments to decide on removing the facility, installing a more permanent version, or leaving the existing quick build implementation.

RECOMMENDED POLICIES

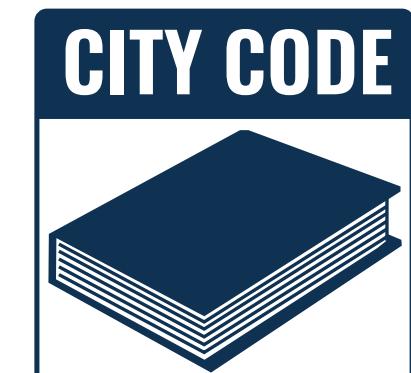


Implementing key projects is essential, but according to the Safe Systems approach, traffic policies must respond to existing safety conditions. To achieve the goal of zero traffic deaths and fatal injuries, certain policies within the City of New Braunfels Municipal code should be updated. Three goals within policy updates were identified including: safer speeds, multi-modal streets, and safe driving behavior. Changes to New Braunfels Code of Ordinances and established policies and additions to the upcoming Land Development Ordinance (LDO) are encouraged to streamline road safety solutions. For instance, instead of seeking the approval of City Council to authorize traffic calming measures, a change in the Speed Hump Policy could be implemented to allow the city engineer to select and install appropriate measures based on best practices and the context of the area. This accelerates the rate that traffic calming strategies can be implemented, helping New Braunfels to achieve its goal of zero deaths and serious injuries.



GOAL #1: SAFER SPEEDS

Since street design influences how fast someone feels comfortable driving, physical solutions are needed to make speeding difficult or impossible, especially in high-crash zones. Street design combined with traffic calming infrastructure and traffic control devices can reduce the rate of speeding on New Braunfels's streets, reducing the likelihood of crashes.



POLICY: UPDATE SPEED HUMP POLICY TO A COMPREHENSIVE TRAFFIC CALMING PROGRAM.

DID YOU KNOW?

The City of New Braunfels has already installed bulb-outs on San Antonio street.



86%

of severe or fatal crashes were on streets designated as arterial or higher.

81%

of severe bike or pedestrian crashes were on streets designated as arterial or higher.

Description:

Section 118-46 of the New Braunfels Code of Ordinances currently limits traffic calming infrastructure to local and collector streets adjacent to single-family and duplex lots, excluding commercial and multifamily corridors. The Code of Ordinances should be amended to allow appropriate traffic calming features in a wider variety of neighborhood and street contexts.

Current Policy:

"Traffic calming may be placed on local and residential collector streets adjacent to one- and two-family residential lots."

Revised Policy Proposal:

"Traffic calming may be placed on any street at the professional discretion of the city engineer."

Benefits of Proposal

Amending the Code of Ordinances to allow traffic calming on any street expands where interventions can be made. Since the vast majority of severe or fatal crashes happen on arterial streets, traffic calming is needed to reduce severe crashes. Allowing the city engineer to determine the placement of traffic calming device streamlines the process to install traffic calming and prioritizes professional expertise. It addresses Envision New Braunfels Action Number 7.16, "Develop a program and process for consideration of citizen requests for neighborhood traffic calming."

POLICY: AMEND CODE OF ORDINANCES TO ALLOW THE CITY ENGINEER TO AUTHORIZE TRAFFIC SIGNALS, SPEED LIMITS, AND SPEED ZONE LOCATIONS.

Description

Section 126-66 of the New Braunfels Code of Ordinances currently requires City Council approval for amending speed limits, adding traffic signals, or setting speed zones, making it time- and resource-intensive to implement strategies that reduce speeding. This process can be streamlined by allowing the city engineer to change speed limits, rather than requiring a vote by City Council.

Current Policy

"The installation of the following traffic control devices shall require approval from the City Council by ordinance: (1)Traffic signals, (2)One-way streets, (3)Speed limits, (4)Speed zone locations, (5)All parking regulations not specifically delegated to the chief of police or city engineer under this chapter; (6)All other regulatory signs where the authority to install is not specifically delegated to the chief of police or city engineer in subsection (a) of this section."

Proposed Policy

The installation of the following traffic control devices shall require approval from the *city engineer* by ordinance: (1)Traffic signals, (2)Speed limits, (3)Speed zone locations, (4)All other regulatory signs where the authority to install is not specifically delegated to the chief of police or city engineer."

Example from San Antonio

The City of San Antonio recently amended their code of ordinances to allow the city traffic engineer to "determine and establish speed regulations, school zones, regulatory devices, signs, signals and all other traffic control devices..." Rather than giving the authority to City Council, allowing an engineer to place traffic control devices streamlines saves time and provides expert input.



GOAL #2: MULTI-MODAL STREETS

Providing dedicated space on New Braunfels's streets for bikes and pedestrians, in addition to cars, improves safety for all road users. In many cases, wide vehicular lanes can be narrowed to provide more space for pedestrians and cyclists without impeding traffic flow. Dedicated facilities reduce the risk of car crashes with vulnerable road users, having the potential to save lives.

POLICY: REQUIRE A CONNECTED MULTI-MODAL STREET NETWORK IN NEW DEVELOPMENTS AND REDEVELOPMENTS.

Description:

By discouraging through-traffic in new residential developments, Section 118-46 of the Code of Ordinances also discourages pedestrian and cyclist connectivity. Amending the policy to specifically discourage vehicular through-traffic instead of all modes creates pedestrian and cyclist-priority streets, helping to separate vulnerable road users from fast-moving vehicles.

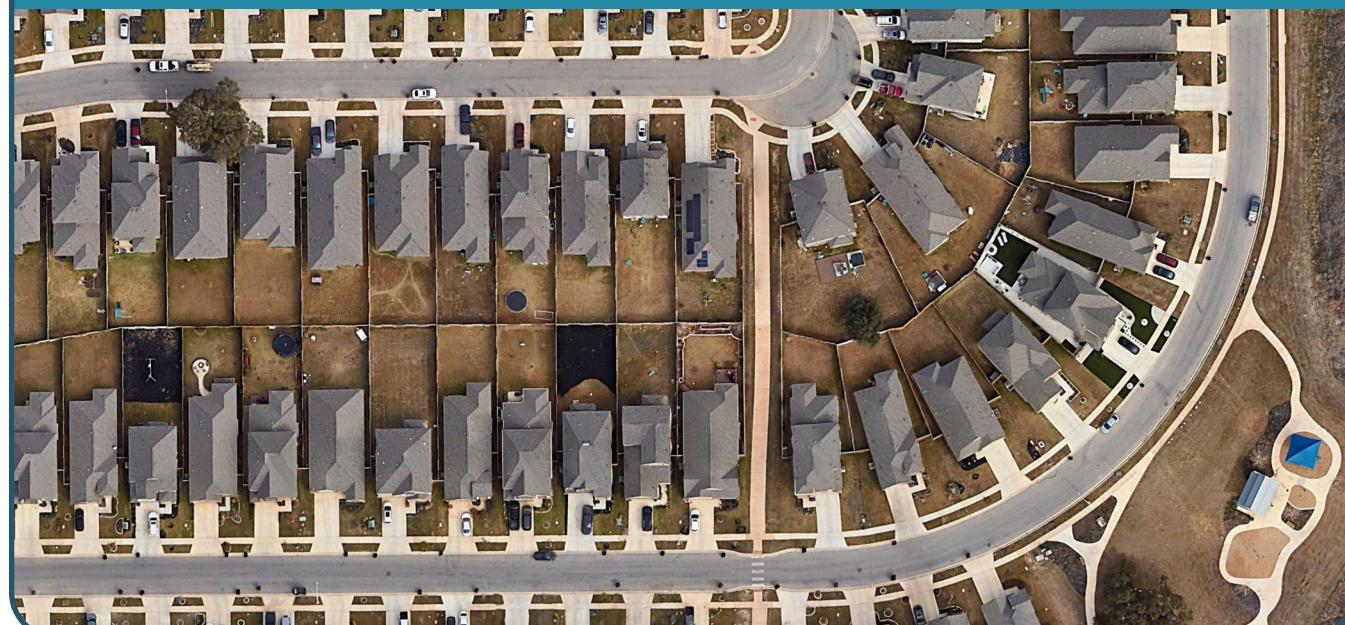
Current policy:

"Local streets serving residential property shall be laid out so as to discourage their use by through traffic."

Updated policy:

"Local streets serving residential property shall be laid out to encourage pedestrian and cycling connectivity but to discourage their use by vehicular through traffic."

EXAMPLE FROM THE VERAMENDI SUBDIVISION OF A PEDESTRIAN CUT-THROUGH



GOAL #3: SAFE STREET BEHAVIORS

While traffic calming features and redesigning streets can discourage people from driving recklessly, changes to the law are also needed to ensure safe street behaviors. Working with the Police Department and changing the Code of Ordinances can facilitate the fair enforcement of traffic laws and safe street behavior.

POLICY: IMPROVE SAFETY ORDINANCES FOR VULNERABLE ROAD USERS.

Description:

Bike lanes provide dedicated space for bikes, separating slower bike traffic from faster car traffic. On streets without bike lanes, however, drivers may want to pass cyclists. Doing so safely is of utmost importance, as passing closely can be intimidating to cyclists or even cause crashes. Drivers should treat bike users on streets without a bike lanes the same as on those with bike lanes - therefore passing distances should be equal.

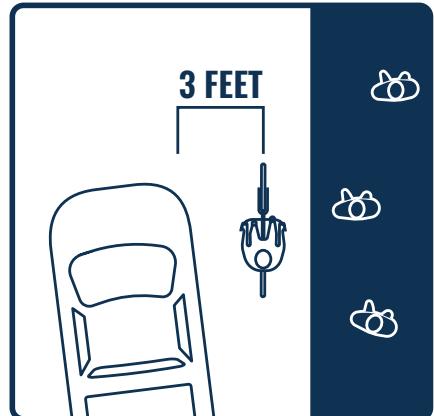
Current policy:

Section 126-103 of the Code of Ordinances states that "For the purpose of subsection (a)(2), when road conditions allow, safe distance is at least: Three feet if the operator's vehicles is a passenger car or light truck."

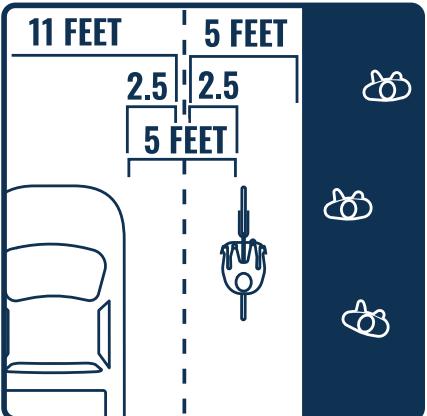
New policy:

"For the purpose of subsection (a)(2), when road conditions allow, safe distance is at least: Five feet if the operator's vehicles is a passenger car or light truck."

CLOSE PASS



BIKE LANE PASS



SAFE PASS



POLICY: PROHIBIT PARKING, IDLING, AND DRIVING IN BIKE LANES.

PROTECTED BIKE LANES CAN REDUCE BIKE-CAR CRASHES BY AS MUCH AS

50%

Description:

The New Braunfels Code of Ordinances does not provide guidance on the obstruction of bike facilities, meaning that it is currently legal for drivers to idle or park in the bike lane. This creates serious safety concerns, as it causes people on bikes to move into mixed-traffic to pass a parked vehicle.

Updated policy:

Unless posted by another sign conforming to New Braunfels Code of Ordinances, Chapter 106 - Signs, Motor vehicles shall not drive or park in designated on-street bike lanes. All newly installed bike lanes shall be installed with "No Parking" signs in addition to standard "Bike Lane" signs. Additionally, a bikeway facility should be reevaluated where parking is allowed in an existing bike lane.



RECOMMENDED PROGRAMS

After identifying key projects and amending essential policies, the City must identify ongoing programs to ensure it can respond to changing circumstances on New Braunfels streets and continue effective implementation. Programs are distinct from policies in that they are not implementable through changes in the Code of Ordinances. Rather, City staff are responsible for crafting programs that advance the goal of zero traffic deaths and severe injuries through coordination within city government. The following chapter is divided into three goals for new programs: a more informed public, streamlined implementation of traffic calming infrastructure, and reformed traffic enforcement. Each page has several programs that work hand-in-hand with each other to achieve these goals.



GOAL #1: AN INFORMED PUBLIC

PROGRAM: STREET SAFETY WEBPAGE.

In order to better understand street safety conditions, the City of New Braunfels should create a publicly available street safety GIS dashboard. The City should work with the police department, hospitals, the fire department, and the coroner's office to describe why crashes happened and the severity of crashes. This information can be used by residents to request specific traffic calming infrastructure at particularly unsafe intersections or roadways, arming them with data to make more targeted requests.

An important part of a Safe Systems approach is using data to track the efficacy of street interventions. The City of New Braunfels should prepare yearly progress reports outlining what kind of traffic calming infrastructure was implemented, where it was placed, and the effects it had on reducing crashes, especially severe and fatal crashes. Allowing the public to see their tax dollars at work will improve support for street safety interventions, showing that the City is making progress in achieving the goal of zero traffic deaths and serious injuries.

PROGRAM: EDUCATIONAL CAMPAIGNS.

Example from Boulder, Colorado

The City of Boulder, Colorado started a communications plan in 2017 to specifically target 18-24 year old drivers on social media platforms such as Instagram, Snapchat, and Facebook. Funded by a state grant, the communications plan reached twice as many people as regular posts, helping to educate the public about street safety and new infrastructure.

Example from San Antonio

The City of San Antonio maintains a GIS dashboard with statistics about where and why severe crashes occurred. The dashboard allows the viewer to differentiate between pedestrian, cyclist, and vehicle-only crashes. This allows the public to see where streets in their city need intervention, helping to build public support for street safety installations.

Although car crashes are one of the leading causes of death in the United States, driving a vehicle is seldom thought of as a risky activity. The City of New Braunfels should create various educational campaigns to emphasize how street safety is a shared responsibility in order to reach new drivers and existing drivers alike. The City should partner with driving schools and high schools to create a Street Safety curriculum that emphasizes the fact that unsafe driving behaviors have the potential to end someone's life. Additionally, the City should invest in advertisements that inform drivers about the benefits of traffic calming infrastructure, helping the public to understand why a physical intervention has been made on the street.

PROGRAM: SUPPORT TRANSPORTATION OPTIONS DURING HIGH-RISK PERIODS.

Alcohol and drug use contributed to 525 crashes, which amounts to about eight percent of all crashes. However, it contributed to about 19% of crashes that caused a serious injury and about 17% of crashes that caused a fatal injury. Expanding non-driving transportation options is key to reducing intoxicated driving.

The City of New Braunfels currently has plans to invest in an on-demand, micro-transit service. The City should support this investment through advertisements such as billboards, social media posts, and television ads to bring awareness to the new bus system. Special care should be taken to inform the public about the new transportation option and explain how it can be integrated into daily life as well as fun nights out.

Additionally, the City should explore a program to subsidize rideshare services such as Uber and Lyft within its city limits to bridge gaps in the public transportation network. Other cities along the I-35 corridor, like the City of Kyle, have found success in partnering with these companies to provide more transportation options.



19%

of crashes that caused a serious injury involved alcohol or drugs

Example from Kyle

The Uber Kyle \$3.14 service provides subsidized on-demand transportation options to Kyle residents and visitors. For eligible trips within city limits, riders pay the first \$3.14 and receive a subsidy of up to an additional \$10. Riders are responsible for any charges beyond the first \$13.14 (\$3.14 fare + \$10 subsidy). This subsidy allows the deployment of shared mobility in a flexible context.

GOAL #2: STREAMLINED IMPLEMENTATION

PROGRAM: DESIGNATE CITY STAFF MEMBERS TO DEVELOP AND IMPLEMENT POLICIES AND PROGRAMS.

Organizing and implementing street safety interventions can be complex and time-consuming. The City of New Braunfels should have adequate resources for organizing street safety programs to ensure that the City stays on track to achieving zero traffic deaths and serious injuries by its goal date. Creating dedicated resources helps to centralize the implementation of safe streets programs, preventing other staff members from being overwhelmed with new responsibilities.

Example from San Antonio

San Antonio employs a Vision Zero team whose purpose is to develop and implement projects and improvements that advance Vision Zero's goals around the city. This team is essential to San Antonio's efforts to create safer streets for all modes of transportation.

PROGRAM: COLLABORATE WITH AGENCY PARTNERS ON SAFE STREETS.

Roads throughout New Braunfels and its ETJ are owned and operated not only by the City, but also the State of Texas and Comal and Guadalupe Counties, meaning that collaboration between governmental entities is needed to implement traffic calming infrastructure. The City of New Braunfels should create a collaborative safe streets design program to work with TxDOT to reduce severe or fatal crashes on state-owned roads. Facilitating inter-governmental collaboration helps to speed up the process of implementing safe streets infrastructure.

These activities can be focused on high scoring intersections in the New Braunfels ETJ. Intersections such as Schoenthal Road at FM 1863 feature very high SSPN scores, feature no signalization or traffic calming features, and are located far into Comal and Guadalupe Counties. Ensuring safety at such intersections is a priority for New Braunfels's holistic goal of traffic safety.



Example from Colorado

Colorado Department of Transportation collaborated with partner Denver Regional Council of Governments to create the Safer Main Streets Initiative in 2020. This initiative supports infrastructure improvements that promote safety along urban arterial roadways, especially for vulnerable users (cyclists and pedestrians).

PROGRAM: ESTABLISH THE SAFE SYSTEM APPROACH FOR SPEED MANAGEMENT.

Description

Example from New York City

As part of their Vision Zero initiative, NYC reduced speed limits for 86% of streets without a posted speed limit in 2014. A study conducted in 2014 by the City University of New York suggests that the reduction in speed limit reduced both casualties and crashes relative to non-treated streets, showing that speed limit reductions can be a low cost and effective option.

Studies show that small reductions in speed limits can have big impacts on reducing pedestrian and cyclist crashes, as well as reducing excessive speeding. A case study in Seattle found that lowering the speed limit from 30 to 25 resulted in a significant reduction in the number of crashes. The City should evaluate and consider amending the Code of Ordinances to reduce the city-wide or residential default speed to 25 mph, including signing requirements and cost impacts.

The City of New Braunfels should establish the safe system approach for speed management, including launching pilot programs for lowering speed limits. The City should invest in a study to determine the cost for changing speed limit signs.

As noted in the Street Safety Today section, many of the main thoroughfares within the city limits and ETJ are owned and operated by the state. The City of New Braunfels should push for a safe systems approach to speed management at the state legislature to advocate for a safer transportation system.

PROGRAM: ESTABLISH A PROCESS FOR ALLOCATING ROADWAY SPACE TO IMPROVE SAFETY.

Description:

Many cities have expedited the construction of bike and pedestrian infrastructure through “field engineering,” which is when a city engineer makes changes to a street’s design based on their expert opinion, rather than conducting a detailed design study. Many streets in New Braunfels have standardized layouts, consisting of two lanes in each direction. Field research has determined that converting these streets to one lane in each direction with a turning lane has no impact on traffic volumes or traffic flow, but it recovers space that can be used for pedestrian or bike facilities.

Streamlining the process for making changes to the street layout can save time and money when implementing safe street designs.

The City of New Braunfels is currently in the process of identifying key bikeways that will create an all ages and abilities network, improving safety while increasing the biking mode share. The City should adopt guidelines from the latest National Cooperative Highway Research Program (NCHRP)’s Roadway Cross Section Reallocation Manual to ensure that new street designs support all modes of travel. Additionally, the City should adopt a policy to use field engineering to reallocate street space for roads that serve less than 15,000 cars per day. Following NCHRP guidance and using field engineering will accelerate the process of lane reallocation, saving time and money. The City should also explore programs to waive traffic impact analyses.

PROGRAM: ESTABLISH ROADWAY DESIGN GUIDANCE FOR ALL MODES.

Description:

Example from Austin

The City of Austin uses NACTO guidance to design streets that encourage safety for all modes of transportation. With over 50 miles of protected bike lanes as of 2022, the City plans to increase its safe bike network to over 200 miles by 2025. By following the national standard for safe street infrastructure, the City of Austin ensures that its approach to street safety is regularly updated.

The 2022 TxDOT Roadway Design Manual specifies where bike lanes should be placed and the level of separation needed for roads with different speeds and traffic volumes. The 2024 Manual on Uniform Traffic Control Devices (MUTCD) also provides up to date guidance on the language used and placement of traffic signs. Finally, the NCHRP’s Roadway Cross Section Reallocation Manual provides guidance on how to convert car travel lanes to other modes.

PROGRAM: PLACE STREETLIGHTS IN AREAS OF HIGH PEDESTRIAN AND CYCLIST ACTIVITY.

Description:

According to the Street Safety Today analysis (page 10), the most lethal hour for pedestrians and cyclists is at night between 10pm and 11pm. This could be due to the lack of light, which makes pedestrians and cyclists less visible to drivers.

The City of New Braunfels should invest in streetlights in areas known to be popular for walking or biking. A focus should be placed on lighting crosswalks, which will improve visibility when crossing the street.

Additionally, the City should establish a streetlight request program, where residents can request lighting for their street.

Example from San Antonio

The City of San Antonio allocated \$6 million to the installation of streetlights in 2022. The program conducted an analysis to determine gaps in the streetlight network and where to place new streetlights to improve public safety, both in terms of crime and car crashes. San Antonio also has a program that allows residents to request a new streetlight.

GOAL #3: FOCUSED ENFORCEMENT

PROGRAM: EVALUATE AND MONITOR SAFE STREET IMPLEMENTATION.

Traffic calming infrastructure is meant to encourage people to drive slower for the purpose of improving safety. The City should invest in radar units and speed feedback signs to determine if drivers are actually going the new posted speed limit.

If many drivers are still speeding after an intervention, this signals that the new design of the road was not successful at creating safer speeds, showing the need for a different street design or additional traffic calming installations. Using technology to monitor the success of new traffic calming infrastructure can allow City staff to improve street designs and respond to real-world conditions.

Furthermore, focusing enforcement practices around new street safety implementations will allow law enforcement officers to interact with these new designs and observe resident reactions to infrastructure.

A NOTE ON TRAFFIC ENFORCEMENT AND SAFE SYSTEM IMPLEMENTATION

An added benefit of traffic calming infrastructure is that the deterrence of unsafe driving behaviors can result in a reduced need for traffic enforcement.

Police resources can then be reorganized to focus on other essential services. While enforcement is useful in preventing dangerous behaviors such as drunk driving, simply increasing enforcement of street rules is not a cost-effective way of reducing crashes. Instead, the permanent installation of traffic calming infrastructure can make aggressive driving less likely, meaning police are able to use their resources for serious crimes.



IMPLEMENTATION PLAN

The New Braunfels Street Safety Action Plan is the city's road map to eliminating severe and fatal crashes by 2040. It requires a commitment from both the City of New Braunfels (CoNB) and TxDOT and a shift to a safety culture for residents, staff, and elected officials.

WHAT KEY CHANGES WILL MAKE THIS PLAN A SUCCESS?

New Braunfels has committed to change the way it designs roads and enforces traffic regulations. This will require that the CoNB Transportation Capital Improvements Department (TCI) consider traffic safety in all of its staffing, planning, design, operations, and maintenance decisions. Over the next 16 years, New Braunfels will advance the following updates to become a city that prioritizes transportation safety:



PURSUE SAFER SPEED LIMITS

The New Braunfels SSAP suggests considering lower speed limits on many streets. Many of the design options discussed in this Plan have the primary or secondary effect of reducing speed limits.



PROVIDE A FRAMEWORK FOR MULTI-MODAL OPTIONS

The New Braunfels Code of Ordinances will be updated to include meaningful consideration of bicycle, pedestrian, and other modes in the city's future development and provide the city engineer with more discretion regarding roadways reconfigurations, speed limits, and signal needs.



PROTECT MULTI-MODAL SPACES

Requiring a wider berth for cars passing bicycles, as well as preventing motor vehicles from using or blocking bike lanes, allows vulnerable road users the protection and space they need to travel safely on New Braunfels's roads.



INFORM AND EDUCATE

Transparency and accountability will be enhanced through regular and accessibility reporting on safety efforts and achievements. The City will foster relationships with the local school districts to bring safety education to both new and experienced drivers.



FOCUS ON IMPLEMENTATION

By appointing staff members to Safe Streets projects, New Braunfels will improve its ability to implement Vision Zero actions and learn from crashes when they happen.



INFORMED ENFORCEMENT FOR TRAFFIC VIOLATIONS

The SSAP recommends development of a specialized monitoring program for new traffic calming features that are installed to ensure their effectiveness. Speed monitoring in areas with new traffic calming features should be prioritized to determine functionality and efficacy.



STRATEGIC PARTNERSHIPS

A collaborative safe streets design program co-lead by the City of New Braunfels and TxDOT will help identify strategies to reduce severe or fatal crashes on state-owned roads. Engaging with the private sector, particularly with entities that make extensive use of New Braunfels streets (rideshare companies, delivery firms, business owners, etc) will help ensure that companies are collaborative safety partners who understand and contribute to street safety throughout the city.

HOW WILL SAFETY UPGRADES BE IMPLEMENTED?

Implementation is the most important—and most difficult—aspect of any transportation project, particularly those that do not yet have identified funding. Projects must either secure state/federal funding (if applicable) or secure funding through local sources.

FEDERAL FUNDING OPTIONS

Safe Streets and Roads for All (SS4A) Grant

Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grants

Strengthening Mobility and Revolutionizing Transportation (SMART) Grant

STATE FUNDING OPTIONS

Category 2 - Metropolitan and Urban Area Corridors

Category 3 - Non-Traditional

Category 8 - Safety

Category 9 - Transportation Alternatives (TA)

LOCAL FUNDING OPTIONS

Bond and Tax Financing

Special Assessment District Funding

Roadway Impact Fee Funding

Tax Increment Reinvestment Zone Funding

Economic Development Grants

Action	Primary Mode Addressed	Time Frame	Deadline Year	Lead Agency	Primary Support	Additional Support	Anticipated Impact	Performance Metric
POLICY GOAL #1: SAFER SPEEDS								
Update speed hump policy to a comprehensive traffic calming program.	Driving	6 months - 1 year	2026	CoNB City Council	CoNB TCI	CoNB Police Department	High	Implemented New Policy: Traffic calming measure installed on street meeting updated policy criteria.
Amend Code of Ordinances to allow the city engineer to authorize traffic signals, speed limits, and speed zone locations.	All	2-5 years	2030	CoNB City Council	CoNB TCI	CoNB Police Department	Moderate	Implemented New Policy: city engineer has the power to authorize traffic signals, speed limits, and speed zones.
POLICY GOAL #2: MULTI-MODAL STREETS								
Require a connected multi-modal street network in new developments and redevelopments.	All	6 months - 1 year	2025	CoNB City Council	CoNB TCI	CoNB Parks and Recreation Department	Low	Implemented New Policy: One new bike and pedestrian connection in developments each year.
POLICY GOAL #3: SAFE STREET BEHAVIORS								
Improve safety ordinances for vulnerable road users.	Bicycle & Pedestrian	2-5 years	2029	CoNB City Council	CoNB TCI	CoNB Police Department	Low	Implemented New Policy: Twenty educational signs on new safe passing ordinance law placed on high-frequency bike corridors that do not feature a dedicated lane.
Prohibit parking, idling, and driving in bike lanes.	Bicycle	6 months - 1 year	2025	CoNB City Council	CoNB TCI	CoNB Police Department	Low	Implemented New Policy: Prohibit all parking and driving in bike lanes.
PROGRAM GOAL #1: AN INFORMED PUBLIC								
Develop a street safety webpage.	All	1-2 years	2025	CoNB TCI			Low	Yearly progress reports, dashboard updates
Educational campaigns to target new and existing drivers.	Driving	4-5 years	2029	CoNB TCI	New Braunfels ISD	Comal County ISD	Moderate	Monthly presentations to applicable aged students throughout the year
Support transportation options during high-risk periods.	Public Transit and Rideshare		2026	CoNB TCI			Low	City staff publishes a report on ride-sharing subsidies and implementing mass transit system.
PROGRAM GOAL #2: STREAMLINED IMPLEMENTATION								
Designate City staff members to develop and implement policies and programs.	All	1-3 years	2027	CoNB TCI			High	Staff member(s) becomes the Safe Streets Action Plan policy and program facilitator.
Collaborate with agency partners on safe streets.	All	1-3 years	2027	CoNB TCI	TxDOT		High	Advocate at the state legislature for a reduction in speed limits.
Establish the safe system approach for speed management.	Driving		2029	CoNB TCI	TxDOT		Moderate	Implemented New Policy: lower speeds on priority roadways and corridors.
Establish a process for allocating roadway space to improve safety.	Bicycle and Pedestrian		2029	CoNB TCI	TxDOT		High	Identify a network of priority bicycle roadways for new dedicated bike facilities.
Establish roadway design guidance for all modes.	All		2027	CoNB TCI	TxDOT		Moderate	Create a design guidance manual or adopt a state or national-scale guide.
Place streetlights in areas of high pedestrian and cyclist activity.	Bicycle & Pedestrian		2027	CoNB TCI	TxDOT		Low	Streetlights deployed in areas with severe pedestrian and bike collisions.
PROGRAM GOAL #3: FOCUSED ENFORCEMENT								
Evaluate and monitor safe street implementation.	All	2-5 years	2030	CoNB City Council	CoNB Police Department		High	Necessary corridors identified, automated radar detectors purchased.

POLICY, PROGRAM & PROJECT IMPLEMENTATION GOAL YEARS

2024

VISION ZERO DECLARED

2025

PROMOTE MULTI-MODAL CONNECTIVITY IN RESIDENTIAL AREAS

RESTRICTIONS PLACED ON DRIVING OR PARKING IN BIKE LANES

STREET SAFETY RESOURCES SECURED

2026

CURRENT SPEED HUMP POLICY UPDATED TO COMPREHENSIVE TRAFFIC CALMING PROGRAM

ENCOURAGED TRANSPORTATION OPTIONS DURING HIGH-RISK PERIODS

2027

STREETLIGHTS PLACED IN AREAS OF HIGH BIKE AND PEDESTRIAN ACTIVITY

ROADWAY DESIGN GUIDANCE ESTABLISHED

SAFE STREETS DESIGN PROGRAM COLLABORATION WITH TXDOT CREATED

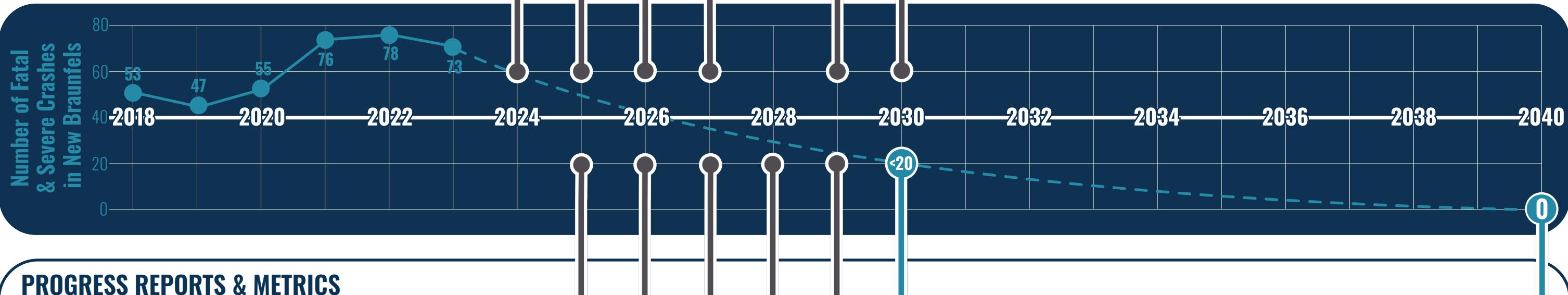
2029

FRAMEWORK FOR IMPROVING SAFETY ORDINANCES FOR VULNERABLE ROAD USERS CREATED

STREET SAFETY CURRICULUM CREATED

SAFE SYSTEM SPEED MANAGEMENT APPROACH ESTABLISHED

ROADWAY ALLOCATION PROCESS ESTABLISHED

2030CITY ENGINEER SETS SIGNALS, SPEED LIMITS, AND SPEED ZONES
SAFE STREET IMPLEMENTATIONS IS EVALUATED AND MONITORED

PROGRESS REPORTS & METRICS

2025

IMPLEMENTED NEW POLICY: DRIVING AND PARKING PROHIBITED IN BIKE LANES

FIRST MAJOR STREET SPEED LIMIT LOWERED

FIRST MULTI-MODAL CONNECTION INCLUDED IN NEW DEVELOPMENT

FIRST STREET SAFETY WEBSITE PROGRESS REPORT PUBLISHED

EDUCATIONAL CAMPAIGN CURRICULUM FINALIZED

2026

RIDE SHARE SUBSIDY AND MASS TRANSIT REPORT PUBLISHED

FIRST STREETLIGHT INSTALLED AT HIGH-CRASH BIKE AND PEDESTRIAN AREA

FIRST TRAFFIC CALMING DEVICE INSTALLED ON ARTERIAL STREET

2027

STAFF MEMBER DESIGNATED AS SSAP PROGRAM FACILITATOR

ROADWAY DESIGN GUIDANCE MANUAL DEVELOPED

ROADWAY SPACE ALLOCATION PROCESS ESTABLISHED

ADVOCATE AT STATE LEGISLATURE FOR PRIMA FACIE SPEED LIMIT REDUCTION

2028

NETWORK OF BICYCLE LANES IN THE PROCESS OF DEVELOPMENT

TENTH NEW EDUCATION SIGN PLACED ALONG BIKE CORRIDOR

2029

20TH EDUCATIONAL SIGN INSTALLED ALONG BIKE CORRIDORS

TENTH MAJOR STREET SPEED LIMIT LOWERED

2030

TRAFFIC DEATHS AND SERIOUS INJURIES FALL BELOW 20

NECESSARY SAFE STREET CORRIDORS IDENTIFIED, AUTOMATED RADARS PURCHASED

CITY ENGINEER ABLE TO AUTHORIZE TRAFFIC SIGNALS, SPEED LIMITS, AND DESIGNATE SPEED ZONES

2040

VISION ZERO ACCOMPLISHED

SAFE STREETS PLEDGE

The final two steps in the implementation of the SSAP is the deployment of the below pledge and the implementation of the Safe Streets Declaration on the opposing page. Whether driving, walking, using a wheelchair, biking, or riding transit, all types of mobility contribute to the safety of streets. By acknowledging your role, you can help to prevent traffic deaths and serious injuries. The following pledge should be spread to all partner agencies and taken by everyone from new drivers, to city officials, to elected leaders, and all New Braunfels residents who seek to make the roadways in New Braunfels safe and accessible, shared by everyone with safe speeds and no distractions.

I PLEDGE TO...

- 1. YIELD TO THE MOST VULNERABLE ROAD USER**
- 2. FOLLOW ALL TRAFFIC LAWS**
- 3. ALWAYS LOOK FOR PEDESTRIANS**
- 4. NEVER OBSTRUCT A CROSSWALK**
- 5. NEVER DRIVE DISTRACTED**
- 6. NEVER DRIVE WHILE IMPAIRED**
- 7. DRIVE SLOWLY AROUND SCHOOLS AND PARKS**
- 8. REMEMBER THAT I CAN TAKE SOMEONE'S LIFE WITH MY VEHICLE**
- 9. SPREAD THIS PLEDGE TO MY NEIGHBORS**

SAFE STREETS DECLARATION

WHEREAS, Vision Zero is an aspirational goal and holistic strategy to end traffic-related fatalities and serious injuries while increasing safe, healthy, and equitable mobility for all; and

WHEREAS, Vision Zero employs the “Safe Systems” approach to advance this goal by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur through traffic calming devices to slow drivers and ensure predictable car movements; and

WHEREAS, Such strategies have been embraced by the nation-wide transportation community of hundreds of cities and agencies joining together towards the common goal of safer streets, including San Antonio, Austin, and the Texas Department of Transportation, as an effective way to address and mitigate the risks inherent in an enormous and complex transportation system; and

WHEREAS, The United States Department of Transportation and Federal Highway Administration operate the Safe Streets for All grant program to award all cities with approved “Safety Action Plans” opportunities to disperse federal funding toward constructing projects to further the goals and strategies of Vision Zero; and

WHEREAS, the City first approved such strategies through the Envision New Braunfels Plan, passed by City Council in 2017; and

WHEREAS, the Envision New Braunfels Plan features more than 35 specific actions that would further the City’s goals of safer streets as well as encourage more New Braunfels residents to walk and bike as a method of mobility; and

WHEREAS, the New Braunfels community was engaged directly about roadway safety, Vision Zero, and “Safe Systems” practices through Community and Stakeholder workshops held on the fifteenth of November, 2023; and

WHEREAS, along all New Braunfels Roads from 2018 to 2022 there were 6,588 total crashes, 254 of which resulted in a severe injury or fatality; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NEW BRAUNFELS; THAT the New Braunfels Street Safety Action Plan, which is attached hereto as Exhibit A, is hereby adopted; and

THAT the City of New Braunfels aims to end all traffic-related fatalities and serious injuries on roadway facilities owned and maintained by the City of New Braunfels by March 25, 2040, the 16-year anniversary of the adoption of the New Braunfels Street Safety Action Plan.



This plan was produced as a priority component of the New Braunfels 2024 Major Thoroughfare Plan Update.

Thank you to the local residents, community leaders, and government staff that engaged in the development of this plan through meetings, engagement activities and public workshops.

