Revised DRAFT Vision Zero Action Plan

Executive Summary

Vision Zero refers to a traffic safety concept that aims to reduce fatalities and serious injuries on roadways to zero. On November 20, 2014, the Austin City Council approved Resolution 20141120-103 calling for the City Manager to create a Vision Zero Task Force to study this policy and to produce a report, along with any recommendations, to the Council. This plan is a result of the Task Force's effort. Eliminating traffic deaths and serious injuries will require long-term efforts. This plan articulates an ambitious two-year strategy to begin reducing traffic deaths as Austin works toward the goal of zero deaths and serious injuries by 2025. The actions in this plan should be evaluated and refined on an on-going basis.

The plan is underpinned by several key principles:

- Traffic deaths and injuries are a preventable, public health issue. Any traffic death is too many.
- People will make mistakes; the transportation system should be designed so those mistakes aren't fatal.
- Safety is the primary consideration in transportation decision-making.
- Traffic safety solutions must be addressed holistically, through:
 - o Education and culture change,
 - o Enforcement and prosecution, and
 - o Land use, planning, and transportation engineering.

In a typical year, 64 people lose their lives on Austin's streets; for each person killed, eight more are seriously injured. Half of these deaths are people walking or riding motorcycle or bicycle, even though these modes only make up about 6.5 percent of all commuters. A larger proportion of minority groups and homeless individuals make up these numbers. In addition to the human loss, these injuries and fatal crashes cost Austinites more than \$500 million annually. The interplay of multiple factors is likely involved in most crashes, but the top contributing factors from crash reports of fatal or incapacitating crashes from 2010 to 2014 have clear implications for traffic safety improvement needs. The most dangerous driving behaviors contributing to crashes are: speed, improper maneuvers, failure to yield, distraction, impairment, and failure to stop.

This plan builds upon ongoing safety efforts by the Austin Police Department, the Austin Transportation Department and other regional agencies. It recognizes that these enforcement and engineering efforts must be supported by reforms to the courts, service industry, land use regulation and mental health services.

To reduce crashes that result in deaths or serious injuries, the Vision Zero Task Force has identified critical path actions for 2016 through 2018, organized into five key themes:

EVALUATION: Collect, analyze, communicate and share data that documents fatal and incapacitating crashes and top contributing factors.

ENFORCEMENT: Strengthen the ability to focus enforcement on hotspot locations of crashes resulting in deaths or incapacitating injuries.

ENGINEERING: Bolster key initiatives for which Complete Street Design, Traffic Engineering, and Transportation and Land Use Planning can prevent deadly or incapacitating collisions.

EDUCATION: Create a targeted public education campaign to raise awareness of the severity of the problem and solutions and integrate Vision Zero principles into existing educational initiatives.

POLICY: Identify and advocate for policies that will strengthen the ability to achieve Vision Zero.

Implementation of the Vision Zero Action Plan will be led by a Vision Zero Program and the Vision Zero Task Force. The City of Austin will staff and fund a program dedicated to improved transportation safety with the guidance and involvement of the Vision Zero Task Force. A planning-level cost estimate for all actions accompanies this plan in Appendix A. The City will report on progress through an annual report card that measures the community's progress towards achieving Vision Zero.

Austin joins several other U.S. cities in making this commitment including New York City, San Francisco, Seattle, Portland, Boston, and San Antonio. By making a commitment to reduce deaths and serious injuries to zero by 2025, Austin will become a safer, more livable city for generations to come.

I. Introduction

The Austin City Council charged the Vision Zero Task Force with addressing an ongoing tragedy on Austin's streets: in an average year, 64 people are killed in automobile crashes. The past year underscores the urgency for action: 102 people died on Austin roads in 2015.

This is a quiet crisis that remains muted in the background for most people, until it is inescapably front and center for another person, another family. For each person killed, eight more victims of crashes are seriously injured, changing their lives forever. The physical and emotional trauma for victims, survivors, and loved ones left to mourn makes it a moral imperative that society ends this violence.

The causes of these crashes are known—speed, impairment, distraction, failing to yield or stop, and dangerous and improper maneuvers—and there are measures in place to address many of them. But in the past, these crashes were seen as discrete problems with discrete solutions. Vision Zero frames transportation safety differently:

Deaths and injuries are the result of a larger, systemic problem, requiring a coordinated and collaborative effort on the part of all City departments, partnering agencies, and community groups.

Vision Zero's goal is simple: Zero traffic deaths and serious injuries in Austin by 2025. The goal can only be zero, and achieving it will take all Austinites. Getting there will not be easy.

Over the course of 2015, the Vision Zero Task Force took a comprehensive approach to transportation safety, looking at current initiatives, research, and best practices. These encompass education and culture change, enforcement and prosecution, land use, urban design, complete street design, and transportation planning and engineering. The Task Force's recommendations in this Action Plan are the start of an ongoing effort by the City, its partners, and the Task Force, and will be continuously evaluated and refined to get closer to the goal of eliminating deaths and serious injuries. Vision Zero is an overarching effort to end traffic deaths and serious injuries, by uniting and refining existing efforts, identifying new initiatives and tools, evaluating progress, and holding all stakeholders accountable for continuously moving closer to the goal.

The effort starts by changing the way society perceives traffic deaths and injuries: no longer are they "accidents" or the unfortunate, but unavoidable, cost of doing business. People will make mistakes—whether walking, bicycling, or driving—but our coordinated and comprehensive efforts can prevent those mistakes from being fatal. To save lives and prevent injuries, safety must be the primary consideration when making land use and transportation decisions.

Successes will be incremental and changes in land use patterns and street design will take time and resources, but this must start today. Collecting more robust data and analyzing and sharing that data can help to direct resources where they are most needed. Media must elevate the magnitude of this problem to raise awareness and shape safer behaviors. These two short-term actions can influence ongoing, system-wide change.

Enforcement must be prioritized where it can have the greatest effect immediately. Dangerous violations, especially those resulting in injuries or deaths, must also be prosecuted. The Austin Police Department (APD) serves as the front line for preventing injuries and deaths through enforcement initiatives. It is critical that enforcement be targeted at crash hotspot locations and on the most dangerous behaviors that cause fatal and serious injury crashes.

In 2015-2016, the Austin Transportation Department (ATD) initiated its Safety Improvement Program, focusing on five intersections with high crash rates that can be made safer with engineering improvements. ATD will continue

to evaluate crash hotspot locations and look for opportunities for rapid implementation of engineering safety improvements.

Many City policies, practices, rules and regulations shape the design of our streets, which are part of the fabric of our city. Project planning and designs that take a complete streets approach; integrated transportation and land use planning; the Land Development Code and other regulations; urban design practices; and planning initiatives all can be viewed through a Vision Zero lens and shaped so that they contribute to safer streets.

Culture change is also necessary. Educating people about safe driving and changing how people view streets—not just as conduits for cars, but as places for people—is crucial. As inactivity and obesity increase among the population, fear for safety should not be a barrier to walking or bicycling.

To ensure people can walk or bike safely, the definition of "high speed" must change. Approximately 30 percent of pedestrians struck at 25 miles per hour sustain severe or worse injury and about 12 percent die. At 35 miles per hour, nearly half of all pedestrians (47%) sustain a severe or worse injury, and one in five (20%) are killed. At 40 miles per hour, 79 percent of struck pedestrians sustain a severe or worse injury and 45 percent die [1]. Higher speeds, even when relatively slow from a driver's perspective, have consequences of increasing severity when crashes do happen. Slower streets are safer streets for all users.

The Vision Zero Task Force and its affiliated departments, agencies, and community groups, are united in a goal of stemming the tragic toll of deaths and injuries. This initial Action Plan is a coordinated effort toward making Austin's streets safer. As this plan is implemented, the Task Force will evaluate the effectiveness of the actions outlined in this Action Plan and refine strategies to continually work towards eliminating deaths and serious injuries.

Zero deaths and serious injuries is a bold goal, but it is achievable: The causes of traffic deaths and injuries are unequivocally preventable. The Vision Zero Task Force honors the lives lost or irrevocably altered by working toward zero. Any traffic death or injury is too many.

What is Vision Zero?

Vision Zero is a proven, data-driven approach to reducing transportation-related injuries and saving lives. Vision Zero is a goal of working toward the only acceptable number of traffic deaths and serious injuries: zero. The Vision Zero concept originated in Sweden in 1997 and has since been adopted in countries around the globe, and across the U.S. More than 30 states and the US Department of Transportation have adopted Vision Zero as a national strategy, called "Toward Zero Deaths." More recently, cities including New York, Chicago, Boston, San Francisco, Seattle, Portland, and San Diego, have adopted Vision Zero policies and short term Action Plans at the time of publishing. In Texas, San Antonio is also developing a Vision Zero Action Plan. Austin joins 9 other U.S. cities in the Vision Zero Network's Focus Cities program including Boston, Chicago, Washington DC, Fort Lauderdale, Los Angeles, New York City, Portland, San Francisco and Seattle.

Austin's Vision for Safer Streets

Austin embraces Vision Zero as a holistic approach that elevates safe mobility as the top priority for the transportation system by setting the goal of zero deaths & zero serious injuries while traveling. People will make mistakes; the transportation system should be designed so those mistakes are not fatal. Vision Zero builds on

multiple existing safety initiatives, facilitates greater collaboration, leverages limited resources between City departments, agencies, and community partners, and requires a concerted, multi-pronged approach that involves:

- A holistic approach to land use and transportation;
- A complete streets approach to street design;
- Traffic engineering and infrastructure;
- Enforcement and prosecution of dangerous behaviors;
- Education and culture change;
- Public health, equity, and related issues; and
- Policy analysis and changes at the local and regional level.

Traffic deaths and injuries are a preventable, public health issue. By adopting Vision Zero, the City commits to a goal of eliminating transportation-related deaths and serious injuries by 2025.

Successes Elsewhere

Vision Zero has proven successful in reducing traffic deaths. The cities and countries that have embraced Vision Zero have seen a reduction in traffic deaths and serious injuries through comprehensive efforts including addressing speed, rethinking road design, targeting enforcement of dangerous driving, and raising awareness.

Sweden and the Netherlands have some of the lowest transportation-related fatality rates in the world.[2] Vision Zero has also demonstrated its effectiveness in the U.S. After adopting their Vision Zero Action Plan, New York City had the lowest number of traffic deaths on record.[3]

In Utah, which has development patterns more similar to Austin's, Vision Zero helped the state reduce traffic deaths by 48 percent since adoption in 2003.[4] Provo, Utah also shows that preventing all deaths is possible; in 2011 not a single person died on Provo's roads.[5]

Map with callouts for NYC, Sweden, SF, Utah

Austin Needs Vision Zero

Austin is a great place to live. Austin is regularly highly ranked on "best of" cities lists, whether for jobs, music, barbecue, or just about anything else. As the Austin Business Journal said, Austin is "Best for everything and everyone." [6] Unfortunately, the city is also on some far less desirable lists. Austin ranks as the 13th most dangerous city for traffic for cities with a population over 500,000. [7] On average, 64 people are killed on Austin's roads and 200 are seriously injured each year. This means more people lose their lives in crashes in Austin than to gun violence.

Last year was a particularly deadly year: 102 Austinites were killed in traffic collisions in 2015. These deaths and injuries are more than numbers: each one of these lives lost is a tragedy to the families and loved ones left behind. Each serious injury is a person's life forever changed. Each is a part of a city, state, national, and worldwide public health crisis.

Each is preventable. Through the coordinated efforts of Vision Zero, Austin's goal is to eliminate traffic deaths and serious injuries by 2025.

(Not) an accident waiting to happen

Many crashes occur at the intersection of design and human error. As Deborah Hersman, the chair of the National Transportation Safety Board, said, "Accidents, like a fraying rope, are always a series of missed opportunities, but the blame typically falls on the final strand in a rope that breaks - often it is the human being". [8] Dangerous driver choices are attributed as a cause in more than 90 percent of fatal or incapacitating injury crashes in Austin, but in many cases, design may influence behavior. Taking responsibility for one's safety and the safety of others is necessary to achieve Vision Zero, but key to Vision Zero is acknowledging and anticipating that people will make mistakes. The transportation system must be designed to prevent those mistakes from being fatal.

Addressing speed through street design

Research clearly links higher speeds to increases in crash occurrence and severity. [9] A study by the Institute of Transport Economics states that, "there is a very strong statistical relationship between speed and road safety. It is difficult to think of any other risk factor that has a more powerful impact on accidents or injuries than speed"[10]. Higher speed increases stopping distance, making it harder to avoid a crash and increasing the severity of crashes. At higher speeds, a driver's field of vision narrows, inhibiting their ability to see and react to potential hazards. Even when speed is not a cause of a crash, it is the key variable influencing the severity of injuries and damage. The Institute of Transport Economics advises that "if government wants to develop a road transport system in which nobody is killed or permanently injured, speed is the most important factor to regulate".

The influence of land use and urban design

Development patterns play an important role in the safety of our streets. The less people drive and the shorter their trips, the less likely it is that vehicle crashes will occur. Sprawling, disconnected land use patterns continue to encourage driving to the detriment of walking, bicycling, and taking transit. Lower density, longer blocks, large parking lots and free or low cost parking, frequent driveways, and lack of street connectivity directly contribute to higher traffic deaths.[11] These development patterns shape how people get around, but more critically, expose Austinites to greater risks while traveling. The combination of factors, including historical land use patterns and road designs designed to move motor vehicles quickly,[12] and dangerous behaviors, contributes to deaths and injuries on Austin's roads. Compact-and-connected development patterns that support transportation options can help to reverse this trend.

The Surgeon General 's "Step it Up!" call to action promotes walking and walkable communities, highlighting the important role physical activity has in overall health. The call to action cites safety concerns—both real and perceived—and the design of communities as barriers to walking. [13] The design of streets and development patterns play an immediate role in the safety of streets, influencing crash risk and severity. They can be deadly in insidious ways—such as heart disease, stroke, diabetes, and depression—as well.

Compact and connected development patterns — featuring shorter blocks, connected street networks, and mixed land uses — can reduce crash risk by making it viable and attractive for people to drive less. Shorter trip distances make walking, biking, and transit viable options for more Austinites and reduce vehicle miles travelled (VMT). Compact, mixed-use urban form —such as a fine-grained urban fabric with narrower streets, buildings close to the street, active facades and patios, few driveways, and wide sidewalks with street trees — can slow driving speeds. These elements work together to reduce the severity of injuries.

Failure to Yield

APD identified failure to yield the right-of-way as one of the top contributing factors in data from 2010 through 2014. Of the fatal or incapacitating crashes where failure to yield was cited as a factor, the majority were pedestrians failing to yield to vehicles (58%), followed by drivers making left turns (24%), and failing to yield at private drives (12%).

Changing land use patterns and the Land Development Code, street design, and signalization all could help to reduce incidents of "failure to yield." For example, street designs that improve the configuration for left turns can eliminate conflict points.

The issue of pedestrians failing to yield the right of way requires further exploration and analysis. The issue of placing responsibility on the pedestrian is a topic of ongoing discussion. Behavior and street design/engineering affect one another, and solutions for those crash types will be multi-pronged and include engineering, education, and enforcement.

For example, APD compiled fatality crash profiles for traffic deaths in 2015. There were 28 pedestrian deaths during the period between January 1 and November 30, 2015. In analyzing them, APD found that 93 percent of fatal crashes involved the pedestrian crossing in a prohibited location. Especially on high-speed roads, which tend to have longer block lengths and fewer crossings, a scarcity of safe and legal crossings is an issue. People are more likely to cross in an unprotected area in the middle of the road under those conditions. Adding features such as pedestrian-activated signals with crosswalks is an example of an engineering solution that can improve safety. Completing the street network by strategically adding capacity, thereby increasing connectivity, and shortening block lengths is an example of how transportation planning can contribute to solutions.

Dangerous Behaviors

Often coupled with design, human error plays a role in crashes. Between 2010 and 2014, six key behaviors were listed in APD crash reports, for fatal or incapacitating crashes with a recorded contributing factor. These six dangerous behaviors are:

- 1. Improper movements;
- 2. Driver inattention or distraction;
- 3. Failure to yield right-of-way;
- 4. Speeding;
- 5. Driving Under the Influence (DUI); and
- 6. Failure to stop.

Vision Zero includes efforts to get people to change their behaviors; it also includes street design and engineering changes that anticipate and help prevent human error.

[CALL OUT BOX] Driving Under the Influence (DUI) of alcohol and/or drugs was a contributing factor in about half of all traffic fatalities over the past few years. In 2015, 75 percent of driver deaths involved an intoxicated driver and 53 percent of pedestrian fatalities involved an inebriated pedestrian.

The role of human error underscores the personal responsibility each and every traveler has in reducing serious injuries and fatalities. By making the right choice to designate a sober driver, put the phone down, and maintain safe speeds, are all choices we can make daily to keep our roads safer.

Who is Affected?

Traffic deaths and injuries are a worldwide public health issue affecting all road users and all communities. In 2013, 32,719 people died in traffic collisions in the United States[14]—equivalent to a 747 plane falling out of the sky every week. In Texas, there has not been a fatality-free day in the last 15 years. [15] In 2014, someone was killed every 2 and a half hours and someone was injured every 2 minutes 13 seconds on Texas roads. [16]

Despite those bleak numbers, streets have become safer overall thanks to safer roadway design, safety features in vehicle design, such as airbags, and cultural shifts such as increases in seatbelt use and reductions in drinking and driving. However, while these safety improvements are saving the lives of people traveling within motor vehicles, it is a different story for people outside of them. In particular, people traveling by modes other than driving, minority groups, people with lower incomes, and people experiencing homelessness are more likely to be killed or injured in traffic collisions.

Nationally, pedestrian and bicycle fatalities have held constant or increased slightly. As a result, bicycle and pedestrian deaths have increased as a percentage of total traffic deaths. Across the US, people walking accounted for 14 percent of all traffic fatalities in 2012, up from 11 percent in 2007. In Austin this disparity is especially severe: Pedestrians make up almost a third of all traffic fatalities. People walking or riding bicycles or motorcycles make up over half of all traffic deaths, despite accounting for less than 7 percent of commute travel.[17]

In 2012, Austin ranked seventh in the number of pedestrians killed in U.S. cities with populations greater than 500,000, and had a fatality rate of 2.97 pedestrians killed per 100,000 residents.[18] The Federal Highway Administration (FHWA) identified Austin as a Pedestrian-Bicycle Focus City due to this high fatality rate for pedestrians. Austin's designation brings technical support and professional training opportunities on best practices in transportation safety improvement strategies. [INSERT LINK TO PROGRAM]

The fatality rates for the largest U.S. cities shown in the graph above also demonstrate an important and often overlooked factor in transportation safety: land use patterns. Decades of developing around driving has created spread out, disconnected land use patterns that encourage driving to the detriment of other modes. Less density, longer blocks, lots of driveways, and a lack of street connectivity directly contribute to higher traffic deaths. [19]

Development patterns may also have a connection to some of our most vulnerable populations. Research reveals disparities in safety for minorities, people with lower income, and for those with less education[20]. These groups are increasingly priced out of Austin's most urban neighborhoods, which often have shorter blocks, narrower street widths, trees, and a gridded street network, all of which contribute to slower and safer streets. Traffic deaths and injuries may be colorblind, but Black and Hispanic communities are disproportionately affected, and many of the corridors with high numbers of injuries and deaths are located in areas with higher poverty rates.

People experiencing homelessness—a group often pushed to live in some of the least desirable locations, including along high-speed roads—are a large portion of traffic victims. An Austin-American Statesman investigation found

that 14 percent of deaths within the homeless population between 2013 and 2014 were caused by vehicles. [21] Between January 1 and August 31, 2015, people walking made up more than 30 percent of traffic deaths and of those, 43 percent were people experiencing homelessness. In the majority of these tragedies, the victim was attempting to cross an arterial street or other high-speed road. [22] In many locations where pedestrians failing to yield were as cited between 2010 and 2014, the street lacked sidewalks. These high-speed roads also often have long distances between legal and safe crossings.

For Austin to achieve zero deaths and zero serious injuries by 2025, we will need to focus resources on vulnerable populations. Improving the safety of these vulnerable populations will require measures beyond street design and engineering, enforcement, and conventional education or media. Collecting robust data will help to better understand the social, economic, and geographic disparities of traffic deaths and serious injuries. As this data is collected and understanding is refined, resources must be directed to address these disparities. These communities should be involved during the planning, implementation, and evaluation of safety efforts, and extra care should be taken that solutions do not create unintended consequences for these communities. This Action Plan calls for representatives from these groups to be a part of the continuing Vision Zero Task Force to ensure these disparities are addressed in the implementation of this Action Plan.

Cost of Collisions

As acknowledged in this Action Plan, enacting the recommendations aimed at eliminating traffic deaths and injuries will take time and money. But society pays either way: with infrastructure, enforcement, and education, or with the emotional *and* financial costs of injuries and deaths.

Safety is expensive, but not nearly as expensive as injuries and deaths. In addition to the tragedy and trauma suffered by victims of traffic collisions and their loved ones, traffic collisions are also an expensive drain on the economy. Fatal and injury crashes in Austin are estimated to <u>cost our community over half a billion dollars</u> annually, when health care and other related hard costs are included. [23]

What if instead, half a billion dollars were invested into education, enforcement, and street design and engineering strategies to prevent injuries and deaths from crashes?

For example, \$500 million would fund over 800 miles of new sidewalks (35% of our 2,270 missing miles) [24] or over 6,600 new Pedestrian Hybrid Beacons (PHBs). [25] It could also buy 500 thirty-second safety commercials during the Super Bowl [26].

A Need for Safer Streets

The Imagine Austin Comprehensive Plan is the community's vision for Austin and how it will manage growth and change. The Imagine Austin Comprehensive Plan envisions an Austin that is more walkable, bikeable, and transit-friendly. It calls for an array of safe, convenient travel options for people of all ages, abilities, and incomes so that they can meet their daily needs within a short trip — whether walking, bicycling, taking transit, riding a motorcycle, or driving. A well-connected, safe travel network is foundational to achieving the goals in the Imagine Austin Comprehensive Plan and for promoting public health, safety, and welfare. In October 2015, the City Council amended the Imagine Austin Comprehensive Plan to include Vision Zero as a policy goal. The Austin Strategic Mobility Plan is a forthcoming proposed amendment to Imagine Austin that will further develop and incorporate Vision Zero goals into its planning process.

Building on Success

The City is already addressing many aspects of transportation safety. These include continuous improvements to the design and engineering of our streets, for people of all ages and abilities traveling by all modes, led by ATD, to implement the City's Complete Streets Policy. Other examples include the enforcement efforts of APD and ordinances such as Distracted Driving and the Vulnerable Users/three-foot passing law which requires three feet of space when passing a cyclists, or six feet if the vehicle is a large truck. The City has also made land use changes, such as transit-oriented development around commuter rail stations, the Mueller redevelopment on the former airport, and changes to the Land Development Code, to create more compact development patterns that encourage walking, bicycling, and transit.

Despite these successes, the City recognizes that more must be done. The 2012 Traffic Fatality Report, produced by the ATD, APD, and the Public Works Department (PWD) noted that, although the many initiatives underway by multiple departments demonstrate a commitment to traffic safety, these initiatives "lack a framework that ties them together within the context of overarching goals, objectives and performance measures; and compete among other priorities and programs for staff time." The Vision Zero Action Plan addresses this need by providing an overarching goal and framework to unite the community's transportation safety efforts.

The Vision Zero Action Plan is designed to bolster the efforts already underway, as well as to identify new strategies, for preventing injuries and saving lives. By approaching transportation safety holistically, this Vision Zero Action Plan specifically encourages collaboration between departments, agencies, and the wider community to achieve safer streets for everyone.

The Austin City Council appointed a Vision Zero Task Force to make the recommendations for improving safety contained in this Vision Zero Action Plan. This multidisciplinary Task Force included representatives from multiple City departments, federal and state agencies, research institutions, and community groups, all of whom are collaborating to identify solutions. The Vision Zero Action Plan is the culmination of the Vision Zero Task Force's work over the past year and an initial step in an ongoing collaborative effort to reduce injuries and save lives.

II. Critical Actions

Transportation-related injuries and deaths are a multifaceted problem that will require continuous, coordinated, and collaborative efforts to eradicate. The initial Vision Zero Action Plan identifies steps the City, other agencies, and the community should take immediately; subsequent evaluation and future Action Plans should refocus actions as needed and further develop medium- and longer-term solutions. The Action Plan focuses on ongoing and shorter-term actions targeting the top contributing factors to injuries and deaths, uniting transportation safety initiatives across departments, partners, and solutions, as well as creating a framework for monitoring and improving the efficacy of transportation safety actions. The medium- and long-term actions will take longer to implement, but the City and its partners should begin laying the groundwork for those actions now. The timeframes listed for key progress metrics indicate when actions should be completed. Critical actions for 2016 through 2018 are organized into these categories: Evaluation, Engineering, Enforcement, Education, and Policy. Each critical action is explained in further detail in Appendix A along with existing initiatives, responsible agencies, cost estimate for completion, and the amount of funding currently available.

1. Evaluation: Collect, analyze, communicate and share data that documents fatal and incapacitating crashes and top contributing factors.

A data-driven approach to safety is necessary to achieve Vision Zero. Directing resources to address injuries and deaths within our transportation system requires good data. Accurate information and thoughtful analysis of the data will result in better enforcement, establishing needs and priorities for street design and engineering, and more effective educational campaigns. This initial Vision Zero Action Plan includes information on top contributing factors of injury and fatal collisions and crash locations, but this data must be continuously refined and reevaluated in order to best direct the prioritization of specific interventions given limited resources.

Key Actions

DEVELOP better analytical tools and metrics:

- Action X: Integrate state and local tools into a common crash analysis tool that can identify and report on crash patterns and trends across the region as well as along a roadway and within or at an intersection and automatically generate collision diagrams.
- Action X: Develop a user-friendly and comprehensive method of collecting information on the ground at crash locations to enable easier and more thorough analysis, especially of spatial patterns and design factors.
- Action X: Collect geospatial data for citations from the Municipal Court and include that data in crash analysis.
- Action X: Work with the Texas Department of Transportation (TxDOT) to link crash data and draw down Austin/Travis County Health and Human Services Department (HHSD), EMS, and hospital and trauma registry data.
- Action X: Coordinate a data-driven procedure (and enhance tools as necessary) to prioritize high volume crash locations and corridors based on industry best practices and to focus limited resources.

APPLY existing data to focus resources:

- Action X: Incorporate TxDOT datasets to analyze, map, and/or improve for a better understanding of factors contributing to fatal and serious injury crashes.
- Action X: Create a platform and/or process to better share data, including geospatial data and maps, across City departments and agencies that are affected by transportation safety. Create a platform to share anonymized information and maps with the public.
- Create a grant resource to facilitate City, agency, and community applications for local, state, and federal grant funding.
- Continue analysis of victims and suspects involved in fatal crashes, including demographics, to target education, enforcement efforts, and policy changes.
- Evaluate the effectiveness of education, enforcement, and street design and engineering improvements. Update data and crash maps in subsequent action plans.
- Conduct before and after studies of safety improvements to assess effectiveness and refine future applications.

Key Progress Metrics

Completed in the short-term (0-3 years)

- Funding provided to regularly collect bicyclist/pedestrian counts.
- Hire at least one injury prevention epidemiologist position at HHSD.
- Provide technology and training for officers to better record and preserve crash details and site evidence.
- Create an interactive online mapping tool to display crash data and Vision Zero-related projects.
- Map and analyze the source of alcohol in DWI crashes.
- Create a Vision Zero smartphone application for reporting dangerous locations, near-misses, and crashes, or integrate into the 3-1-1 app.
- Create a grant management resource to facilitate City, agency, and community applications for local, state, and federal grant funding.

2. Enforcement: Strengthen the ability to focus enforcement on hotspot locations of crashes resulting in deaths or incapacitating injuries.

[CALL OUT BOX] Distraction

Between 2010 and 2014, "driver inattention" was the highest reported contributing factor in police crash reports (15,378 crashes), and was second only to "failed to control speed" as a single contributing factor in deadly or incapacitating injury crashes.

Distracted driving is an especially pervasive problem as smartphones have become ubiquitous. Nationally, in 2013, more than 3,000 people were killed in crashes involving distracted drivers. [27] High numbers of people report texting while driving—a seemingly harmless way of multitasking—but research clearly shows texting while driving drastically increases the likelihood of being involved in a collision [28]. Researchers have found that drivers using cellphones exhibited a level of impairment on par with driving drunk. Austin has taken important steps toward discouraging distracted driving by banning handheld use of electronic devices while driving or bicycling.

Hands-free use of cell phones does not go far enough in reducing distracted driving. Research, including studies compiled by the National Safety Council, shows that our brains have difficulty simultaneously processing movement and languages, so much so that drivers "looked, but failed to see" up to 50 percent of their surroundings when they were using a device, regardless of whether they were using a hands-free device or not. Laboratory and on-road research shows that talking on a hands-free cell phone or using a speech-to-text email system reduces drivers' available mental resources that can be dedicated to driving. This cognitive distraction can lead drivers to miss visual cues, have slower reaction times, and see in tunnel vision. [29]

Key Actions

TARGET enforcement where it is needed most

- Action X: Target enforcement on high injury and fatal roadways and on the most dangerous driving hehaviors
- Action X: Enforce improper driver behavior around traffic calming devices and crossing devices,
- Action X: Coordinate enforcement across all law enforcement agencies and coordinate to increase prosecution of repeat offenders.
- Action X: Work with the APD to continue enforcement of transit priority lanes.

INCREASE capacity for enforcement and prosecution

- Austin X: Frame traffic offenses as a leading, but preventable, public health and safety problem and educate judges, legislators, and the public to ensure punishments are appropriate.
- Action X: Enhance the current City ordinance (§ 12-1-26 Pedestrians on Certain Roadways) for areas unsafe to pedestrians.
- Action X: Work with courts to create graduated penalties for repeat offenders. APD's data show that many of the fatal crashes involve people previously involved with APD for driving violations.
- Action X: Design assurances against racial profiling and targeting of enforcement of top contributing factors toward certain groups.

Key Progress Metrics

Completed in the short-term (0-3 years)

- Fund DWI Unit (see Action X)
- Fund new Highway Enforcement Command (HEC) Unit and/or positions (see Action X)
- Fund red light cameras (see Action X)
- Create legislative workgroup to discuss traffic safety issues
- Fund a sobriety center

Completed in the midterm (3-7 years)

- Establish new DWI Unit
- Create new positions at HEC
- Select red light camera locations and install cameras
- Fund more prosecutors to prosecute dangerous driving behaviors
- Fund a DWI prosecution unit
- Establish a DWI prosecution unit
- Establish a sobriety center
- Add Austin Independent School District officers to help enforcement of school zones

ENGINEERING: Bolster key initiatives for which Complete Street Design, Traffic Engineering, and Transportation and Land Use Planning can prevent deadly or incapacitating collisions.

[CALL OUT BOX] The Complete Streets Policy [Ordinance 20120612] adopted by the Austin City Council establishes a multimodal approach for the design of streets and the safety of all travelers. It states:

"Safety, including a reduction in hazards for pedestrians and bicyclists on Austin roadways, is a fundamental consideration of this Complete Streets Policy."

Principles of the Complete Streets Policy that relate to Vision Zero goals include:

1. Complete Streets serve all users and modes. The City of Austin commits to design, operate and maintain the community's streets and right-of-way so as to promote safe, comfortable and convenient access and travel for people of all ages and abilities. This is the core intent of this policy. All streets and roadways within the city shall provide basic safe access and crossings for all allowed categories of users – people traveling as pedestrians and by bicycle, transit riders, motorists and others. ... The City recognizes that children, seniors, and persons with disabilities may require inclusive accommodations.

2. Complete Streets require connected travel networks. The City of Austin shall prioritize opportunities to create a complete transportation network that provides connected facilities to serve all people and modes of travel, now and in the future. Streets shall be connected to create complete street networks that provide travelers with multiple choices of travel routes and that help to reduce congestion on major roadways. This network includes off-street hard-surface trails for biking and walking. All roadways and routes need not be optimized for all modes; however, people using each mode require a network of safe and convenient travel routes and crossings throughout the city.

Key Actions

IMPLEMENT Safety-Related Policies, Plans and Programs

- Action X: Direct engineering resources to high injury and fatal crash hotspot locations. Implement at least five major safety engineering projects annually at top crash prone locations.
- Action X: Implement low-cost, high-impact safety improvements throughout the city based on safety
 engineering studies. Work with Capital Area Metropolitan Planning Organization (CAMPO) and TxDOT for
 funding opportunities.
- Action X: Revise transportation municipal codes (including the Transportation Criteria Manual) to focus on safety and thorough review of transportation development projects. Create an interim policy for implementing the Complete Streets Policy in every construction, reconstruction and/or development project and accelerate the process to create a Complete Streets design guide.
- Action X: Conduct Engineering Studies:
 - Conduct speed studies at locations with speeding issues as identified in collision analysis.
 - Study crash-prone locations where right-on-red or left turn movements were factors.
 - Identify locations with pedestrian safety issues using collision analysis maps and consider traffic control devices to allow safer crossings.
 - Study and expand exclusive pedestrian crossing time on the high injury network for people walking.
 - Study locations and implement speed feedback warning to reinforce education and enforcement initiatives and encourage speed compliance.
- Action X: Capital Metropolitan Transportation Authority (Capital Metro) Safety Improvement Initiatives:
 - Evaluate the need for potential adjustments to interior lighting of buses for improved safety during nighttime operations including reducing glare for operators.
 - Capital Metro will continue working with City and its municipally-owned electric utility Austin Energy (AE) to evaluate the need for lighting along transit corridors and at intersections.
 - Continue evaluating transit collision hotspots and work with partner organizations to improve safety conditions at those locations.
 - Action X: Work with all school districts within the City's jurisdiction as well as charter and private schools and the City's Safe Routes to Schools program to set incremental, progressive goals for safe, active travel to schools.
 - Action X: Capital Metro will work with the University of Texas and the City to consider safer vehicle parking methods to reduce collisions along transit corridors through campus.
 - Action X: Capital Metro will continue to collaborate with the City to ensure safe pedestrian access to transit stops.

- Evaluate new and existing bus stops to reduce rear-end collisions at intersections.
- Action X: Apply Technology in Safety Improvement Initiatives:
 - Evaluate opportunities to expand existing and/or implement new transit priority treatments.
 - Implement new transit vehicle engineering principles (such as rear-of-vehicle chevrons, right-side illumination during turns, and lane departure technology) to reduce collisions.
 - Work to equip all City fleet vehicles with safety related devices, designs, and technology that record dangerous driving behaviors.
 - Continue to work with Google, Rocky Mountain Institute, and other tech companies and organizations to pioneer autonomous vehicle testing and adoption to improve safety.
 - Enhance signal system software and equipment to detect red light running and use data for enforcement and engineering.
 - Deploy next generation emergency vehicle preemption to reduce response times and increase safety.
 - Conduct a pilot project to assess feasibility of advanced detection techniques to estimate the frequency and type of near-miss collisions within signalized intersections
- Action X: Fund and build infrastructure improvements included in the Bicycle Master Plan, Sidewalk Master Plan, and Urban Trails Master Plan.
- Action X: Work with CAMPO and TxDOT for funding opportunities for safety improvements.

Key Progress Metrics

Completed in the short-term (0-3 years)

Establish a dedicated Traffic Safety Engineering team, consisting of 6 full-time equivalent (FTE)
positions with financial resources to work on safety engineering projects and transportation
development projects.

Ongoing

- Number of safety engineering projects completed
- Miles of safe bicycle lanes, sidewalks, and trails constructed
- Conduct before and after studies of safety improvements to assess effectiveness and refine future applications
- 4. Education: Create a targeted, branded Vision Zero education and media campaign raising awareness of the severity of the problem and solutions, including behavior changes.

Preventing injuries and death on Austin's roads will take everyone's efforts. The Vision Zero media campaign will provide a common brand and unite all of the traffic safety initiatives and related marketing in the region. An ongoing conversation about dangerous driving behaviors, improving travel education, and rethinking how we design our transportation systems will require all Austinites and include important discussions about the tradeoffs

between the choices one must make. Targeted outreach and educational campaigns geared towards specific audiences (such as bicyclists, drivers, pedestrians, and motorcyclists) will provide information about how each can safely interact with the other while traveling on Austin's roadways. Vision Zero Task Force agencies will partner with local, state, federal and community organizations on educating people who travel in Austin and how they can change their behavior to make traveling safer. The Vision Zero media campaign should focus on helping public information officers (PIOs) and others deliver standard messaging regarding traffic safety in the news media, including standard Vision Zero messages and responses to questions about crashes.

A strong, branded, Vision Zero educational media campaign should use data to educate all Austinites on the severity of the problem and the dangerous traveling behaviors that lead to serious injuries and death, in order to start changing attitudes and behaviors. The media campaign should be inclusive, culturally-sensitive, and tailored to the diversity of people (e.g., all ages, races, ethnicities, socio-economic groups) in Austin. City staff will pursue funding for the educational campaign, such as TxDOT and National Highway Traffic Safety Administration (NHTSA) Section 402 grants and other sources. Using data and mapping, Vision Zero Task Force agencies will partner to produce events in "hotspot" areas, around the top contributing factors, to focus on changing behaviors in those areas.

Key Actions

IMPLEMENT a comprehensive, citywide Vision Zero public education campaign

- Action X: Create a cross-departmental safety education team, with dedicated staff and funding, with membership from APD, ATD, PWD, HHSD, the Planning and Zoning Department (PAZ), the Austin Fire Department (AFD), and Austin-Travis County Emergency Medical Services (EMS).
- Action X: Create a Vision Zero training module and train all staff that review, design, or implement projects to reiterate that all staff are responsible for transportation safety.
- Action X: Continue safety messaging onboard buses and at or around bus stops through partnership with KUT and other media outlets
- Action X: Lead by example by adopting Vision Zero policies for City fleets and through education and training targeting public and private employers. This should include an online safety training program for all modes that includes the existing "Ride Kind, Drive Kind" video to help ground transportation drivers understand how to interact safely with vulnerable road users.
- Action X: Provide defensive travel training for all modes at vocational and college orientations and in student housing to educate new students about how to travel safely in the city.
- Action X: Work with area colleges to create and implement a new pedestrian and transit safety campaign.
- Action X: Provide targeted outreach and training when adding pedestrian or bicycle facilities to teach residents how to use the facility and how to drive near people using the facility.
- Train all participating agencies' staff that interface with media on Vision Zero messaging.
- Hire or consult with community education and cultural competence expert(s) to make sure that City outreach and education efforts are truly inclusive and effective.
- Action X: Evaluate the knowledge of laws and regulations possessed by those convicted of crimes related to dangerous driving and explore targeted education.
- Incentivize server training to reduce risks associated with the retail alcohol environment

INTEGRATE Vision Zero principles into existing safety education

- Action X: Work with social service providers to improve safety for people experiencing homelessness, including educational outreach, improving visibility, and establishing safe crossings.
- Action X: Encourage print, television, and social media leaders to frame traffic crashes as tragic and preventable occurrences when reporting on them.
- Action X: Incorporate Vision Zero for all modes into City's defensive driving classes and curriculum.
- Action X: Require City employees to renew defensive driving training every year for commercial drivers
 and every two years for non-commercial drivers. Incorporate Vision Zero messaging into existing media
 training for staff.
- Action X: Require defensive driving for all top contributing factors citations.

Key Progress Metrics

Completed in the short-term (0-3 years)

- Number of staff trained with the Vision Zero training module
- Number of safety advertisements
- Number of organizations we form partnerships with
- Number of organizations using the online video/module/number of unique visitors

Ongoing

Identify populations or communities that are not reached education campaigns

5. Policy

Policy changes will be necessary to support many of the actions in this Action Plan and bolster the safety improvement work already underway.

Key Actions

PURSUE policy change necessary to achieve Vision Zero

- Action X: Work at the local and state level to lower default speed limits congruent with research on speed and best practices.
- Action X: Pursue Housing First model of ending homelessness to address larger societal issues
 contributing to crashes involving homeless persons crossing the roadway. Housing First is based on the
 idea that a homeless person's or household's primary need is to obtain stable housing, and focuses on
 immediately housing people.
- Action X: Shorten driver's license renewal from 6 years to 4 years and require defensive driving or driver's education for all top contributing factors.
- Action X: Include Vision Zero principles and land use, urban design, and multimodal street design and
 engineering strategies in coordinated revisions to the Land Development Code (CodeNEXT) and the City
 Transportation Criteria Manual and policies.
- Action X: Develop action plans for vulnerable road user groups and coordinate these more specific plans with the Vision Zero Action Plan.
- Maintain sidewalks so they are clear of poles, signs, new trees or shrubbery, and other impediments to Americans with Disabilities Act-compliance.
- Action X: Continue to build on Transportation Demand Management (TDM) strategies.

RESEARCH opportunities for policy change

- Action X: Consider changing the cite-and-release policy for people who drive dangerously, as listed in this plan's identified dangerous behaviors, without a license or with a suspended license.
- Action X: Research enforcement techniques from other cities to enhance compliance with the Distracted Driving Ordinance.
- Action X: Explore requiring bars to serve food or partner with food trucks to provide food.
- Action X: Explore prohibiting motor vehicles passing from the left and turning right in front of a bus within 100 feet of an intersection.
- Action X: Consider the impact of limiting the number or density of alcohol-serving establishments in certain areas.
- Action X: Consider the effect of implementing (or increasing) a City liquor tax (to decrease the amount of alcohol people drink).
- Action X: Consider the traffic safety effects of a ban on (A) right turns on red and (B) left turns across traffic and/or when pedestrians have a walk signal in effect.
- Action X: Consider the effect of a 24/7 sobriety program for those convicted of alcohol-related crimes.
- Action X: Explore allowing prosecutors to work county and district cases (misdemeanor and felony cases),
 as is done in the field of family violence law.
- Action x: Pursue changes to law via the state legislature to allow automated speed enforcement, including piloting automated speed enforcement in school zones.
- Research community-based prevention practices to identify and intervene with at-risk populations

Key Progress Metrics

- Working with Ending Community Homelessness (ECHO), Front Steps, Austin-Travis County Integral Care (ATCIC), and other social service providers, meet the community's short term goals to house Austinites experiencing homelessness.
- Effect of Transportation Demand Management program on VMT.

III. Implementation

Develop a Vision Zero Program: The City of Austin will staff and fund a program dedicated to improved transportation safety, with a focus on enforcement, multimodal street design and engineering, and education.

The Austin City Council directed the City Manager to convene a Vision Zero Task Force in November 2014 to make recommendations to improve traffic safety in Austin. The Vision Zero Task Force has brought together different City departments, state and federal agencies, institutions, and community groups to provide a holistic approach to traffic safety. This forum has already led to increased collaboration and innovative ideas and actions.

Vision Zero Program and Task Force

The City of Austin will establish a Vision Zero Program that provides the necessary professional staff, expertise and funding to carry out the actions identified in the Vision Zero Action Plan. Vision Zero Program staff will convene the

Vision Zero Task Force at least quarterly to ensure the continued interdepartmental, interagency, and community coordination necessary to work towards Austin's goal of zero deaths and serious injuries by 2025.

The Task Force will continue to be an interagency and interdepartmental group with representation from key community groups, including advocates for the most vulnerable road users. Representatives from pedestrian, bicycling, and motorcycling groups; minority communities including the African American, Asian American and Spanish-speaking communities; the homeless population and homeless service providers; and advocates for older adults and children, people with disabilities, and social workers who work with at-risk communities will work with government members of the Task Force to ensure their constituents' concerns and needs are addressed. An Executive Committee composed of the Planning and Zoning, Transportation, Police, Health and Human Services, Public Works, EMS, Law, and Fire departments will oversee and coordinate implementation of City actions in the Action Plan.

Member city departments and agencies will implement the actions within this Action Plan and make regular reports to the Task Force. City staff will produce an annual Vision Zero Report Card, to be reviewed by the Task Force and the City Council, evaluating the effectiveness of actions and tracking implementation progress.

Task Force Meeting Frequency & Work Plan

The Task Force will continue to meet at least quarterly. It will work with agencies and representatives of community constituencies to share, use, and evaluate data, resources, and partnerships. The Task Force will continue to review analysis of crash and injury data and research best practices to inform implementation. To ensure transparency and accountability, the Task Force will monitor, evaluate, and review updates on the progress of the implementation of the Vision Zero Action Plan.

In addition to quarterly meetings, the Task Force member departments and agencies may create subcommittees to work on additional mapping and analysis to inform an educational media campaign and focus on key enforcement, street design, and engineering initiatives that target the top contributing factors of serious and fatal injury collisions. The Task Force may also analyze fatal crashes and make recommendations on actions such as design improvements, outreach and education, or policy changes.

Annual Vision Zero Report Card

The annual Vision Zero Report Card will track the City's progress toward the goal of zero deaths and serious injuries by 2025 and inform changes and new actions in subsequent Action Plans. This Report Card will look at the safety improvements, enforcement operations, and education and outreach accomplished, but will focus on the metrics that matter: Are our streets getting safer?

The report card will track:

- Total fatal and incapacitating injury crashes;
- Fatal and incapacitating injury crashes by mode;
- Fatal and incapacitating injury crashes at hotspot locations with targeted interventions;
- Fatal and incapacitating injury crashes involving top contributing factors; and
- Progress metrics for actions toward the goal of zero deaths by 2025.

These metrics will guide implementation efforts in the second year of the Action Plan and inform actions included in subsequent Action Plans. City staff will present the report card to the Task Force and City Council annually to hone or bolster actions if needed.

A cost estimate accompanies this plan and provides a planning level cost estimates for actions described in this plan. This is an initial estimate that will be evaluated as part of the annual Vision Zero Report Card.

Vision Zero in the Austin Strategic Mobility Plan

The Austin Strategic Mobility Plan (ASMP) will pull multiple mobility programs and plans into one comprehensive vision and apply an integrated approach to planning for all modes of our transportation network. The Vision Zero Action Plan will serve as a key driver for integrating safety into the ASMP. This plan will be formed over the life of the Vision Zero Action Plan with the aim to fully integrate Vision Zero principles into the ASMP.

Conclusion & Summary

The Vision Zero Action Plan provides an initial set of actions for the City, other agencies, and community partners as we work toward our goal of preventing serious traffic injuries and deaths.

Cities that have implemented Vision Zero plans and programs have seen improvements in transportation safety. Reaching zero is achievable. In the US, the cities of Ann Arbor, Michigan; Lakewood, Washington; El Monte, California; and Provo, Utah have all had at least one year without traffic deaths. [30] These cities are smaller than Austin, but prove that traffic deaths are not inevitable.

A goal of zero deaths and serious injuries by 2025 is simple and straightforward, but getting there will not be easy. It will take fresh approaches to education and behavioral change, laws and enforcement, street design and engineering, policy and regulatory changes, and land use and connectivity. It will take careful evaluation and continuous improvement. It will take all Austinites.

Pledge

We pledge to actively work to reduce fatal and serious-injury crashes on Austin streets through a coordinated, holistic approach. We recognize that changes to land use patterns and street designs will take time and money, but we commit to start today. We will engage in robust data collection, analysis, and sharing to identify needs and priorities, and inform decisions to direct resources where they are most needed. We will continuously evaluate and improve our actions toward our goal of eliminating serious injuries and deaths.

We will prioritize enforcement where it can have the greatest effect in saving lives and preventing serious injuries. We will target law enforcement efforts to locations with high rates of fatal and serious injury crashes and to address the most dangerous behaviors.

Traffic deaths and injuries are preventable; therefore, none are acceptable. We commit the City and undersigned agencies to continuing the work of the Vision Zero Task Force as we strive to eliminate serious injuries and deaths by 2025.

Mayor, City of Austin		
City Manager, City of Austin		
Capital Metro		
Texas Department of Transportation, A	sustin district	
Federal Highway Administration, Texas	s Division	
Travis County District Attorney's Office		

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- 3 http://www.nhtsa.gov/About+NHTSA/Press+Releases/2014/traffic-deaths-decline-in-2013
- 4 Utah does not have many of the safety laws Texas does, but notably has an ignition interlock requirement for all offenders. http://saferoads.org/wp-content/uploads/2015/06/2014 roadmap report.pdf
- 5 http://www.heraldextra.com/news/local/central/provo/provo-achieves-vision-zero-one-of-largest-cities-to-have/article-f639586f-cca6-52de-8cbb-5971d7ea2f7e.html. 115 other US cities and towns over 50,000 people also went at least one year with no deaths: http://www.dekra-vision-zero.com/map/
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17 US Census, American Community Survey Journey to Work Data (2013 5-year aggregate). This does not include non-commute trips and may undercount parts multimodal trips (for instance a bike-bus-bike trip may be counted as transit) and Austin Police Department.

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22 Austin Police Dept.

23 Calculated by multiplying the cost of fatal (\$2,600,000), incapacitating (180,000), evident (36,000), and possible Injuries (19,000) by the number of each crash types between 2010-2014 and dividing by 5 years.

Year	Total Crashes	No Injury, Possible Injury, or Nonincapacitating Injury	no injury	Possible	Non incap	Incapacitating Injuries	Deaths
2010	12871	12374	3128	5132	4114	446	51
2011	13048	12477	3019	5246	4212	514	57
2012	14885	14253	3316	6039	4898	554	78
2013	14841	14189	4066	5354	4769	577	75
2014	14505	13976	4439	5202	4335	468	61

Crash costs from http://safety.fhwa.dot.gov/facts_stats/t75702.cfm

24 Sidewalks cost an average of \$24.14 per square foot. The City of Austin has completed half of its sidewalk network (about 2,360 miles) and needs an additional 2,270 miles. It will take almost 200 years to complete the network based on current funding levels.

25 Pedestrian hybrid beacons cost \$75,000 each. http://austintexas.gov/page/pedestrian-hybrid-beacons

26 http://ftw.usatoday.com/2016/02/how-much-does-super-bowl-ad-cost

 $27 \ \underline{\text{http://www.distraction.gov/stats-research-laws/facts-and-statistics.html}} \ and \\ \underline{\text{http://www.distraction.gov/downloads/pdfs/a-comparison-of-the-cell-phone-driver-and-the-drunk-driver.pdf}}$

28 http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6210a1.htm?s cid=mm6210a1 w

29 National Safety Council, http://www.nsc.org/DistractedDrivingDocuments/Cognitive-Distraction-White-Paper.pdf

30 http://www.dekra-vision-zero.com/map/

APPENDIX A: VISION ZERO ACTIONS

EVALUATION ACTIONS

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Agency(s) responsible	Cost and Percent Funded
1	Integrate state and local tools into a common crash analysis tool that can identify/report on crash patterns and trends across the region as well as along a roadway and within/at an intersection and automatically generate collision diagrams.		•	•	ATD, TxDOT	\$350,000 for Vision Zero Program Team (3 FTE's: Program Manager, Project Coordinator and Research Analyst and commodities for new FTEs); future costs to be determined. 33% Funded (Program Manager)
2	Develop a better method of collecting information on the ground at crash locations.	•			APD	Conceptual action; cost to be determined. 0% Funded.
3	Collect geospatial data for citations and include that data in crash analysis.	•			ATD, APD, Municipal Court	Vision Zero Program Team (see Action1)
4	Work with TxDOT to link crash data and draw down Health and Human Services and hospital/trauma registry data.	•			ATD, HHS, EMS, TxDOT and Trauma Centers (Seaton, Dell Children's, Brackenridge)	Vision Zero Program Team (see Action1) plus another \$190,000 for epidemiologist.
5	Coordinate a data-driven procedure (and enhance tools as necessary) to prioritize high crash locations based on industry	•			ATD	Conceptual action; cost to be determined.

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Agency(s) responsible	Cost and Percent Funded
	best practices and to focus limited resources.					0% Funded.
6	Incorporate state DOT datasets to analyze, map, and/or improve for better understanding of factors contributing to fatal and serious injury crashes.		•	•	ATD, TxDOT	Vision Zero Program Team (see Action1)
7	Continue analysis of victims and suspects involved in fatal crashes, including demographics, to target education, enforcement efforts, and policy changes.		•	•	ATD, PAZ, HHS	Vision Zero Program Team (see Action1)
8	Evaluate the effectiveness of education, enforcement, and street design and engineering improvements. Update data and crash maps in subsequent action plans.		•	•	Taskforce, ATD, PAZ	Vision Zero Program Team (see Action1)
9	Share data across City departments, with agencies, and with the public.		•	•	APD, ATD, HHS, CTM, Taskforce	\$100,000 annual costs for maintaining permanent bike/ped counters, applications and annual data collection contracts + Vision Zero Program Team (see Action1)
10	Map and analyze the source of alcohol in serious crashes and incidents of DWI.				ATD	Vision Zero Program Team (see Action1)

ENFORCEMENT ACTIONS

SH	IORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
11	Target enforcement on high injury and fatal roadways and on top contributing factors dangerous driving behaviors (improper movement, in attention, failure to yield, speed, intoxication, failure to stop. Metric: Fund and expand the DWI Unit (e.g., to more "No Refusal" events or going full time 24/7) Metric: Fund new Highway Enforcement positions, including a dedicated Night Highway Response Team.		•	•	Highway Enforcement Command (HEC) Speeding Initiatives, Arrive Alive, STEP, Regional & Regular Patrol	APD\$1,153,25 8 in annual salaries for 11 new FTE's and overtime, 0% Funded.	\$1,640,838 annual costs for 16 additional FTE's plus overtime. Night Highway Response: \$1,575,288 in annual salaries for 18 new FTE's plus \$620,050 one-time cost for vehicles. \$625,955 one-time cost for vehicles. \$266,086 for 2 additional prosecutors +\$10,000 onetime costs. 0% Funded.
12	Enforce driver behavior around traffic calming devices (speed bumps, humps, cushions chicanes), crossing devices, including crosswalks, Pedestrian Hybrid Beacons (PHB) and Rectangular Rapid Flash Beacons (RRFB), and bicycle facilities (bike lanes, cycle tracks).		•	•	Local Area Traffic Management Program, Pedestrian Hybrid- Beacon Program, Rectangular Rapid Flashing Beacon Program	APD, ATD	\$50,000 in annual overtime costs. 0% Funded.
13	Coordinate enforcement across all Law Enforcement (LE) agencies and coordinate to increase prosecution of repeat offenders.	•			DWI unit, Arrive Alive, No Refusal events	APD, Government Relations Travis County,	Conceptual action; cost to be determined. 0% Funded.

S	HORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND		Agency(s) responsible	Cost and Percent Funded
						Courts	
14	Frame traffic offenses as a leading, but preventable, public health and safety problem and educate judges, legislators, and the public to ensure punishments are appropriate.	•				APD, Courts	Conceptual action; cost to be determined. 0% Funded.
15	Continue enforcement of transit priority lanes.		Y			Capital Metro, APD	Costs unknown at this time.
16	Design assurances against racial profiling and targeting of enforcement of top contributing factors. Ensure that communities of color, police agencies, and community leaders are included in the decision making and development of enforcement plans and policies.	•			African American Resource Advisory, Asian American Quality of Life Advisory, Hispanic / Latino Quality of Life Advisory, Join Inclusion	HHS, APD, Commissions listed to the left.	\$5,000 in initial outreach, additional cost to be determined. 0% Funded.
17	Consider the effect of a 24/7 sobriety program for those convicted of alcohol-related crimes.	•				APD, Courts	Conceptual action; cost to be determined. 0% Funded.

M	EDIUM TERM ACTIONS (3-7 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agonoy(3)	Cost and Percent Funded
19	Target enforcement on high injury and fatal roadways and on top contributing factors dangerous driving behaviors (improper		>	•	Highway Enforcement Command (HEC) Speeding Initiatives, Arrive	APD, ATD	\$487,580 annual costs for 5 additional FTE's

M	EDIUM TERM ACTIONS (3-7 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
	movement, in attention, failure to yield, speed, intoxication, failure to stop.				Alive, STEP, Regional & Regular Patrol		plus overtime. \$300,000 for red light cameras. 0% Funded.
	Install red light cameras at 20 new authorized locations.			A			
20	Enforce driver behavior around traffic calming devices (speed bumps, humps, cushions chicanes) and crossing devices, including crosswalks, Pedestrian Hybrid Beacons (PHB) and Rectangular Rapid Flash Beacons (RRFB).		•	•	Local Area Traffic Management Program, Pedestrian Hybrid- Beacon Program, Rectangular Rapid Flashing Beacon Program	APD, ATD	\$50,000 in annual overtime costs. 0% Funded.
21	Enhance the current City Ordinance (§12-1-26, Pedestrians On Certain Roadways) for areas unsafe to pedestrians.	•	•			APD	Coordinated with existing staff and resources.

ENGINEERING ACTIONS

		EPTUAL	RWAY	ND	Agency(s)	Cost and Percent
5	SHORT TERM ACTIONS (0-3 YRS)	CONCEP.	UNDER	EXPA	responsible	Funded

	Direct engineering, enforcement, and education resources to high injury and fatal crash hotspot locations. Implement at least five safety engineering projects annually at top crash prone locations. Implement low-cost high impact safety improvements throughout the roadway network within the City of Austin based on safety engineering studies. Work with CAMPO and TxDOT for funding opportunities for safety improvements. Conduct Engineering Studies:	•	~	Initial mapping included in this Plan; Top 5 intersections funded for safety improvements in Fiscal Year 2016.	-	\$16,500,000 for engineering improvements over 5 years. 20% funded (100% year 1 of 5 years funding for engineering improvements at five
2:	 Conduct speed studies at locations with speeding issues as identified in collision analysis. Study crash-prone locations where right-on-red or left turn movements were factors. 					intersections at \$3.3M) \$732,000 for 6 FTE's + \$300,000 annual contract for additional data collection capacity; \$1,500,000 annually for pedestrian crossing program; \$100,000 for 20 additional speed feedback warning signs to expand pilot program.
						18% Funded (Safety Engineer Position) and 15 PHB's are funded with grant funds starting in FY17 (\$2.4 M)

23	Revise transportation municipal codes (transportation criteria manual) to focus on safety and thorough review of transportation development projects. Continue to implement to Complete Streets Policy in every construction, reconstruction and/or development project.	•	•	Traffic Engineering and Complete Streets Program	ATD, Development Services Division	Coordinated with existing staff and resources.
24	Fund and build infrastructure improvements included in the Bicycle Master Plan, Sidewalk Master Plan, and Urban Trails Master Plan.	•	•	Mayor's Challenge for Safer People, Safer Streets. Bicycle, Sidewalk and Urban Trails Master Plans, Pedestriar Safety Action Plan	ATD, PWD	\$150 M for Short-Term All Ages and Abilities Bicycle Network and Tier 1 Urban Trails; other plans in development. Less than 1% funded.
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 Capital Metro Safety Improvement Initiatives: Evaluate need for potential adjustments to interior lighting of buses for improved safety during nighttime operations including reducing glare for operators. Capital Metro will continue working with City of Austin/Austin Energy to evaluate need for lighting along transit corridors and at intersections. Continue evaluating transit collision hotspots and work with partner organizations to improve safety conditions at those locations. Capital Metro will work with the University of Texas and the City of Austin to consider safer vehicle parking methods to reduce collisions along transit corridors through campus. Capital Metro will continue to collaborate with the City of Austin to ensure safe pedestrian access to transit stops. Evaluate new and existing bus stops to reduce rear-end collisions at intersections. 				Transit Priority Working Group; Cap Metro Systems Safety Team	Funding to be identified for minor concrete work, signalization and striping as opportunities arise. Lighting costs \$7,000 per pole (pole, luminaire, foundation & wire) Funding provided by Capital Metro is not included in City Estimate Additional needs to be identified. No additional personnel needed. 0% funded (infrastructure)
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Apply Technology in Safety Improvement Initiatives:			\$2.78 M to upgrade to a
 Evaluate opportunities to expand existing and/or implement new transit priority treatments. Implement new transit vehicle engineering principles (e.g. rear-of-vehicle chevrons, right-side illumination during turns, lane departure technology) to reduce collisions Work to equip all City fleet vehicles with safety related devices, designs, and technology that record dangerous driving behaviors. Continue to work with Google, Rocky Mountain Institute, and other tech companies to pioneer autonomous vehicle testing and adoption to improve safety. Enhance signal system software and equipment to detect red light running and use data for enforcement and engineering. Deploy next generation emergency vehicle preemption to reduce response times and increase safety. Conduct a pilot project to assess feasibility of advanced detection techniques to estimate the frequency and type of near-miss collisions within signalized intersections 	>	•	Central based system for all signals and monitor for red light running \$2.78 M Establish a pilot project that would utilize existing CCTV cameras to monitor intersections for nearmisses between vehicles and pedestrians: \$150,000 Advanced Vehicle Location (AVL) (\$1200 x 120 = \$145,000.00 onetime cost and 120 x \$20 = \$2400.00 monthly fees); Back-up cameras (\$600 x 80 = \$48000.00 onetime cost); Technology that record dangerous driving behaviors (Drive Cam \$400 x 120 units = \$48,000.00 onetime cost); Mobile Radios and outside speakers (100 x \$6000 = \$60,000.00); LED strobe lighting upgrades to 30% of units (40 x \$4500 = \$18,000.00)
			\$18,000.00)

28	Work with CAMPO and TxDOT for funding opportunities (e.g., CAMPO regular program calls, TxDOT district funds, and TxDOT/FHWA HSIP annual funds for projects that are dedicated for safety improvements).	¥	•		CAMPO, TxDOT, FHWA	Coordinated with existing staff and resources. Funding to be determined based on source (grant, district funds).
29	Work with all school districts within the City of Austin's jurisdiction as well as charter and private schools and the City's Safe Routes to Schools program to set a goal for safe, active travel to schools. Invest in infrastructure improvements (e.g. sidewalks, LATM, PHBs, School Zones, protected bike lanes) to support active transportation goals.	>	•	Safe Routes to School Program, Local Area Traffic Management Program, Pedestrian Hybrid Beacon Program, School Zones, Active Transportation Program	AISD, PWD, ATD	Total first year impact - \$330,000 for 4 FTE (3 PWD, 1 ATD) plus Annual recurring impact - \$20,000 0% funded beyond existing operations.

EDUCATION ACTIONS

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND		Agency(s) responsible	Cost and Percent Funded
30	Create a cross-departmental safety education team, with dedicated staff and funding, with membership from APD, ATD, HHSD, PAZ, EMS, AFD, PWD. Train all participating agencies' staff that interface with media on Vision Zero messaging.		•	•	Fatality Review Board	APD, ATD, HHS, PAZ, EMS, AFD, PWS	\$175,000.0 for FY16 campaign; \$1M for FY17-18 mass media campaign. FY16 100% funded.
31	Create a Vision Zero training module and train all staff that review, design, or implement projects to reiterate that all staff are responsible for transportation safety.	•			Imagine Austin Compact and Connected Training; Vision Zero Network Cities Initiative	PAZ, PWD, ATD, AE, AWU, DSD	Conceptual action; cost to be determined. 0% Funded.
	Create a targeted bilingual social media and mass media campaign with appropriate traffic safety messages						
32	Continue safety messaging onboard buses and at/around bus stops through partnership with KUT and other media outlets				Systems Safety Team, Get Home Safe website	Capital Metro	Funding to be provided by Capital Metro. Not included in City Estimate
33	Lead by example by adopting Vision Zero policies for City fleets and through education and training targeting public and private employers. This should include an online safety training program for all modes that includes the existing "Ride Kind, Drive Kind" video to help ground transportation drivers understand how to interact safely with vulnerable road users.		~	•		City of Austin, Capital Metro, AISD	Coordination underway. Additional resources to be identified.

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND X3		Agency(s) responsible	Cost and Percent Funded
34	Provide defensive travel training for all modes at vocational and college orientations and in student housing to educate new students how to travel safely in the city.	>				Austin-area colleges and Universities, Cap Metro, ATD ATD, Capital Metro, Task Force	Conceptual action; cost to be determined. 0% Funded.
35	Provide targeted outreach and training when adding pedestrian or bike facilities to teach residents how to use the facility and how to drive near people using the facility.			, ec	rotected bicycle lane ducation piece developed y ATD	ATD	\$104,000 for 1 FTE educator position. 0% funded.
36	Hire or consult with community education/cultural competence expert(s) to make sure that outreach and education efforts are truly inclusive and effective.	•				ATD, PAZ	Conceptual action; cost to be determined. 0% Funded.
37	Work with social service providers to improve safety of people experiencing homelessness, including educational outreach, improving visibility, and establishing safe crossings. Convene a focus group of social service providers and people experiencing homelessness to learn how the City and its partners can better service and outreach to people experiencing homelessness		~	•		ECHO, ATCIC, ATC	Coordination underway. Additional resources to be identified.
38	Evaluate the knowledge of laws and regulations possessed by those convicted of crimes related to dangerous driving and explore targeted education.	•				TBD	Conceptual action; cost to be determined. 0% Funded.

ME	EDIUM TERM ACTIONS (3-7 YRS)	CONCEPTUAL	UNDERWAY	EXPAND		Agency(s) responsible	Cost and Percent Funded
39	Encourage print, television, and social media leaders to frame traffic crashes as tragic and preventable occurrences when reporting on them.	•				City PIO, HHS, ATD	Conceptual action; cost to be determined. O% Funded.
40	Incorporate Vision Zero for all modes into City's defensive driving classes and curriculum and require City employees to renew defensive driving training every year for commercial drivers and every two years for non-commercial drivers.	•			City Defensive Driving course(s).	City HR, ATD	Conceptual action; cost to be determined. 0% Funded.

POLICY ACTIONS

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
41	Develop action plans for vulnerable user groups and coordinate these more specific plans with the Vision Zero Action Plan.	•		A		ATD, PAZ, ECHO	Coordinate using existing resources and partnerships.
42	Continue to build on Transportation Demand Management (TDM) strategies, including those identified in the 2015 Traffic Congestion Action Plan (Traffic CAP). Encourage transportation alternatives to driving into Downtown and other Imagine Austin Activity Centers to reduce the risks associated with driving. Require TDM plans for special events. Educate, publicize, encourage and incentivize alternative travel options. Decrease rate of people driving alone by 2 percent per year as measured by the American Community Survey. Reduce total VMT per capital by 1% per year in Austin.		•	•	Traffic Congestion Action Plan	ATD, Cap Metro, PAZ	Coordination underway. Additional resources to be identified.
43	Consider changing the cite-and-release policy for people who drive without a license or with a suspended license.	•				APD, Courts	Coordinate using existing resources and partnerships.
44	Research enforcement techniques from other cities to enhance compliance with the Distracted Driving Ordinance.	•			Hands-Free Ordinance	Task Force	Study issue using existing resources and partnerships.
45	Explore requiring bars to serve food or partner with food	•				Task Force	Study issue using

SH	ORT TERM ACTIONS (0-3 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
	trucks to provide food.						existing resources and partnerships.; cost to be determined. 0% Funded.
46	Explore prohibiting motor vehicles passing from the left and turning right in front of a bus within 100 ft. of an intersection to reduce the risk of ped/bike and vehicle collisions.	•				Cap Metro, ATD, APD	Coordination required. Additional costs not anticipated.
47	Consider the impact of limiting the number or density of alcohol-serving establishments in certain areas.	•				TBD	Conceptual action; cost to be determined. 0% Funded.
48	Consider the effect of implementing (or increasing) a City liquor tax (to decrease the amount of alcohol people drink).	J				TBD	Conceptual action; cost to be determined. O% Funded.

ME	DIUM TERM ACTIONS (3-7 YRS)	CONCEPTUAL	UNDERWAY	EXPAND		Agency(s) responsible	Cost and Percent Funded
50	Include Vision Zero principles and land use, urban design, and multimodal street design and engineering strategies in coordinated revisions to the Land Development Code (CodeNEXT) and the City Transportation Criteria Manual (TCM)		•	•	CodeNext	PAZ, ATD	Coordination underway. Additional resources to be identified.

ME	EDIUM TERM ACTIONS (3-7 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
	and other policies.						
51	Consider the traffic safety effects of a ban on (A) right turns on red and (B) left turns across traffic and/or when pedestrians have a walk signal in effect.	•		A		ATD	Coordination required. Additional costs not anticipated.
52	Explore allowing prosecutors to work county and district cases (misdemeanor and felony cases), as is done in the field of family violence law.	•				Government Relations	Conceptual action; cost to be determined. 0% Funded.

LO	NG TERM ACTIONS (7-10 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Existing initiatives	Agency(s) responsible	Cost and Percent Funded
53	Work at the local and state level to adopt lower default speed limits.	•				Taskforce	Coordination underway. Additional resources to be identified.
	Pursue legislative changes for automated speed enforcement in school zones.	•					
54	Pursue Housing First model of ending homelessness to address larger societal issues contributing to crashes involving homeless	•	•			ECHO, ATCIC	Coordination underway. Additional resources to

LO	NG TERM ACTIONS (7-10 YRS)	CONCEPTUAL	UNDERWAY	EXPAND	Agency(s) responsible	Cost and Percent Funded
	persons crossing the roadway. Reduce the number of people experiencing homelessness in Austin to functional zero by 2025.					be identified.
55	Shorten driver's license renewal from 6 years to 4 years and require defensive driving or driver's education for all top contributing factors citations.	>			DPS, APD, Task Force	Conceptual action; cost to be determined. 0% Funded.

APPENDIX B: COMMUNITY FEEDBACK

[INSERT SPREADSHEET OF ALL COMMENTS & RESPONSES]