

# Chapter

# 1



# Prioritizing Our Safety

A safe transportation network is foundational to creating a human-centric city where everyone has safe and convenient access to employment, educational, recreational and social opportunities. Improving transportation network safety can help achieve broader citywide goals related to public health and physical activity, access and affordability, and environmental sustainability. The policies and actions outlined in this chapter offer a data-driven and focused strategy for achieving this vision for our community.

On average, more than 70 people lose their lives on Austin area streets each year, another 450 suffer life-altering injuries, and countless other crashes and near-misses go unreported. In Travis County, motor vehicle crashes are a leading cause of death for ages 1 through 25. All told, crashes have an estimated \$350 million to \$500 million annual impact on the local economy. Despite these grim statistics, there is reason to be hopeful. Cities across the world, including the City of Austin, are implementing an approach to traffic safety based on the simple but powerful idea that no death on our transportation network is acceptable. Vision Zero, also known as a Safe Systems approach, holds that traffic-related serious injuries and fatalities are a preventable public health issue and that system designers, policymakers, public health professionals, law enforcement, individual road users, and others all share responsibility for improving the safety of our transportation network. The results demonstrate that countries that have implemented a Safe Systems approach have seen sharper declines in traffic fatalities than countries that have relied on more traditional approaches to addressing traffic safety.

## Austin's Vision Zero Commitment

The City of Austin committed to be a Vision Zero city in October 2015 when City Council amended the Imagine Austin Comprehensive Plan and added the goal of zero traffic-related fatalities in our community. This moment represented a paradigm shift in how our city approaches transportation planning, codifying in City policy the preservation of human life as the paramount priority for Austin's transportation network. In May 2016, City Council adopted the Vision Zero Action Plan, providing the city with data-driven action items to achieve zero traffic fatalities by 2025.

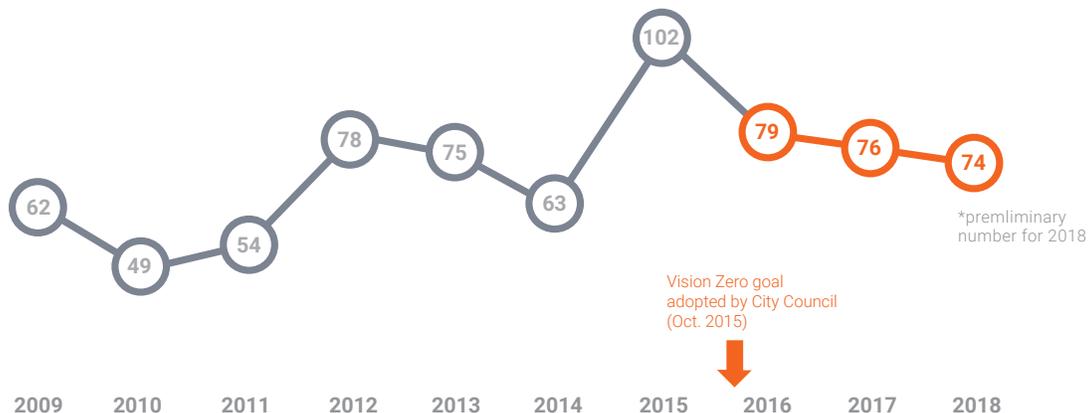
In just two years, Austin's commitment to Vision Zero has generated many new efforts that have set us on a new course for creating a safer city, including:

- The Transportation Safety Improvement Program, which has implemented safety improvements at 9 of the top crash intersections, secured funding for 25 more, and seen an average of 45% reduction in total crashes at locations where improvements have been made.
- The Vision Zero in Action campaign - a partnership between Austin Transportation Department and Austin Police Department to extend the reach of enforcement against key dangerous behaviors such as speeding, failing to yield, failing to stop and improper maneuvers.
- The completion of a Pedestrian Safety Action Plan, which offers a set of 21 action items to improve pedestrian safety and comfort citywide.
- Reaching millions of people through a multimedia educational campaign.
- Forging new partnerships with judicial professionals, public health experts, and community leaders to address the problem holistically.
- The hiring of a Transportation Safety Officer within the Austin Transportation Department to lead Vision Zero efforts.

Despite this progress much work remains to get to zero. The policies and actions included in this chapter provide a data-driven roadmap and overarching policy framework to guide Austin's Vision Zero Program into the future.

### Austin Traffic Fatalities

2009–2018



Source, APD 2009-2018

## Vision Zero: A Safe Systems Approach to Traffic Safety

The policies and actions outlined in this chapter are grounded in a Safe Systems approach, taking a holistic view of the transportation network and the interactions among and between transportation infrastructure, law enforcement, public education, individual road users and cultural norms around transportation safety. This approach starts with the understanding that humans make mistakes, and that in a complex system collisions can and will occur. Instead of trying to perfect human behavior, a Safe Systems approach seeks to improve system-wide safety by focusing upstream of the crash to impact the underlying systems and environment influencing individual behavior. Importantly, a Safe Systems approach focuses on eliminating serious injury and fatal crashes (rather than eliminating all crashes) by recognizing that there is an upper limit to the human body's tolerance for impact force, and factoring those physical limits into the design of our transportation network..

Austin's Vision Zero approach to traffic safety is based on a number of key principles:

### ***1. Traffic-related fatalities and serious injuries are preventable.***

Much like smoking or other public health issues, severe traffic crashes can be reduced by focusing on the broader environmental and societal factors, as well as individual behaviors, that lead to negative health outcomes.

### ***2. System designers, policymakers, public safety partners, and individual road users have a shared responsibility for creating a safe transportation network.***

Getting to zero requires leadership from public health, law enforcement, social service providers, transportation network designers and planners, and others to consistently engage in prioritizing systems safety through collaborative working groups and other resource sharing efforts. Clear lines of accountability with measurable benchmarks must be established to improve safety outcomes over time.

### ***3. Decisions regarding safety strategies should be evidence-based whenever possible, and safety information should be shared openly with key partners and the public.***

Use data and emerging technologies to develop a deep understanding of the risk factors that lead to severe crashes, and prioritize proven safety countermeasures to target those contributing factors. Perform routine evaluation of all safety interventions and openly share this information with the public and decision-makers to inform strategic priorities, budgets, and updates to the Vision Zero program.

### ***4. Safety initiatives should proactively improve systems safety.***

While it is tempting to only focus safety efforts on addressing high crash locations, getting to zero also requires addressing streets with high-risk characteristics to prevent crashes before they happen. Safety countermeasures and investments should primarily focus on proactively reducing systemic risk factors citywide, such as high speeds, while supplementing those initiatives with strategic efforts to address high crash locations.

### ***5. An equitable lens should be applied to acknowledge the disparate impacts of traffic safety outcomes.***

Minority and low-income communities are disproportionately affected by traffic violence. A Vision Zero approach to traffic safety prioritizes engagement efforts and safety investments in traditionally underserved communities and adopts equitable traffic enforcement practices that build in assurances against racial profiling and targeting.

## High-Injury Network

The High-Injury Network (HIN) identifies streets in Austin with a relatively high number of serious injury and fatal crashes. The HIN will be used by the City as a data-informed planning tool to identify locations where engineering, education, or enforcement interventions should be prioritized to have the most impact in improving safety at high crash locations.

The HIN framework will be used in combination with analyses of systemic factors that focus on the risk characteristics of streets, irrespective of crash history, in the prioritization and implementation of safety countermeasures across the city. The HIN will be periodically updated to reflect the latest crash trends.

### Methodology

Austin Transportation's Vision Zero team developed separate modal High-Injury Networks for motorcycles, bicycles, and pedestrians looking at moderate, severe, and fatal injury crashes. A separate motor vehicle HIN was developed by looking exclusively at severe and fatal injuries.<sup>1</sup> These separate modal networks were then combined into a single, multimodal High-Injury Network, as shown on the next page.

As shown below, Austin's Combined HIN includes just 8% of the city's street network but contains nearly 70% of all serious injury or fatal crashes for all modes (2013-2017).

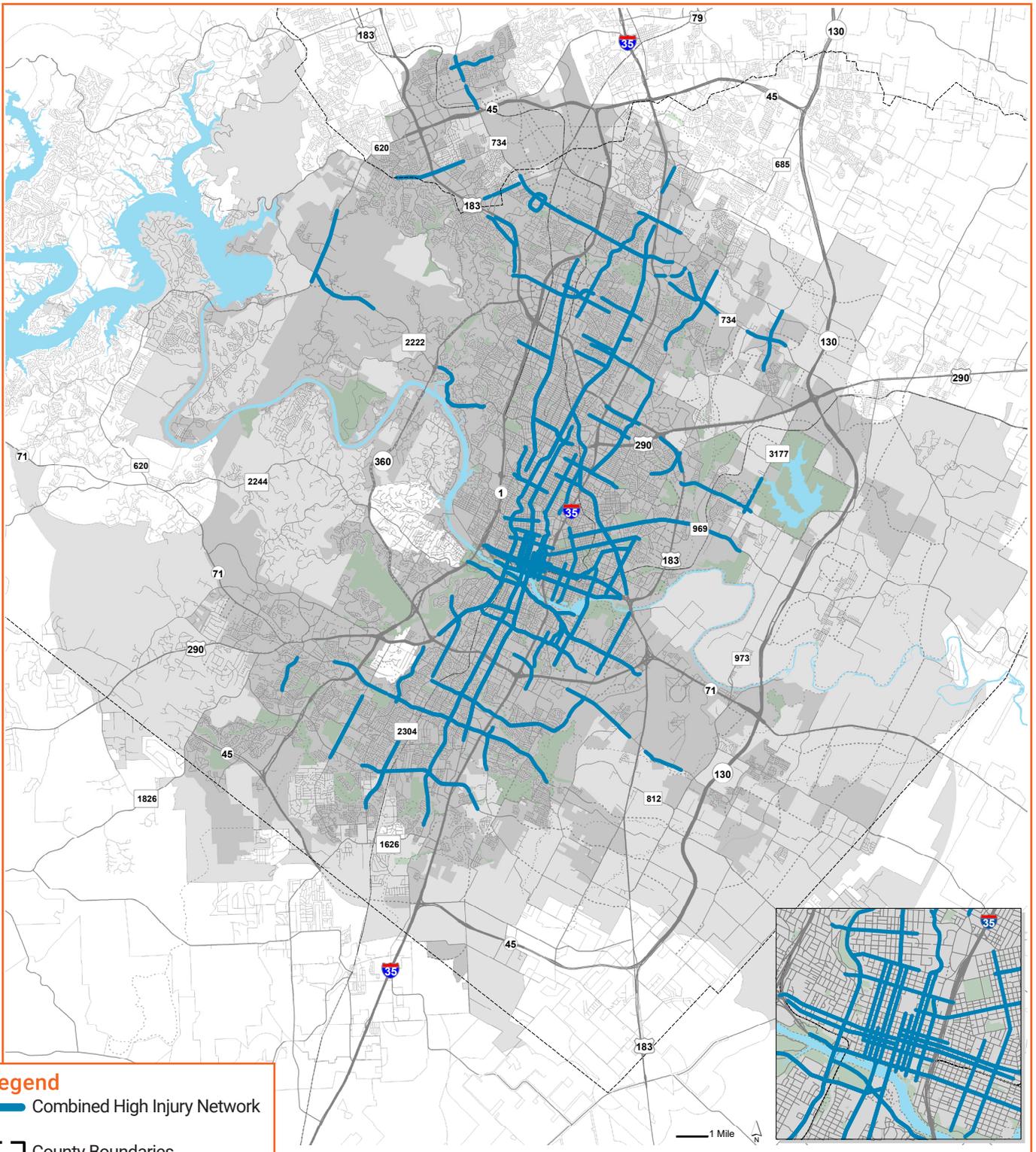
**Austin's Combined HIN includes just 8% of the city's street network but contains nearly 70% of all serious injury or fatal crashes for all modes (2013-2017)**

Modal High-Injury Network (HIN)	Percentage of street network included in each modal HIN	Percentage of total crashes captured by each modal HIN	Percentage of serious injury or fatal crashes captured by each modal HIN
Pedestrian HIN	3%	62%	65%
Bicycle HIN	3%	53%	52%
Motorcycle HIN	4%	53%	59%
Motor Vehicle HIN	5%	57%	57%
<b>Combined HIN</b>	<b>8%</b>	<b>69%</b>	<b>68%</b>

Note that crashes occurring on access-controlled highways, such as those occurring on Interstate 35, are not included in the HIN. Including these crashes in the HIN would dramatically skew results given their frequency, which is mainly a function of increased exposure due to the high vehicle miles traveled on highways. Crashes occurring on access-controlled highways require specific countermeasures that are not always applicable to crashes occurring on city streets. Policy 5 in the Designing for Safety section provides more information on how the City of Austin will work with regional transportation partners to improve safety on access-controlled highways.

<sup>1</sup> Fatal and severe injuries among pedestrians, bicyclists, and motorcycles are relatively rare compared with motor vehicles, and often go unreported, meaning that the sample sizes are often small. Including moderate injury collisions, but weighting them less, compensates for the potential data shortcoming without overly skewing the data toward less severe crashes.

# Combined High-Injury Network Map



**Legend**

- Combined High Injury Network
- County Boundaries
- Lakes
- City of Austin Parks
- Austin City Limits
- ETJ

A detailed crash analysis of crashes from 2013 to 2017 was used to identify the Combined High-Injury Network, which includes just 8% of the city's street network but contains nearly 70% of all serious injury or fatal crashes for all modes. For High-Injury Networks based on mode-specific crash data, see Appendix C.



HAPPY HOUR

STATE  
LAW



WITHIN  
CROSSWALK

# Policy Summary

## ***Safety Culture***

**Policy 1** Prioritize the protection of human life over all else in the planning, design, and operation of Austin's transportation network

**Policy 2** Institutionalize a culture that prioritizes transportation safety within the City of Austin

**Policy 3** Optimize public safety priorities

**Policy 4** Recognize the expanding needs of different users and modes on the transportation network

## ***Designing for Safety***

**Policy 1** Manage for safe speeds

**Policy 2** Minimize the potential for conflicts between transportation network users

**Policy 3** Integrate safe design principles into the built environment

**Policy 4** Improve the ability of all transportation users to see and be seen

**Policy 5** Minimize the safety risks of highways

## ***Safe Behaviors***

**Policy 1** Strategically implement education and enforcement initiatives around the top contributing factors of serious injury and fatal crashes

**Policy 2** Align penalties for traffic violations with the severity of the offense based on traffic safety impacts



## Help Austin reach zero traffic deaths

### Safety Culture

Reducing traffic-related fatalities and serious injuries requires a transportation culture that prioritizes safety. As a Vision Zero city, the City of Austin must demonstrate and foster a community-wide culture that places human life at the top of our collective priorities. To achieve this goal, the City organization must lead by example and hold ourselves accountable for making continuous progress towards eliminating serious injuries and fatal crashes on our streets. It will also require the creation of a culture of openness and transparency through the collection and use of high-quality data to inform all transportation decisions. Additionally, fostering this culture will require us to better address safety in an equitable way. Past decisions about

our transportation network and built environment have contributed to different communities in Austin being disproportionately impacted by traffic crashes. We must address these inequities moving forward. Finally, it will require meaningful community engagement to better understand the safety concerns of all Austinites in order to develop transportation safety solutions that respect community context. By continuing to speak with, learn from, and educate our community, we have the ability to be role models to our neighbors, make safe decisions, and not engage in behavior that increases risk and reduces safety on our transportation network. These policies lay the foundation for creating a culture that considers the protection of human life as the paramount priority for our transportation network.

*“It seems to me that the priority of transportation should be getting to where you need to go as quickly and safely as possible. Everything else comes behind those two.”*

—Community Member

## Indicators and Targets



### **Decrease traffic fatalities and serious injuries on Austin streets**

*Achieve zero traffic fatalities and serious injuries  
(Current 5-year average is 78 fatalities per year)*



### **Increase training of City employees on Vision Zero principles**

*Train 100% of newly-hired City employees and incorporate Vision Zero education  
into departments annually*



### **Decrease the number of crashes involving City vehicles**



### **Decrease the response time for emergency crews in areas not meeting current standards**

## *Safety Culture Policy 1*

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### ***Prioritize the protection of human life over all else in the planning, design, and operation of Austin's transportation network***

**Recognize the safe limits of the human body and use that as the guiding tool when making safety decisions**

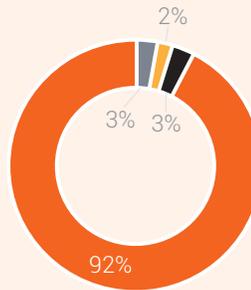
The City of Austin has a duty to protect the public health, safety, and welfare of all members of our community. As a Vision Zero city, we consider traffic-related serious injuries and fatalities to be a preventable public health issue for which we have an obligation to proactively address and eventually eradicate. Prioritizing human life requires recognizing the vulnerability of certain transportation network users, such as people walking, people on bicycles or other low-speed devices, people with barriers to mobility, the elderly, the young, and people experiencing homelessness. When making decisions about the design and operation of the transportation network, we must consider the human body's ability to tolerate and survive impacts from crashes, and we must use this tolerance to guide our decisions.



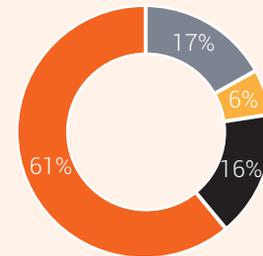
## Who is most affected by severe crashes in Austin?

### Vulnerable users make up a disproportionate share of severe crashes

Proportion of all crashes, by mode



Proportion of all serious injury/fatal crashes, by mode

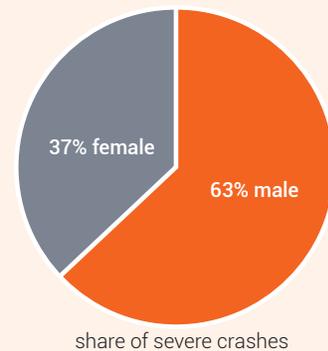


■ Motor Vehicle ■ Motorcycle ■ Pedestrian ■ Bicycle

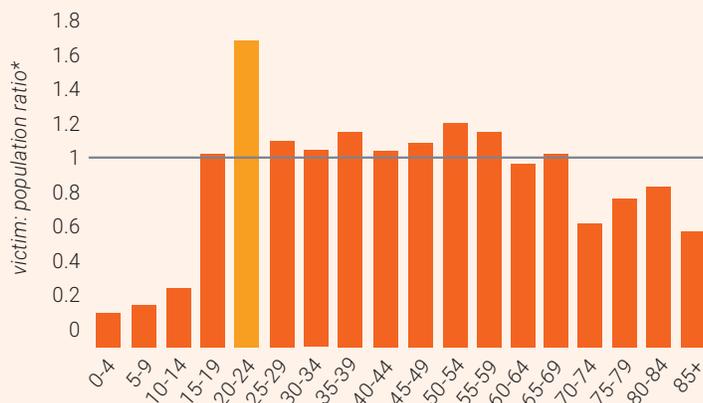
### Austin's black population is substantially overrepresented in severe crashes



### Males make up 63% of severe crash victims, but only 50% of Austin's population



### Severe crash victims in the 20-24 age group are overrepresented



\*ratios greater than 1 signify overrepresentation for that age group compared with their share of the Austin population

**Data Sources:**

CRIS 2013-2017, non-highway crashes  
American Community Survey, 2016

\*severe crash = a crash that resulted in a serious injury or fatality

## Safety Culture Policy 2

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### **Institutionalize a culture that prioritizes transportation safety within the City of Austin**

**Implement plan recommendations and align policies, structures, and incentives to prioritize transportation safety across all City departments and among City employees**

The City of Austin will lead by example in cultivating Austin's transportation safety culture. City staff travels our roads daily to perform their jobs, and as a major employer with a large fleet of vehicles, we have the opportunity to make a significant contribution to transportation safety. When City staff are on our network, safety must be our top priority and dictate our actions.

Fostering an institution of safe transportation culture requires proper training programs, discipline, and incentives where needed. We can demonstrate our commitment to transportation by continuing to ensure that all staff receives training on proper driver behavior. This includes defensive driving courses and instruction on how people use different modes of transportation on the road. We can create appropriate penalties for dangerous transportation behavior while working. We can also implement programs that reward employees for demonstrating safe behaviors on the transportation network.

The City of Austin's ability to lead by example is critical for supporting the safety of the broader Austin community. In the spirit of transparency, the City of Austin must establish a culture of safety in its own institution that can be shared and followed.

*“Transportation safety culture can be defined as 'the values and beliefs shared among groups of road users and stakeholders that influence their decisions to behave or act in ways that affect traffic safety.'”*

—Center for Health and Safety Culture, Montana State University, and Cambridge Systematics



## Safety Culture Policy 3

### **Optimize public safety priorities**

**Manage public safety needs supported by the transportation network including street safety, emergency response, flood risk, disaster resiliency, and public health to minimize the risk of injury and death**

Our community faces various risks to our health and safety—such as car crashes, fire, floods, and diseases—and transportation is integral to countering such risks. Our transportation network is vital to the mitigation of and response to these hazards, and we should work with all of the public safety agencies throughout our community to ensure that our transportation network is able to support public safety in a manner that best protects our community and minimizes risks overall.

We must do what we can to work wherever possible to improve safety and coordinate with partners to minimize the impacts of unforeseen hazards. In 2017, there were over 30,000 vehicle crashes on Austin's streets, and over 16,000 required a police report due to the level of physical damage or seriousness of the health outcome. These crashes resulted in over 450 serious injuries and 76 fatalities. Improving our community's public safety requires safe streets that are planned, designed, and maintained to minimize risk and protect human lives. While we can design for safety on our streets, we must also be aware of other risks posed by nature, such as wildfires or flooding. Agencies working to minimize these dangers, such as police, medical responders, and firefighters, rely on our transportation network to respond to incidents and provide help to our community. Emergency response also requires enhanced connectivity, so the use of devices like crash gates should be a last resort as they slow down emergency response.

Sometimes the goals for combating all of these hazards align; for example, a connected street grid benefits our ability to get around by multiple modes, public health, and emergency response, among other things. However, sometimes there are competing goals among the different agencies working to minimize risk. We believe that our community must approach public safety holistically, with a focus on creating the best outcome to minimize risk and danger to our community. When conflicting priorities arise, we must work together to develop solutions and make evidence-based decisions around policy and design that uphold the prevention of injury and the preservation of human life as the highest priorities.



## *Safety Culture Policy 4*

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### **Recognize the expanding needs of different users and modes on the transportation network**

#### **Consider how the transportation network is designed, constructed, and operated based on the speed and vulnerability of different users**

We will work closely with all levels of government, research institutions, and the private sector to ensure the responsible deployment of new technologies in a way that enhances safety, mobility, and access for all road users. As new transportation technologies emerge, we must test how they can promote safety and mobility and determine how to safely accommodate these new modes within the transportation network. It is not always clear how and where emerging mobility solutions should be integrated into the transportation network to ensure safety for all. As these new modes are adopted, we must always keep the safety of all network users at the forefront of any planning, street design, or regulations. We must especially consider the impacts of these emerging technologies on the people who are even more exposed to hazards on our transportation network, such as people who travel by foot or bicycle.

Over generations, developments in safety have led to a comfort with prevalent modes of transportation, such as cars, buses, and bicycles. However, new modes of transportation, such as automated driving vehicles or electric scooters, require us to rethink how we allocate space and how we can integrate new technologies in our existing network safely and smoothly. Often, these modes are introduced before important safety design solutions, regulations, or safe behaviors can be determined.

We can prepare for emerging technologies by working with technology companies from the beginning and taking precautions that protect vulnerable users. Understanding new modes will allow us to develop responses and understand how we can protect users on the network. Testing and piloting technologies will give us the opportunity to examine and analyze how new technology is integrated into the transportation network and the chance to identify necessary safety precautions.

Emerging technologies offer a significant opportunity to improve the safety of our transportation network. These safety benefits will be best realized if we work with technology companies to collectively prioritize human safety, and particularly the safety of vulnerable users, in decisions regarding how these services are used and accessed.

## School Safety

Austin schools are an example of where many different transportation strategies and tools are necessary to create a safe transportation network. Austin's Safe Routes to School program and Transportation Demand Management (TDM) strategies, including land use and programming, contribute to school safety. Combined, they influence the culture, design, and behaviors that are necessary to prioritize safety around our schools and throughout our transportation network.

### Safe Routes to School

Safe Routes to School (SRTS) is a program whose mission is to reduce barriers that prevent students from actively traveling to school. SRTS works to reduce barriers through programs that address safety cultures and behavior, as well as through projects that address infrastructure and design. SRTS has several education initiatives. The program offers trainings for different ages ranging from toddlers through adults. These trainings show people how to safely and actively use our transportation network in many ways, from finding and using crosswalks to how to navigate on a bicycle safely. Crossing Guard training and placement is also run through SRTS. If a community requests a crossing guard, SRTS will work with local schools and their advisory committees to identify where a crossing guard would be appropriate and then train the crossing guard.

### School Transportation Demand Management

TDM strategies offer schools additional tools to elevate school safety for students. Schools, as major attractors within neighborhoods and communities, draw many people to the same place in the same, narrow window of time each day. If everyone drove individually, the number of cars could overload our streets, particularly for neighborhood schools that are often located along smaller streets. Riding school buses, where they are provided, and walking or bicycling to school are TDM strategies that help reduce car use and the number of vehicles accessing our schools at one time. Implementing variable class schedules and stretching out the pick-up and drop-off times for students are other TDM strategies that can reduce the high volumes of cars at our schools.

Demand can also be better managed by providing safe multimodal connectivity to schools. A school that is sited without sufficient safe transportation access and active transportation facilities could cause traffic delays and congestion in neighborhoods as parents and buses arrive at the school. Collaboration on the criteria used to select school sites, including multimodal transportation access, can increase safety and prevent access problems in the future. We can also work with schools to increase the usage of school bus service for eligible riders to reduce driving trips.



## Designing for Safety

A Safe Systems approach to traffic safety seeks to identify and address the conditions present in our transportation network that elevate the risk of serious injury and fatal crashes. These physical conditions include wide streets that encourage high speeds, lack of separation between different modes on major streets, long distances between intersections that encourage risky, mid-block crossings by pedestrians, poorly placed driveways, and inconsistent street lighting that creates poor visibility for street users. When conditions include speeding, increased pedestrian activity, or high rates of impaired or distracted driving, the risk of a crash occurring on our streets is elevated. We are working to create a transportation network that protects human life, even when individual users make mistakes; in other words, we are designing our network for safety.

*“Pedestrian projects along corridors would allow us to safely hit our step count!”*

—Community Member

## Indicators and Targets



**Increase the number of combined engineering, education, and enforcement strategies implemented on the High-Injury Network**

*Evaluate 20% of streets on the High-Injury Network annually to implement strategies to achieve safe operating speeds and conditions*



**Reduce serious injury and fatal crashes at locations where major capital improvement projects have been implemented**

*Achieve at least 40% reduction over a five-year period, on average*



**Increase the safety of pedestrian crossings**

*Implement improvements at 30 priority locations per year, at least 50% of which are on the High-Injury Network*



**Reduce the width and number of driveways to minimize conflicts**

## Designing for Safety Policy 1

### Manage for safe speeds

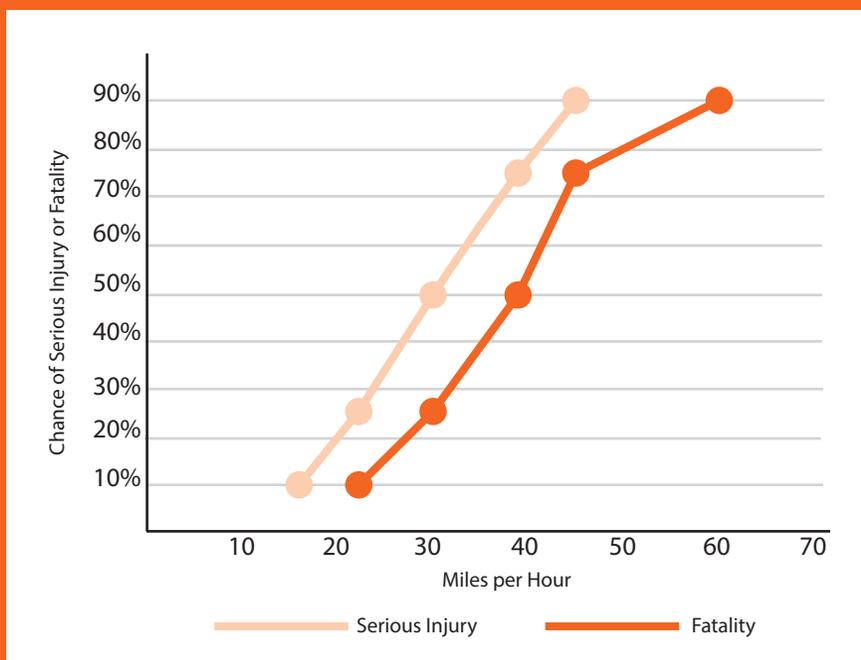
**Reduce the likelihood that crashes will result in a fatality or serious injury by designing streets for safe speeds**

Given the correlation between vehicle speed and crash severity, speed management is a critical focus area of Vision Zero. The goal of speed management is to minimize crashes and crash severity, using the human body's tolerance for impact force as the guiding tool.

Our approach to speed management begins with selecting safe target speeds for all streets based on their context. Target speed refers to the speed at which we want cars to drive on the street. Surrounding land uses, traffic volumes, and pedestrian activity all affect the appropriate target speed for a street. The target speeds inform the design speed, which refers to the specific geometric features or elements of a roadway necessary to achieve the target speed. We will use design criteria that are at or below the target speed of a given street. The posted speed limits are set to help communicate and reinforce safe target speeds. After setting the target speed and implementing design speeds, we analyze operating speed, which refers to the observed speed of people using the street.

Historically, many streets were designed where the operating speed influenced the design speeds and the posted speed limit. This resulted in fast drivers raising the speed limit of roads and leading to less safe design elements such as larger turning radii and wider streets. Using target speeds instead of operating speeds to influence the design speed of our streets allows our community to prioritize safety and design our streets for safety as we work to support this goal.

### Chance of Pedestrian Serious Injury or Fatality Based on Impact Speed



Data Source: AAA Foundation for Traffic Safety (2011)

## Speed Concepts

- **Design speed**—A selected speed used to determine the various geometric design features of the roadway.
- **Operating speed**—The speeds at which vehicles are observed operating during free flow conditions.
- **Target speed**—The desired operating speed of a street to achieve desired safety results.
- **Speed limit**—The maximum lawful vehicle speed for a specific location.

Source: Federal Highway Administration. Speed Concepts: Informational Guide. Report No. FHWA-SA-10-001. 2009

## NACTO Urban Street Design Guide Recommendations

The 85th percentile of observed target speeds should fall between 10–30 mph on most urban streets. The maximum target speed for urban arterial streets is 35 mph. Some urban arterials may fall outside of built-up areas where people are likely or permitted to walk or bicycle. In these highway-like conditions, a higher target speed may be appropriate, but the use of higher speeds should generally be reserved for limited access freeways and highways and is inappropriate on urban streets, including urban arterials.



“*At the most basic level, posted speed limits are a key communication tool influencing drivers’ behavior; they send important messages about what authorities deem to be not only the legal speed, but also the appropriate speed.*”

—Vision Zero Network, “Taming Speed for Safety” (2018)

## Designing for Safety Policy 2

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### **Minimize the potential for conflicts between transportation network users**

**Prevent crashes through transportation network operations and street design that clearly communicate priorities and provide structure for safe, predictable behavior for all users**

Good design invites good behaviors. By designing an intuitive and predictable network we can promote safe behaviors and prevent crashes before they occur. This means analyzing operating speeds on different roadway types and providing appropriate separation and dedicated space for each mode. It means providing adequate and reasonably-spaced safe crossings for pedestrians so that they are not forced to cross mid-block to reach their destinations in a timely manner. And finally, it means implementing low-cost, high-impact engineering countermeasures to reduce conflicts at high crash and as high crash risk locations.



## Designing for Safety Policy 3

### **Integrate safe design principles into the built environment**

#### **Ensure that all new development or redevelopment contributes to a safe transportation network through site design and access management**

Future land development activities should reflect the current understanding of safe design principles, which contribute to a safe transportation network and built environment. This means including standards that minimize the potential for conflicts between street users and prioritize the safety of vulnerable users in all City codes, ordinances, plans, studies, manuals and programs governing land development.

A built environment that facilitates safe mobility will vary greatly based on context. Infill development may help create compact places, lighting increases safety for all users, and strong access management policies help minimize conflicts at driveways or in parking lots. Developing strong access management policies that address safety at entry and exit points along a roadway is a critical area of focus in this regard. The Federal Highway Administration estimates that comprehensive corridor access management strategies can reduce injury and fatal crashes on urban/suburban streets by up to 30%. We should require and incentivize reducing the number and size of curb cuts—especially those that interact with the Bicycle Priority Network - including relocating or consolidating driveways. Techniques to do this could include reducing curb cuts to minimize conflicts between modes or consolidating driveways. This means several properties would be accessed through one driveway, and requires joint use easements to allow movement into and out of the site. Raised medians, another access management strategy, can limit potentially dangerous cross-roadway movements.



## Designing for Safety Policy 4

### Improve the ability of all transportation users to see and be seen

**Pursue lighting improvements, unobstructed sightlines, and clear pathways to increase safety for all users of the transportation network**

Ensuring that people can see and be seen while on our transportation network is a critical element of designing our network for safety. Visibility on our network relates to several things. Good lighting and clear sightlines, while different for people using different modes, are both important.

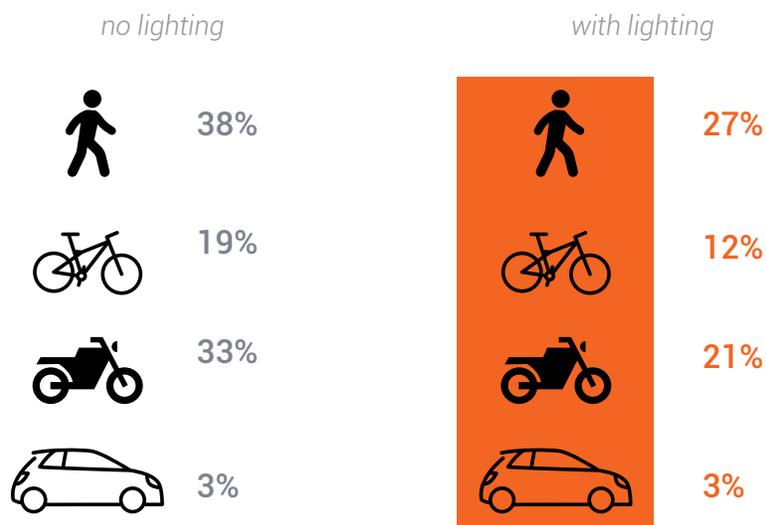
Good lighting on our transportation network is a fundamental part of a safe, well-designed network. Crashes occurring in darkness are disproportionately severe compared to crashes occurring in daylight conditions. Street lighting across our network should also be consistent at different scales. Drivers in cars need lights at certain heights and frequencies to see the street, while pedestrians have different needs to see where they are going on a sidewalk. Not only can consistent street lighting help lower risk factors across our network, but it can also improve the feeling of safety for people on our transportation network. Many people would prefer to be in well-lit areas due to the increases in both actual and perceived safety that lighting provides.

Good visibility also means ensuring clear sightlines along streets and at intersections. Properly planning and designing to ensure that trees or other vegetation do not obstruct sightlines for people entering or exiting driveways, and ensuring that all vegetation is properly maintained improves visibility. Engineering strategies, such as constructing corner bulb-outs, and enforcing parking regulations, to make sure people are parking properly in delineated spaces, will also increase the ability to see and be seen while people are on our network.

*“All bus stops are currently too dark. They all need bright lighting for safety.”*

—Community Member

Share of nighttime crashes that result in serious injury or fatality, by mode



## Designing for Safety Policy 5

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### **Minimize the safety risks of highways**

**Work closely with transportation partners to ensure that the safety of vulnerable roadway users is a primary consideration in the design and operation of new highways and retrofits of existing highways**

Austin's rapid growth has led to increased activity in many areas of the city that were originally designed for fast vehicular movement, particularly along access-controlled highways. While highways serve an important regional mobility function, their intersections with city streets should be designed in a way that promotes safe behaviors and minimizes the chance of severe crashes. We must partner closely with our federal, state, regional and county transportation partners to ensure that safety, particularly for vulnerable street users, is the primary consideration in new construction projects and retrofits of high-speed, access-controlled roadways within Austin.

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**Fatalities in Highway Crashes**  
Texas has the highest rate of pedestrian fatalities per fatal Interstate highway crash, as well as the highest rate of pedestrian fatalities per Interstate vehicle-mile traveled (VMT), of any US state





## Safe Behaviors

While a Vision Zero approach to transportation safety emphasizes the broader environmental and social systems that contribute to severe crashes, the behaviors and decisions of individual street users play a significant role in causing crashes. In Austin, four behaviors contribute to 64% of serious injury and fatal crashes: failure to yield, distracted driving, speeding, and driving while intoxicated. We must focus on coordinated education and enforcement strategies that help people shift away from these top contributing behaviors. The policies in this subchapter also seek to advance innovative approaches toward enforcing traffic regulations and better aligning penalties for traffic violations with the severity of the offense based on traffic safety impacts.

*“I would like there to be more availability to get myself and my family/friends safely to wherever we needed to be via public transport, biking, or hiking, more often, but also have the availability to still use our vehicle should the circumstances call for it.”*

—Community Member

## Indicators and Targets



### **Decrease distracted and impaired driving on Austin streets**

*Eliminate distracted and impaired driving*



### **Increase safety education for students and their families**

*Educate 50,000 students and their families annually and explore new programs with middle, high school, and local colleges and universities by 2020*



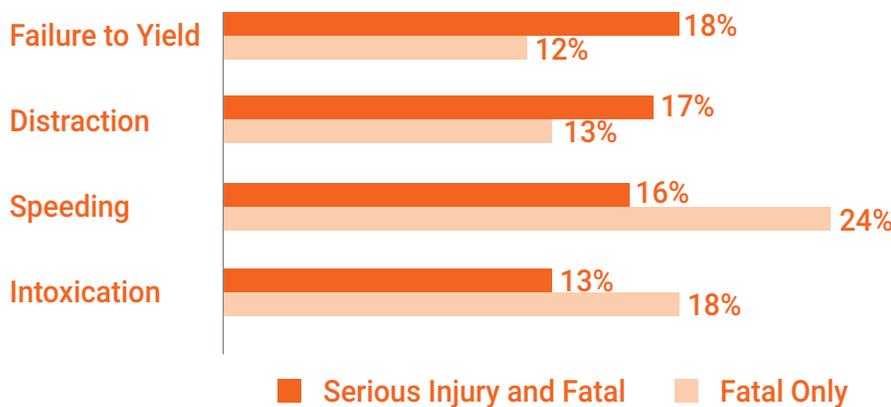
### **Increase targeted education and enforcement efforts on the High-Injury Network**

*Ensure that at least 50% of targeted education and enforcement efforts occur on the High-Injury Network*

## What behaviors contribute to severe crashes in Austin?

Police officers can assign one or more contributing factors to a crash in their crash report. This information provides valuable insights into some of the human behaviors that most frequently contribute to crashes in Austin. While there are dozens of potential contributing factors officers can choose from, a grouping of four factors collectively contribute to 54% of serious injury and fatal crashes in Austin: Motorist Failure to Yield, Distracted Driving, Speeding, and Driving while Intoxicated.

Percentage of serious injury and fatal crashes in which at least one of these contributing factors was reported\*



\* Note, individual contributing factor percentages cannot be summed as many crashes have multiple contributing factors recorded. CRIS 2013-2017, all crashes



### Failure to Yield

Between 2013 and 2017 motorist and motorcyclist Failure to Yield was reported as the primary contributing factor in 18% of serious injury and fatal crashes combined, and in 12% of fatal crashes alone. Failure to Yield includes behaviors such as failing to yield to pedestrians crossing in a crosswalk or turning left across oncoming vehicle's path. While street design plays a key role in promoting safe and predictable behavior, it is still up to individual road users to obey the rules of the road. This is especially important for people driving given their ability to inflict severe injuries on vulnerable users when they fail to yield. We seek to improve public understanding of state and local laws regarding safe travel in the right of way and implement targeted enforcement efforts to improve driver yielding rates.



### Distraction

Distracted driving by a motorist or motorcyclist, including driver inattention, distraction in the vehicle, and use of mobile or cellular devices, was recorded as the primary contributing factor in 17% of fatal and serious injury crashes between 2013 and 2017. When looking only at fatal crashes, distracted driving was recorded as a contributing factor 13% of the time. Because it can be difficult for law enforcement officers to determine whether a driver was using a cell phone at the time of a crash, this behavior is likely substantially underreported. Increased enforcement of this issue is necessary to thwart the status quo and begin to change cultural norms about the acceptance of driving while talking or texting on a cell phone. We seek to address the growing distracted driving epidemic by educating the public on the dangers of driving while distracted, enforcing and strengthening existing distracted driving laws, and advancing technology-based solutions.



### Speeding

Speeding was recorded as the primary contributing factor in 16% of serious injury and fatal crashes combined, and in 24% of fatal crashes alone. Speeding is likely substantially underreported as a contributing factor given the difficulty in determining the actual travel speed of the vehicle after a crash has occurred. Speeding can dramatically increase the distance needed to safely stop and make other safe driving maneuvers more difficult to perform. Similarly, small increases in speed exponentially increase the likelihood that a crash involving a vulnerable user will result in a serious injury or fatality. We seek to promote driver adherence to posted speed limits through coordinated education and enforcement campaigns and policy reforms around automated enforcement.



### Intoxication

Motorist and motorcyclist intoxication was recorded as the primary contributing factor in 13% of fatal and serious injury motor vehicle crashes. When looking exclusively at fatal crashes, it was a contributing factor 18% of the time. Nationally, drunk driving crashes kill more than 10,000 people every year. Driving under the influence of drugs, alcohol, or prescription medications severely impairs a person's ability to safely operate a vehicle. We seek to eliminate drunk, drugged, and drowsy driving through coordinated education and enforcement campaigns, policy reform related to alcohol consumption, and the provision of safe transportation options.

## Safe Behaviors Policy 1

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### **Strategically implement education and enforcement initiatives around the top contributing factors of serious injury and fatal crashes**

#### **Pair educational and enforcement strategies with street design improvements to reinforce safe travel behaviors**

Achieving our target of zero traffic deaths and serious injuries will require a cultural shift toward safer decisions and behaviors. Education must be the foundation of this cultural shift. We will implement city- and region-wide educational campaigns that seek to influence behavior change to encourage safer actions throughout our transportation network. We will also engage and educate specific audiences, including the media, large businesses and organizations, vehicle for hire service providers, and schoolchildren, their parents, and their educators. To maximize impacts, educational efforts will be paired with enforcement efforts and street design improvements as appropriate, using the High-Injury Network as a guide for prioritizing locations. Culturally-appropriate communication materials will be provided in various languages in order to ensure we reach all demographic groups, especially those that are most affected by traffic crashes.

Coordinating education campaigns with safety enforcement strategies will help achieve the ultimate goal of behavior change. Austin's enforcement efforts must be led by the community, informed by data, and closely monitored for equity. Using the High-Injury Network as a guide, enforcement will focus on the four most dangerous behaviors: distracted driving, intoxicated driving, speeding, and motorist failure to yield. By focusing on the most dangerous human behaviors in areas with extensive crash histories, our resources will be used most effectively and will have the biggest impact on improving traffic safety. Equity must be a central focus of an enforcement strategy to ensure that there are not inequitable disparate impacts on people of color.



## Safe Behaviors Policy 2

### **Align penalties for traffic violations with the severity of the offense based on traffic safety impacts**

**Achieve positive behavior change around the top contributing factors of serious injury and fatal crashes through partnerships with law enforcement and criminal justice reform**

The laws, regulations, and criminal justice policies in place today are critical to achieving positive behavior change and improving safety for all users on our transportation network. However, it is imperative that the penalties for breaking these laws reflect the severity of the offenses and support behavior change that results in a safer transportation network.

Speeding, for example, is a pervasive dangerous behavior that requires special attention from law enforcement in support of the street design strategies addressed in Designing for Safety. Without appropriate penalties and diligent enforcement, this dangerous behavior will likely be repeated and safety risks for all users will increase. One tool to explore is automated speed enforcement, a highly effective method to enforce speed limits, which is currently not allowed under Texas state law. It has been demonstrated in other states that automated speed enforcement not only catches those exceeding the speed limit, but can also deter recurring speeding violations.

Achieving positive behavior change will also require setting appropriate penalties for repeat offenders and equipping prosecutors with effective tools to secure convictions. Austin police officers have found that 19% of all reportable crashes involved people driving without a license or who had an invalid license, for example. In fact, 28% of fatal crashes in 2018 in Austin involved a driver who was driving with an invalid license or had no license. Austin's Vision Zero team will further explore the dynamics behind these and other crash trends and make data-informed recommendations to appropriately strengthen law enforcement tools, while also applying an equity lens to guard against unintended consequences.

Finally, minor offenses that do not put other transportation network users at risk, like crossing the street mid-block, should have comparably minor penalties. Offering education classes in lieu of a fine is one strategy that can help achieve positive behavior change that leads to a safer transportation network.

