

# DENVER VISION ZERO ACTION PLAN

**VISION  
ZERO**

NO MORE TRAFFIC DEATHS



**DENVER**  
THE MILE HIGH CITY

October 2017





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## Message from the Mayor



Dear Friends,

Denver's streets are not as safe as they should be. Since the beginning of 2016, 102 people have died while walking, bicycling, taking transit, riding a motorcycle or driving in the city. These are numbers that have only increased over the past several years and, in large part, it is our seniors, children and underserved communities that are being victimized.

This loss of life is a tragedy, and we must do better. Ensuring the public's safety is the highest responsibility of a mayor, which is why last year, I committed to Vision Zero.

### **Our goal: Zero traffic-related deaths and serious injuries by 2030.**

We need to make Denver's streets safe for everyone – no matter where they live in the city, no matter their means and no matter their choice to walk, bike, drive or take transit.

Traffic deaths and serious injuries are unacceptable and preventable, and safety must be the most important consideration for every Denver street.

The Denver Vision Zero Action Plan is a five-year plan to set us on a clear path to achieve zero traffic deaths and serious injuries by 2030. The plan represents significant collaboration among city agencies, state partners, community partners and Denver residents. These actions are a key component of my new Mobility Action Plan, which will accelerate the projects, policies and programs to move more people, more efficiently and more safely. Through better processes and collaboration, improved street design, safe speeds, a culture of safety, and improved data and transparency, we will save lives.

The city cannot achieve this ambitious goal alone. This Vision Zero Action Plan unites all of us around a common goal. I look forward to working together to make Denver an even stronger—and above all, safer—city.

Respectfully,

A handwritten signature in black ink, appearing to read 'M. Hancock', with a long horizontal line extending to the right.

Michael B. Hancock  
Mayor





# We Remember

Your memory inspires us to take serious action.



## Traffic Crash Victims

This Action Plan is dedicated to the victims of traffic violence in Denver—the daughters, sons, mothers, fathers, wives, husbands, siblings, and friends who have been killed or seriously injured on our streets.



## Steve Hersey

The Denver transportation community lost a beloved colleague, friend, and mentor on May 4, 2017 when Steven James Hersey passed away. As Director of Traffic Operations for Denver's Transportation and Mobility Division of Public Works and City Traffic Engineer, Steve

was a major contributor to Vision Zero and the actions that are included in this Plan. Steve was an innovative thinker and problem solver, and he was incredibly passionate about making our streets safe for all.

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# Cole's Story

by Mike Sukle and Michelle Roche,  
Cole's father and mother



If you would like to share your story about how a traffic fatality or serious injury has affected your life, please visit the Denver Vision Zero Coalition website ([walkdenver.org/vision-zero](http://walkdenver.org/vision-zero)) or contact the City and County of Denver at [visionzero@denvergov.org](mailto:visionzero@denvergov.org).

## On April 14, 2002, your run-of-the-mill miracle happened.

A little boy with crazy blonde hair was born into this world. His name was Cole Michael Sukle. To some that may not sound like much of a miracle, but everyone who met Cole would come to understand how that day would change so many lives.

Cole, like many kids his age had a lot of interests. He was an athlete. An artist. A student. A brother. And a son, grandson and cousin. He had a big yellow dog that he loved as much as the dog loved him. He loved Hawaii. And he could recite every line from favorite TV shows, Family Guy and How I Met Your Mother. But what made Cole really special was how comfortable he was in his own skin and how he invited you to feel the same. He easily made friends with just about anyone. If you're trying to picture Cole, close your eyes and just imagine bright sunshiny yellow. That's the feeling of Cole. He was well known for laughs, jokes and bringing a special kindness to those around him. He didn't care what color someone was, what kind of grades they got, how much money they had, or where they came from. Cole had a gift for bringing people together.

On July 13, 2016, Cole was doing what he enjoyed most - riding his skateboard around his neighborhood with two of his best buddies. The three had just left Cole's house when tragedy struck. A block from home, a quarter of a mile from their middle school, and well within the bike lane, an elderly woman under the influence of alcohol struck Cole and one of his friends. The friend left with minor injuries, but Cole didn't survive. On July 14 at 11:14 a.m. Cole became an organ donor. He gave both of his kidneys saving two lives.

Even in passing, the loss of Cole has brought the community, classmates, friends, family and even strangers closer together than ever before. That's just what Cole does.

We hope that Cole's story will bring Denver together to implement Vision Zero so that no one's child, brother, best friend or neighbor will ever have their life taken from them simply by walking, biking or enjoying their own neighborhood.



# OUR CALL TO ACTION



*In February 2016, Mayor Hancock announced Denver's commitment to Vision Zero, joining cities worldwide in a movement to eliminate traffic fatalities and severe injuries. The City and County of Denver and its partners are working together to realize this bold vision. **This five-year Action Plan sets Denver on a clear path to achieve zero traffic deaths and serious injuries by 2030.***



## Our Call to Action

In 2016, **61 people were killed** in traffic crashes in Denver and hundreds were severely injured. Someone loses their life every six days while traveling in our city.

We simply do not have to accept fatal crashes as inevitable. Crashes are not accidents; with the right actions and commitment, they are preventable. Everyone has the right to safely travel on our streets no matter where they are going and how they travel. That is why the City and County of Denver is committed to eliminating traffic deaths and serious injuries by 2030 through a **Vision Zero** program.

### What is Vision Zero?

Vision Zero is a transportation safety philosophy that was developed in Sweden in the late 1990s to eliminate traffic deaths and serious injuries in the transportation system. Through its Vision Zero efforts, Sweden has reduced traffic fatalities by half, making it one of the safest places to travel in the world.

A central tenet of Vision Zero is that **people should not be killed or seriously injured as a consequence of mobility**. Vision Zero recognizes that humans make mistakes and therefore the transportation system be designed to minimize the consequences of those errors.

In the past five years, over 20 U.S. cities, including Denver, have adopted Vision Zero goals and developed plans for eliminating traffic deaths. While Vision Zero efforts in the U.S. share common principles with Sweden's policy, each city has adapted the approach to their unique circumstances and needs. In particular, many U.S. cities, including Denver, have embraced equity as a key aspect of their Vision Zero efforts, aiming to ensure that efforts to improve traffic safety do not inadvertently exacerbate other social tensions such as racial profiling.

The federal government and most states, including Colorado, have also established a goal of eliminating traffic fatalities, providing additional support for this initiative.

### Fundamental Principles of a Meaningful Vision Zero Commitment

These principles are core to successful Vision Zero efforts.

1. **Traffic deaths and severe injuries are acknowledged to be preventable.**
2. **Human life and health are prioritized within all aspects of the transportation system.**
3. **Acknowledgment that human error is inevitable, and transportation systems should be forgiving.**
4. **Safety work should focus on systems-level changes above influencing individual behavior.**
5. **Mitigation of speed is recognized and prioritized as the fundamental factor in crash severity.**

(Source: Vision Zero Network)

### In Denver, compared to a motorist:



Pedestrians are approximately **30 times** more likely to die in a crash



Motorcyclists are nearly **13 times** more likely to die in a crash



Bicyclists are **6.5 times** more likely to die in a crash

Source: DPW, total crashes (2011-2015)

## Why is Vision Zero Needed?

Because no other goal is acceptable.

The routine loss of life caused by motor vehicle crashes on our streets is a **preventable public health crisis** that deserves our focus and resources. Serious traffic crashes cause significant harm to individuals, families, and society. No one thinks that traffic deaths among friends and family are acceptable—yet historically we have not managed our transportation system with a goal of zero fatalities in mind.

In Colorado, motor vehicle crashes account for more than **twice the number of deaths as homicides**. Among all types of injuries, they are the fourth leading cause of death and the second leading cause of hospitalization. In Denver, between 2012 and 2015, traffic injuries represented 31 percent of paramedic encounters and 26 percent of ambulance trips.

The recent trend on Denver's streets is alarming: despite concerted efforts to create multimodal streets, investments in transit, and advances in technology, **traffic deaths have continued to rise over time** (Figure 1). Our crash rate per population is much higher than our peer cities. For example, in 2014, 6.3 people were killed in traffic crashes in Denver per 100,000 residents, compared to only 2.7 in Seattle, and 1.7 in Minneapolis (NHTSA). And while pedestrians and bicyclists are a small portion of overall street users, they represent an unacceptably large portion of traffic deaths (Figure 2).

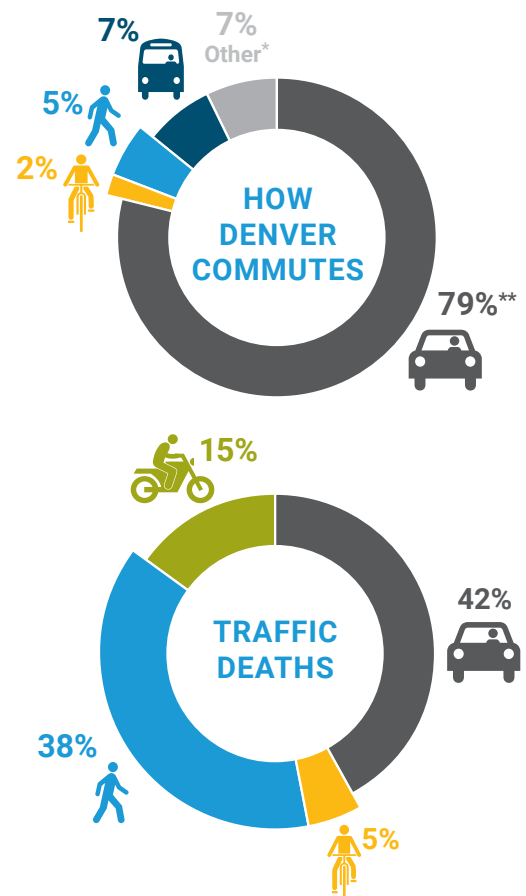
As Denver's population is projected to increase by up to 250,000 new residents by 2040, to nearly 1 million people, a bold intervention and strong commitment from

City leaders and partners—including citizens—will be required to reverse the trend of increasing traffic deaths.

The Denver Vision Zero Action Plan establishes a roadmap for the City to eliminate traffic deaths and serious injuries on its streets. As part of Denver's 2017 Mobility Action Plan, it represents a shift in our transportation philosophy to prioritize the preservation of human life while ensuring mobility needs are met. Sometimes these changes will be easy and instinctive, and sometimes they will not; regardless, we are guided by the determination to save lives and reduce injuries for all Denver residents and families.

Upon completion of this Plan in five years, the City will evaluate progress and will develop a new action plan to ensure that goals will be met.

**Figure 2: How Denver commutes versus Denver traffic deaths**

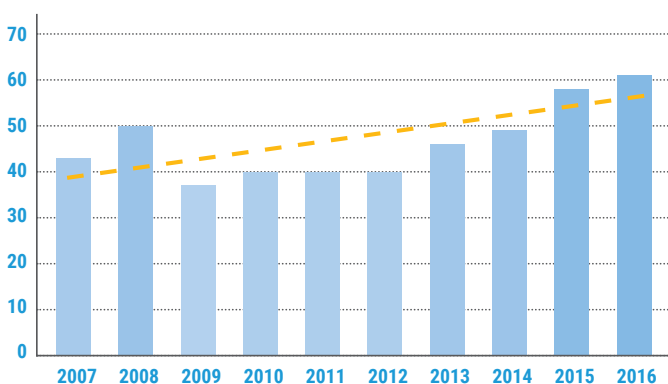


\* Includes motorcycle commuting

\*\* Includes driving alone and carpooling

Source: U.S. Census Bureau (2011-2015); DPD (2011-2016)

**Figure 1: Denver Traffic Fatalities Over Time**



Source: DPD



## Denver's Needs

In February 2016, Mayor Hancock announced Denver's commitment to Vision Zero and the multi-departmental effort to develop this Action Plan began. Based on a review of crash data and input from the Technical Advisory Committee (see **How We Developed the Plan**) and the public, **five primary needs emerged**. These needs are also the Action Plan themes (see **Let's Take Action**).

### 1. Enhance Processes and Collaboration

Since Vision Zero is a new philosophy for managing the transportation system, many foundational changes are needed to institutionalize the approach. Though the City regularly coordinates about transportation projects and safety initiatives internally and externally as a matter of practice, existing processes, programs, and laws do not explicitly address the loss of life on our streets in a proactive, data-driven manner. The City needs an established, funded Vision Zero program with targeted processes and the right tools to ensure that systematic street design and cultural changes seamlessly happen.



#### Denver Vision Zero Coalition

The Denver Vision Zero Coalition is a group of community organizations that formed in January 2016 to support the City and County of Denver's adoption of Vision Zero. The Coalition has been a strong partner to the City in its Vision Zero efforts to date.

The Coalition has played an instrumental role in raising awareness about traffic safety in Denver by holding many galvanizing community events. They are an important champion for this Action Plan.

**50%** of Denver's traffic fatalities occur on just  
**5%** of our streets.

## 2. Build Safe Streets for Everyone

When we asked people what the City should do to improve traffic safety, the overwhelming top response was: **Build safe streets for everyone, including safe pedestrian crossings, bicycle facilities, and roadways.**

Pedestrians, bicyclists, and motorcyclists are especially vulnerable when involved in crashes because they are less protected, and therefore streets should be designed with these road users in mind. **Together, these three modes account for only six percent of crashes and seven percent of total users of the street, but over half of all traffic deaths in Denver.** Additionally, transit passengers are pedestrians at some point during their trip: 47 percent of RTD customers access the system by foot. Vision Zero helps us accommodate the transportation needs of many.

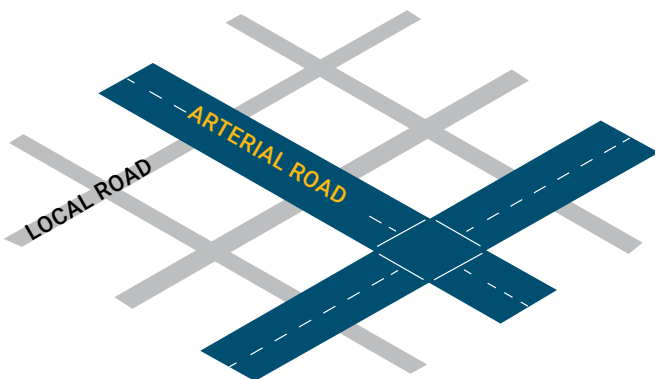
Street design directly influences driver, pedestrian, and bicyclist behavior. Though people will always make mistakes and we cannot predict all human behavior, our streets should slow traffic, provide clear paths for all modes of travel, have safe crossings, and generally

encourage safe behaviors. A safe system is one where different types of street users, each with different travel tendencies and speeds, are physically separated and protected such that if a crash does occur, it happens at a slow enough speed to avoid death or severe injury.

An analysis of Denver crash data showed two street-design related issues: 1) most fatal crashes occurred at **mid-block locations** and not intersections, especially for pedestrians, and 2) most pedestrian and bicyclist fatalities occurred in **unlit** conditions.

Some streets, most notably arterials (generally wider streets with higher speeds, such as Federal Boulevard), are worse than others and need to be retrofitted. In Denver, 50 percent of traffic deaths occur on just 5 percent of our streets (see page 8 for more detail). It is the City's—and for state highways, the Colorado Department of Transportation's (CDOT's) and the City's—responsibility to design, build, operate, and maintain our streets. Ensuring that these streets are safe is a foremost consideration of both the City and CDOT.

### Arterial roadways are disproportionately dangerous for all modes in Denver\*



**6x**

more pedestrians died on arterials than other roads



**7x**

more bicyclists died on arterials than other roads



**4x**

more drivers died on arterials than other roads

\* A larger number of vehicle trips per mile occur on these roadways than other roads in Denver, which contributes to a higher crash total. These figures reaffirm the overall need to focus on areas where the most travel and dangerous conditions exist.

Source: DPD (2011-2015, excluding interstates and limited access use highways)





Source: Tefft, Brian C. *Impact speed and a pedestrian's risk of severe injury or death. Accident Analysis & Prevention*. 50. 2013.

**SPEED LIMIT**  
**40**

The speed limit on South

Federal Boulevard, home to numerous traffic fatalities, is **40 mph**. If a pedestrian is struck by a car traveling at that speed, they have a **73% chance of dying or having a life-altering serious injury**.

### 3. Create Safe Speeds

Speed reduction is an essential Vision Zero strategy. Higher speeds not only increase the risk of a crash, but also increase the risk of serious injury or death, regardless of mode. The effects of speed are most pronounced for pedestrians, whose risk of dying if struck by a vehicle increases with vehicle speed.

While higher vehicle speeds are expected on streets with higher speed limits, an analysis of over 300 sites in Denver between 2013 and 2017 shows that **people in cars are also more likely to drive faster than the speed limit on streets with higher posted speeds**. Streets posted at 25 mph saw 25 percent of people driving at least 5 mph over the speed limit, whereas streets posted at 35 mph saw 54 percent of drivers speeding by the same amount.

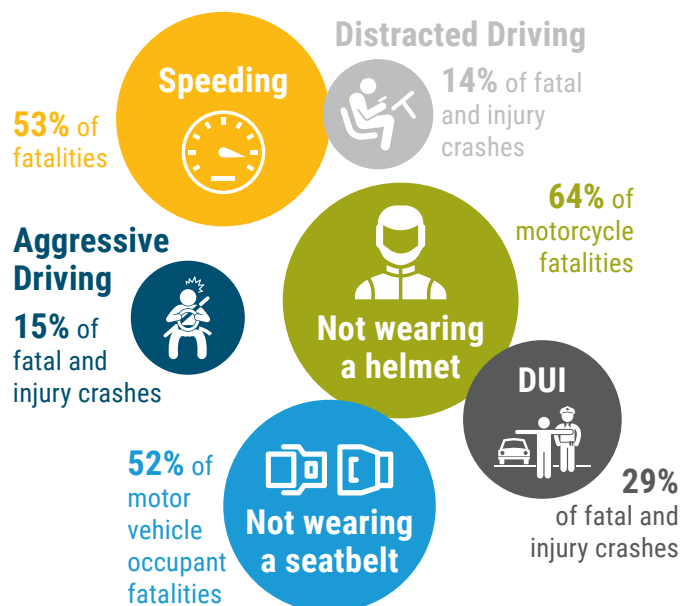
Related to the tendency to drive faster on these types of streets, many of our arterial streets are generally designed to make higher-speed travel for drivers easy and comfortable. The streets responsible for the greatest portion of fatalities in Denver, such as Federal Boulevard and Colorado Boulevard, tend to have higher speed limits and speeding problems.

**Speeding** was a factor in **53%** of fatalities in Denver in 2015.

### 4. Promote a Culture of Safety

Safer streets and lower speeds will go a long way toward eliminating traffic deaths in Denver. However, we all—Denverites and visitors—must also contribute by making safe transportation decisions. Street design cannot prevent someone from driving under the influence or while distracted, or force them to buckle in themselves or their child.

**These risky behaviors contributed to traffic deaths in Denver:**



Source: CDOT (2015)

Denver's crash data indicates a significant problem with speeding and aggressive driving, driving under the influence, distracted driving, and failure to use motorcycle helmets and seat belts. More data is needed, but emerging traffic safety issues related to marijuana use and distracted driving are causing concern for both the public and law enforcement.

Some of these behaviors are correlated with age, gender, mental health, and environmental factors. Over the long-term, prevention-based approaches, such as education and improved access to social services, are likely to offer the most successful approach for addressing risky behaviors. In the meantime, law enforcement can play a greater role by ensuring traffic laws are enforced equitably across modes and communities within Denver, valuing education and engagement over penal justice. While enforcement is needed to establish cultural norms and expectations for the use of the public right-of-way, it should be based on principles of community collaboration and partnership.

## 5. Improve Data and Be Transparent

Building from the findings of the analysis conducted for the Vision Zero Action Plan, we must continue to collect and analyze crash and speed data while evaluating the safety impacts of future projects.

Improving data quality is essential to a greater understanding of the factors and circumstances that contribute to crashes and their resulting levels of injury. While the state of Colorado is making important advancements to the crash reporting form used by cities like Denver, which can provide detail that is currently unknown about crash circumstances and specifically who was involved, there are other areas of improvement needed. Issues such as under-reporting and incomplete records need to be addressed.

Additionally, where crash data doesn't tell the whole story, we should use other data (such as hospital or EMS records, or data being gathered by the Denver Smart City program) to measure the safety of the system. Without this understanding, our potential for success is limited.

Data sharing across complementary programs and stakeholders can also shed light on crashes and injuries. Data and predictive analytic capabilities

being developed for the Denver Smart City Program may contribute additional information to analyze the built environment at crash sites. Armed with this sophisticated information, we can focus our attention and resources to mitigate high risk conflict areas that can reduce crashes.

For the most impact, findings need to be shared with and reported to the public on a regular basis. This reporting will not only ensure that we understand and document what works well; it will also tell the Vision Zero story, so that our collective efforts to eliminate fatalities and serious injuries in Denver are widely understood.

## Focus Areas

Focusing our efforts on the most dangerous streets, intersections and in the most vulnerable communities is a responsible use of limited City resources. Though we will look to make systematic changes throughout the city, we have identified a High Injury Network (HIN), representing the corridors in Denver with the highest number of fatal and injury crashes. Collectively, **the HIN accounts for 5 percent of streets in Denver, but 50 percent of traffic deaths.** Focusing on this small area will go a long way in getting to zero.

Implementation of the Action Plan will also be informed by our goal to reduce geographic disparities in traffic injuries and deaths across the city. We have identified Communities of Concern (CoC), representing the most vulnerable areas in Denver. The CoC areas account for around 30 percent of the area of Denver, but 39 percent of all traffic deaths and 47 percent of pedestrian deaths.

The HIN includes 27 corridors and **123 miles** of surface streets—5% of the city's street network.

The CoC areas represent **30%** of Denver.

To equitably address traffic risk in the city, we will prioritize implementation of safety improvements in these areas.



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# High Injury Network

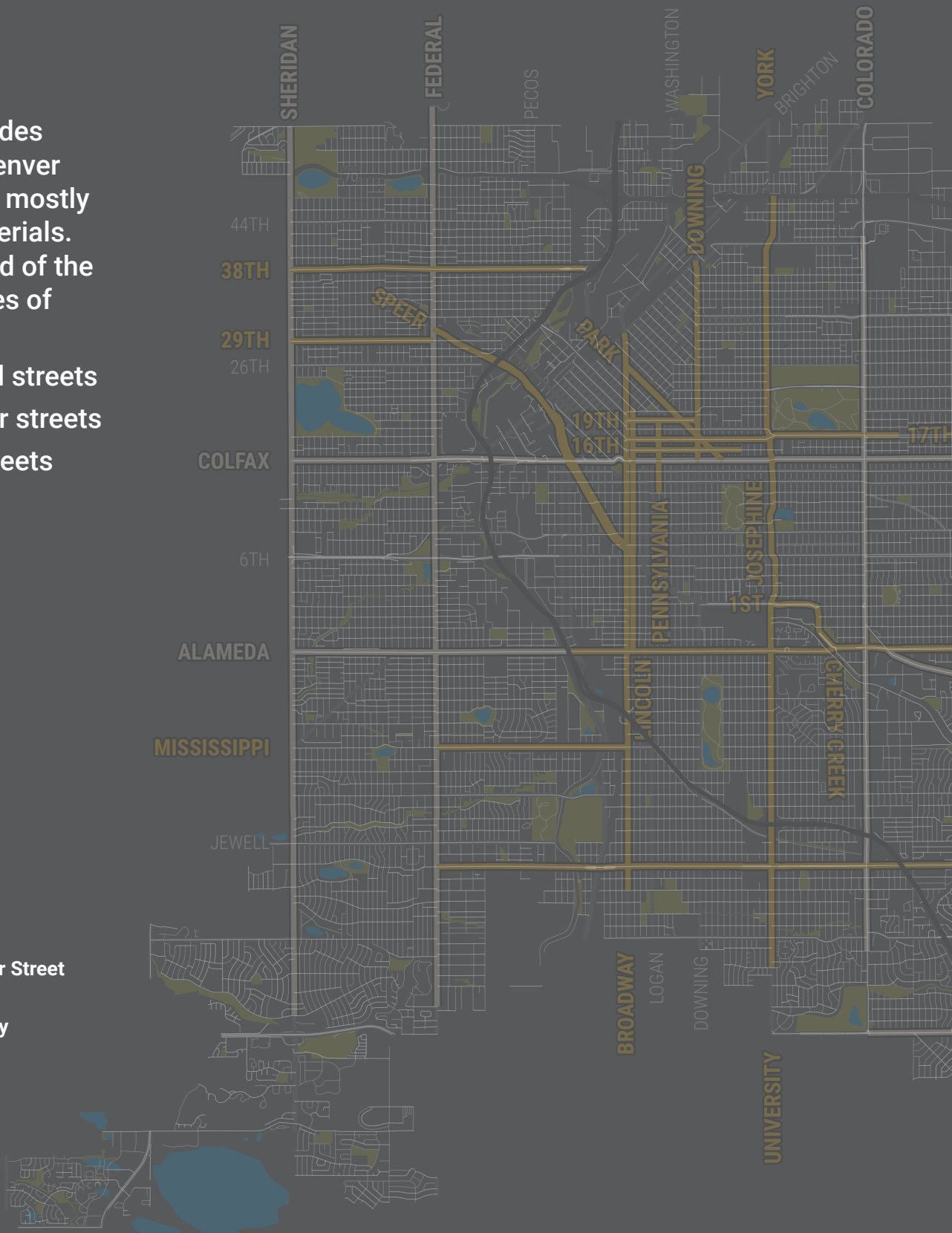
## All Modes

The HIN includes all types of Denver streets, but is mostly multi-lane arterials. It is comprised of the following types of streets:

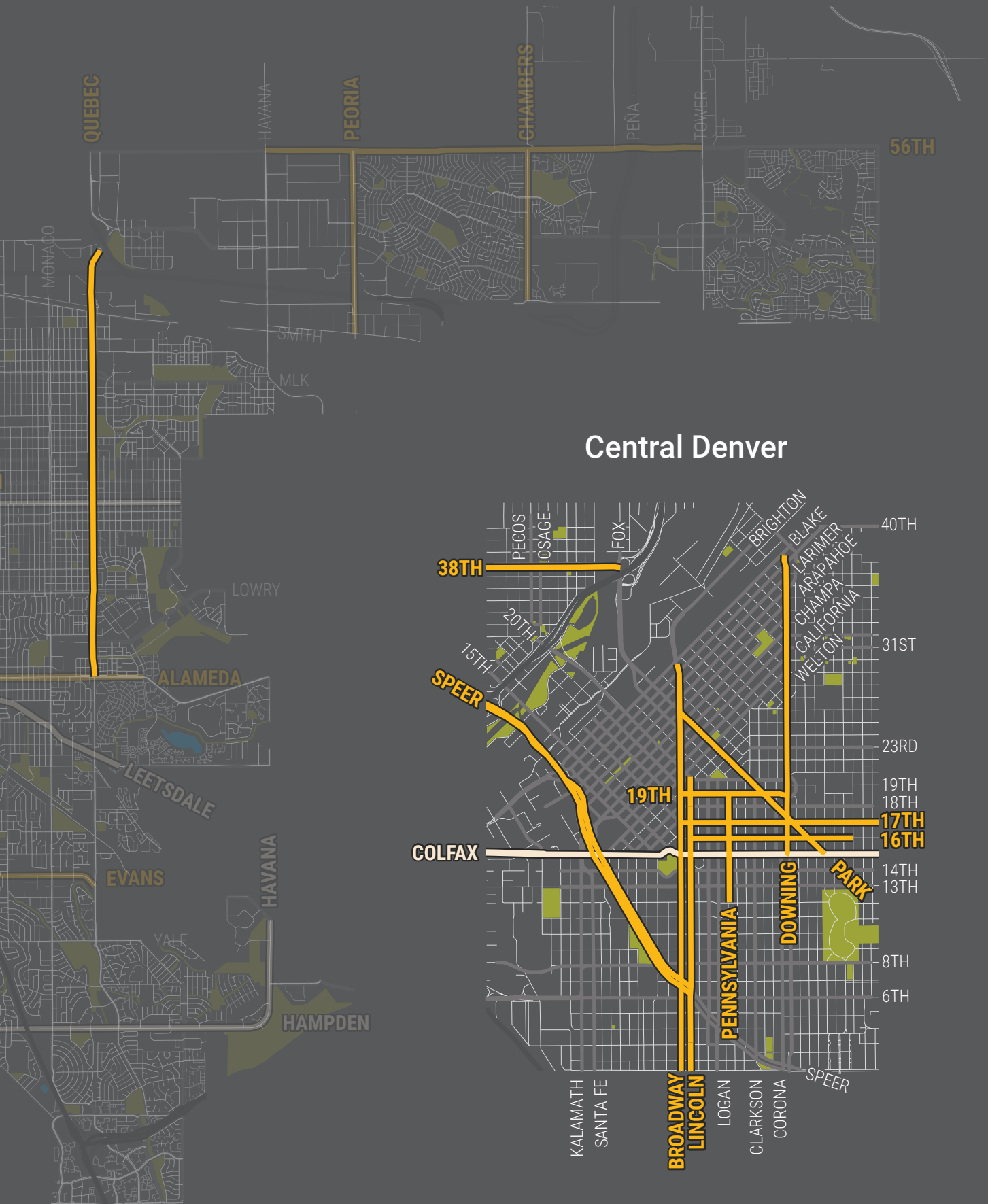
- 96% arterial streets
- 1% collector streets
- 3% local streets

HIN: City of Denver Street

HIN: State Highway



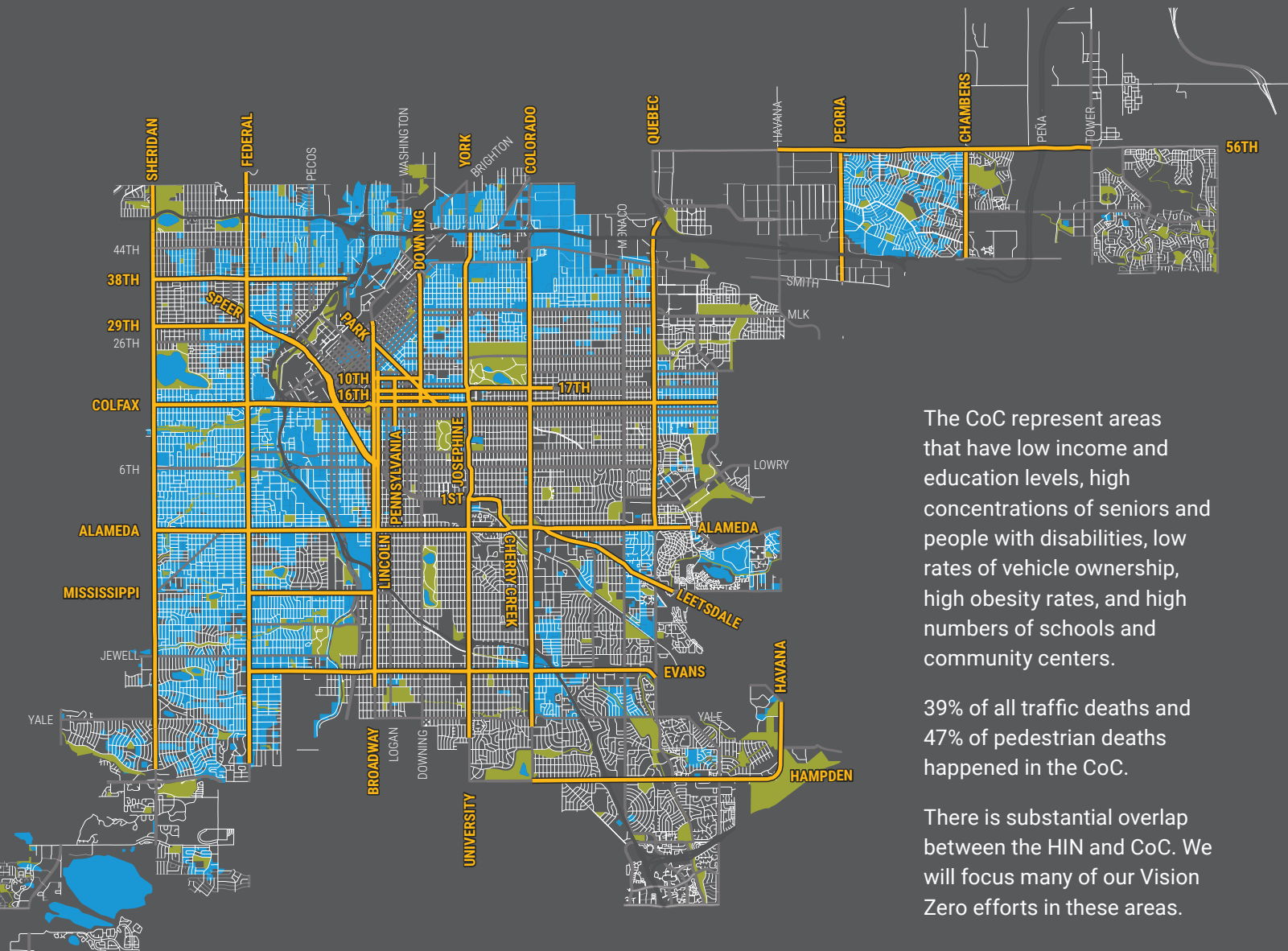
Source: DPW; DPD



## Central Denver



## Communities of Concern (CoC) and the HIN



The CoC represent areas that have low income and education levels, high concentrations of seniors and people with disabilities, low rates of vehicle ownership, high obesity rates, and high numbers of schools and community centers.

39% of all traffic deaths and 47% of pedestrian deaths happened in the CoC.

There is substantial overlap between the HIN and CoC. We will focus many of our Vision Zero efforts in these areas.

## Voices of the Community

The voices of Denver residents were not only a large impetus for the Vision Zero initiative, but also an impactful part of the Action Plan's development. Denverites were engaged in the project through online and in-person surveys, directly influencing our Plan's themes, strategies, and actions.

We received nearly **2,700 responses** to a Vision Zero online interactive map survey, which was available in the spring of 2017. We asked people to drop virtual pins to identify either a great spot or a place of concern. Here are some highlights of what we found:

- The number one locational concern was **speeding**
- Other top concerns were people failing to yield, poor visibility, and lack of crosswalks
- Concerns were not specific to a time of day or a type of trip—these locations are almost always a problem
- Places of concern were noted across the city, indicating that while there are certainly hot spots, **safety is a concern nearly everywhere**

The City of Denver will use the map survey results as we consider and develop projects citywide. Whether the project be a school travel plan, an education campaign, or a request for a stop sign, City staff will use the feedback to inform project goals and outcomes. We appreciate that Denver residents provided feedback, we value the information shared, and we will use it to shape projects moving forward.

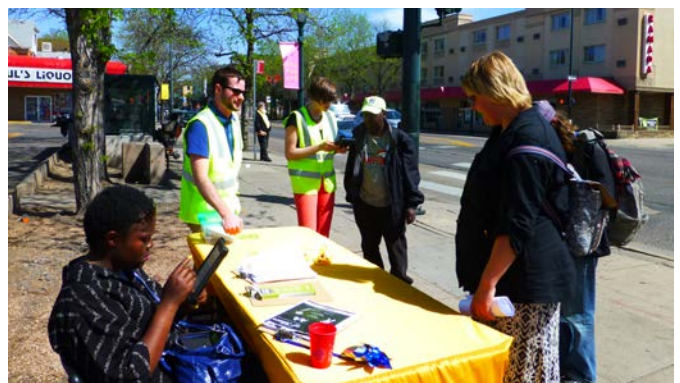
To engage in face-to-face conversations, to reach those who do not have access to technology and to reach people who speak Spanish only, the City

conducted Vision Zero intercept surveys at four locations in April 2017. The locations were within or adjacent to the CoC, along the HIN, and adjacent to transit, to hear from people who are most affected by traffic violence. We talked to **nearly 200 people**, asked them about their general traffic safety concerns, and here's what we heard:

- The top behavioral concern was **speeding**, followed by **distracted or careless driving**
- The top infrastructure concerns were **not enough time to cross for pedestrians** and the **condition of sidewalks**
- When asked what one thing the City should do to improve traffic safety, the top response was **build safe streets for everyone, including safe pedestrian crossings, bicycle facilities, and motor vehicle facilities**, followed by **reduce distracted driving**



Resident taking a survey at 40th Avenue & Colorado Boulevard



Traffic safety conversations at Colfax Avenue & Downing Street

*This street has gotten much busier in the last five years, and it is extremely dangerous to bike down with parking all down the street.*

*This is an intersection with lots happening. School zone, bus location, lots of left turning vehicles, local shopping district.*

*Speed limit is 35 mph, most people go 45 mph.*



# LET'S TAKE ACTION





# Let's Take Action

At the heart of Vision Zero is the principle that traffic deaths and serious injuries are unacceptable and, most importantly, preventable. Preventing future traffic fatalities and serious injuries will take a combination of bold actions by many people—not only City and County of Denver agencies, but also by our community and governmental partners.

As a TAC, we developed the nearly 70 actions that follow in close collaboration with stakeholders from all perspectives of traffic safety: transportation, enforcement, public and environmental health, sustainability, community planning, emergency services, parks and recreation, schools, and social justice. Thousands of Denver citizens helped shape the actions by telling us about their traffic safety concerns and wishes.

The following actions were developed to save lives by creating safer streets and promoting safe driving, walking, and bicycling behaviors. These actions include what we need to do to substantially reduce traffic deaths and serious injuries over a five-year period.

## Themes

While the goal of this Action Plan is to have **zero** traffic deaths and serious injuries by **2030**, the following themes help to organize the actions. The themes are based on a review of Denver crashes and input from stakeholders and citizens. They are consistent with worldwide and national Vision Zero approaches, yet represent Denver's priorities.

1. Enhance City Processes and Collaboration
2. Build Safe Streets for Everyone
3. Create Safe Speeds
4. Promote a Culture of Safety
5. Improve Data and Be Transparent

Within each theme, the City and its partners will implement short-term (2018-2019) and medium-term (2020-2023) actions. The following pages include all the Denver Vision Zero actions with timeframes and how success will be measured. The measures listed

for each timeframe are presented on an annual basis, where possible, and represent items that should be substantially completed within that timeframe. The partner organizations listed will be the primary champions for each action, though others will undoubtedly be involved.

## Acronyms

**AAA:** American Automobile Association

**BMO:** Budget & Management Office (Denver)

**BID:** Business Improvement District

**CAO:** City Attorney's Office (Denver)

**CDOT:** Colorado Department of Transportation

**CDPHE:** Colorado Department of Public Health and Environment

**CPD:** Community Planning Division

**CoC:** Communities of Concern

**DEH:** Department of Environmental Health

**DPD:** Denver Police Department

**DOR:** Department of Revenue

**DPR:** Denver Parks & Recreation

**DPS:** Denver Public Schools

**DPW:** Denver Public Works

**DRCOG:** Denver Regional Council of Governments

**DFD:** Denver Fire Department

**HIN:** High Injury Network

**MBAC:** Mayor's Bicycle Advisory Committee

**MPAC:** Mayor's Pedestrian Advisory Committee

**MPH:** Miles Per Hour

**NEPA:** National Environmental Policy Act

**NTMP:** Neighborhood Traffic Management Program

**OCA:** Office of Children's Affairs

**PEL:** Planning and Environmental Linkage

**RRFB:** Rectangular Rapid Flash Beacon

**RTD:** Regional Transportation District

**STRAC:** Statewide Traffic Records Advisory Committee

**TAC:** Technical Advisory Committee

**TNC:** Transportation Network Company

**TSMO:** Transportation Systems Management & Operations

**VZ:** Vision Zero

**VZC:** Vision Zero Coalition

# 1. Enhance City Processes and Collaboration

Vision Zero is an important new approach in the U.S. because “business as usual” will not get us to zero. We need City processes, partnerships, and laws to prioritize traffic safety and allow for systematic change. We need to not only react to tragedies, but be proactive in helping prevent traffic deaths and serious injuries. We will take these actions.

## KEYSTONE ACTION NEEDED



**Establish a permanent, dedicated funding source for Vision Zero implementation and coordination. Continue to create a Vision Zero program with dedicated staff.**

By dedicating \$2M/year initially and later, \$3M/year to Vision Zero projects and programs, and by adding a total of 9 FTE over the next five years, the City will be able to effectively implement many of the actions in this Plan.



Action	2018-2019	2020-2023	Partners*
<b>Establish a Vision Zero program within the City</b>			
Establish a permanent, dedicated funding source for Vision Zero implementation and coordination. Continue to create a Vision Zero program with dedicated staff.	\$2M/year; 1.5 additional FTE/year	\$3M/year; 2 additional FTE/year	DPW, <i>Mayor's Office, DPD, DEH, CDOT</i>
Coordinate existing funding already going to Vision Zero projects or that could be applied to such projects.	Ongoing action	Ongoing action	DPW, BMO, <i>CDOT</i>
<b>Institutionalize Vision Zero as the City's approach to its transportation system</b>			
Continue convening regular meetings of safety stakeholders (TAC) to review data and ongoing traffic safety performance and determine strategies for improvement.	6 meetings/year	6 meetings/year	DPW or Mayor's Office, <i>DPD, DEH, others</i>
Convene regular meetings of executive-level departmental representatives to coordinate Vision Zero efforts.	4 meetings/year	4 meetings/year	<i>Mayor's Office, Xcel Energy, DPW, DPD, DEH, others</i>
Ensure that Denver Vision Zero staff are represented at CDOT Region 1/City and County of Denver coordination meetings.	Ongoing action	Ongoing action	DPW, <i>CDOT</i>
Make the City and County of Denver a model Vision Zero adopter, including possible fleet modifications, operational changes, and training.	Ongoing action	Ongoing action	DPW
<b>Perform engineering reviews at traffic fatality and high collision locations to identify risk factors that can be addressed citywide</b>			
Until the end of 2017, convene rapid response meetings after pedestrian, motorcyclist, and bicyclist fatalities. Implement near-term safety improvements as appropriate and implement a strategy for rapid response meetings beyond 2017.	Complete action		DPW, <i>DPD, CDOT Region 1, VZC, DEH, RTD</i>
Using crash trends, rapid response information, and other data and analytics that are available and appropriate, systematically identify locations that need street modifications and implement changes. Collaborate across agencies to identify problems and solutions, and develop case studies or lessons learned where possible for future improvements.	2 locations/year modified	4 locations/year modified	DPW, <i>DPD, CDOT, DEH</i>
<b>Increase collaboration between City agencies and partners to improve safety outcomes through routine decision-making</b>			
Ensure Vision Zero best practices are accounted for in CDOT's Transportation Systems Management & Operations (TSMO) Evaluation process, including consideration of Denver's HIN. Modify process to occur before design decisions have been made, including during any PEL and/or NEPA process that occurs.	Complete action		<i>CDOT, DPW, RTD, DRCOG</i>
Establish Denver Public Works internal process to ensure that Vision Zero mitigations are evaluated and implemented where feasible on projects that fall within the HIN.	Complete action		DPW
<b>Enact policy or legislative changes to improve traffic safety</b>			
Modify City code to reinvest revenue generated from automated enforcement into Safe Routes to School and Vision Zero projects and programs.	Initiate action	Complete action	<i>VZC, DPW, DPD, Mayor's Office, City Council, CAO</i>
Expand Denver's Nuisance Abatement Law to include stricter penalties related to car ownership and operation for repeat offenders.	Initiate action	Complete action	<i>Mayor's Office, DPD, City Council, CAO</i>
Pursue city-level primary seatbelt law.	Initiate action	Complete action	<i>Mayor's Office, District Attorney, DPD, City Council, CAO</i>
Build a coalition to monitor and revise Colorado state laws and policies related to traffic safety including automated speed enforcement and distracted driving.	Initiate action	Continue action	<i>VZC, CDOT, DPD, DPW, DEH, City Council, CAO</i>

\* Supporting organizations are italicized.



## 2. Build Safe Streets for Everyone

We recognize that people make mistakes, but that those mistakes should not result in death. A safe systems approach means that our transportation system can and will protect all street users. Because our resources are limited, we will first focus on the High Injury Network (HIN) and the most vulnerable Denverites, while looking for opportunities to make citywide changes. We will take these actions.

### KEYSTONE ACTION NEEDED



#### **Update the Transportation & Mobility Policies and Procedures to include treatments with proven safety benefits and how to apply such treatments.**

These documents guide how DPW makes decisions about street design and operations. By updating the policies and procedures, the City will prioritize the reduction of serious crashes in its decision-making and be better positioned to complete the other actions included in this category.



Action	2018-2019	2020-2023	Partners*
<b>Develop and implement infrastructure policies to reduce traffic fatalities and injuries</b>			
Update the Transportation & Mobility Policies and Procedures to include treatments with proven, data-driven safety benefits and how to apply such treatments. Ensure that these documents prioritize the reduction of serious crashes and elevate safety as a priority in decision-making.	Complete action		DPW
Create holistic Street Design Guidelines. Include treatments and applications with proven traffic safety and speed control benefits, and target speeds for various street types and land use contexts. As applicable, update the Transportation Standards and Details for DPW.		Complete action	DPW, <i>DPD, CPD, DFD, CDOT, DEH, DPR, VZC</i>
Develop a Multimodal Safety Toolbox as part of the Neighborhood Traffic Management Program (NTMP).	Complete action		DPW, <i>DFD, DEH, VZC</i>
Develop and adopt a policy to prioritize pedestrians, bicyclists, and transit riders in temporary work zone detours.	Complete action		DPW, <i>VZC, CDOT</i>
<b>Implement safety treatments along the HIN and within CoC</b>			
Encourage safe speeds through implementation of engineering countermeasures and context-sensitive speed limits.	1 corridor/year	2 corridors/year	DPW, <i>CDOT, DPD, VZC</i>
Implement geometric intersection treatments with proven safety benefits.	2 intersections/year	3 intersections/year	DPW, <i>CDOT, VZC, BIDs, MPAC, MBAC</i>
Install or upgrade pedestrian crossing treatments consistent with the Denver Moves: Trails and Pedestrians plan.	3 locations/year	5 locations/year	DPW, <i>CDOT</i>
Enhance street lighting to improve visibility, consistent with the Street Lighting Design Guidelines.	2 corridors/year	3 corridors/year	DPW, <i>Xcel Energy</i>
Implement signal and/or operational modifications that are proven to reduce serious crashes.	10 intersections/year	10 intersections/year	DPW, <i>CDOT</i>
Build the pedestrian network identified in Denver Moves: Pedestrians & Trails.	14 miles of sidewalk/year	20 miles of sidewalk/year	DPW
Implement Denver Smart City technologies that deliver safe and accessible transportation for people biking, people walking, emergency vehicles, and by connecting people with services to housing.	10 intersections/year	15 intersections/year	DPW, <i>Denver Smart City</i>
<b>Reconfigure streets and intersections to improve safety and operations</b>			
Continue building the enhanced bikeway network and the amenities that support it (bicycle detection, parking), and phase implementation to ensure connectivity.	20 miles of bikeways/year	25 miles of bikeways/year	DPW

\* Supporting organizations are italicized.



### 3. Create Safe Speeds

Speed management is a critical component of Vision Zero because it is one of the most influential factors in crash severity and frequency. In Denver, speeds are most problematic on multilane arterials. We will create safe speeds by developing a program with a systematic approach, focusing speed reduction along the High Injury Network (HIN) through automated enforcement and messaging, and creating slow zones within the city. We will pair these actions with the **Build Safe Streets for Everyone** and **Promote a Culture of Safety** actions, when possible, so that speed limits are self-enforcing. We will take these actions.

#### KEYSTONE ACTION NEEDED



**Create a speed management program to systematically evaluate and promote safe speeds.**

DPW, in partnership with DPD and CDOT, will develop a clear and consistent approach to speed data collection, street design, and automated and manual speed enforcement. By evaluating speed limits citywide, the City and its partners will begin to manage speeds in a more context-sensitive, proactive, and safer way—instead of simply reacting to driver behavior. Creating a speed management program will allow the City and partners to complete all other actions in this category.



Action	2018-2019	2020-2023	Partners*
<b>Create a speed management program within the Vision Zero program to systematically evaluate and promote safe speeds</b>			
With the speed management program and information collected from Denver Smart City data management system, develop methodology for speed data collection, street design changes, automated enforcement, and manual enforcement. Collaborate with DPD to analyze data and make recommendations for action.	Complete action		DPW, <i>DPD</i> , <i>CDOT</i>
Perform a citywide evaluation of speed limits, considering context, and explore ways to make changes.	Complete evaluation		DPW
<b>Reduce vehicle speeds along the HIN</b>			
Add informative signage to message safe speeds, reduce speeds, increase compliance with traffic laws, and inform drivers of automated enforcement; ensure that message is consistent citywide and is tied to other actions.	Ongoing action	Ongoing action	DPW, <i>CDOT</i>
Increase automated speed enforcement along the HIN and along school walk and bicycle routes. Pair with signage.	1 additional location/year	2 additional locations/year	<i>DPD</i> , <i>DEH</i> , <i>DPW</i> , <i>Office of Sustainability</i> , <i>VZC</i>
Implement speed feedback signs in school zones in alignment with Transportation & Mobility policy and procedure.	Ongoing action	Ongoing action	DPW
Lower speed limits when implementing street design changes. Prioritize arterial streets and sensitive land uses. Coordinate with the NTMP and other Build Safe Streets for Everyone actions, when appropriate.	Ongoing action	Ongoing action	DPW, <i>CDOT</i> , <i>DPD</i>
<b>Create slow zones in priority areas such as school zones, major park zones, and areas with a high concentration of seniors through engineering and enforcement</b>			
Define types of slow zones and set appropriate speeds for each. Define treatments to be applied to slow zones, such as lower speed limits, increased fines, increased enforcement, street design measures, and signage. Coordinate with the NTMP.	Complete action		DPW, <i>DPD</i> , <i>DEH</i> , <i>DPS</i> , <i>CDOT</i> , <i>VZC</i>
Create slow zones, focusing first on CoC. Educate and inform community groups about the zones.	1 zone/year	2 zones/year	DPW, <i>DPD</i> , <i>DEH</i> , <i>Office of Aging</i> , <i>BIDs</i> , <i>RTD</i> , <i>DPS</i> , <i>VZC</i>

\* Supporting organizations are italicized.

## 4. Promote a Culture of Safety

We're all in this together. Vision Zero requires creating a Denver culture of good behavior on the part of both the individual and the institution. Promoting a culture of safety includes engagement, education, awareness, and institutional actions. In keeping with the Vision Zero philosophy, our efforts will be evidence-based and will account for the inevitability of human mistakes. We will take these actions.

### KEYSTONE ACTION NEEDED



#### Implement a multimodal safety education campaign for all.

DPW, DPD, and City Communications departments will create and deliver a multimodal and multimedia safety education campaign for all street users. By educating Denverites about safe behaviors in a compelling and personal manner, the City will begin to raise awareness, enabling the City and its partners to implement many of the other actions in this category.

Action	2018-2019	2020-2023	Partners*
<b>Increase the convenience of alternatives to driving, especially driving under the influence</b>			
Work with bike share companies, taxi companies, transportation network companies (TNCs), car share companies, and RTD to encourage alternatives to driving.	Ongoing action	Ongoing action	Mayor's Office, RTD, CDOT, City Communications, DRCOG
Explore opportunities to expand free or subsidized transit fares during holidays and for special events.	Complete action		RTD, Mayor's Office, CDOT, City Communications, CDPHE
Consider reviving taxi stand program in areas of the city with high concentrations of drinking establishments.	Complete action		Mayor's Office, DPW, Excise and Licenses
<b>Implement an inclusive communications campaign to heighten awareness and understanding of traffic safety among the public, public agency staff, and the media</b>			
Work with a broad range of agencies and organizations to promote traffic safety, such as the Office of Children's Affairs or programs that work closely with immigrant or homeless populations.	Ongoing action	Ongoing action	VZC, Mayor's Office, City Communications, Human Rights and Community Partnerships
Provide up-to-date and accessible data about traffic fatalities and serious collisions on the City's website, highlighting equity metrics when appropriate.	Ongoing action	Ongoing action	DPW, DPD, Mayor's Office

Action	2018-2019	2020-2023	Partners*
Develop standard language regarding Vision Zero and traffic safety for use by all City partner agencies when interacting with the media and with the public directly.	Complete action		DPW, DPD, City Communications, <i>Mayor's Office, VZC</i>
Implement a multimodal safety education campaign for all, focused on the HIN as appropriate, covering safe interactions with other road users and employing multiple communication methods. Highlight the prevalence and impact of distracted driving and the benefits of seat belt, car seat, and helmet use. Coordinate City and Statewide messaging for maximum impact.	\$1.5 million	TBD	DPW, DPD, City Communications, <i>Mayor's Office, CDOT, VZC, DRCOG, RTD</i>
Support a culture of safety and community engagement through events and projects at schools and in communities. Facilitate through the Vision Zero grant program.	Ongoing action	Ongoing action	DEH, VZC, DPW
Pair major infrastructure changes and enforcement activities with messaging to communicate why traffic safety is important.	Ongoing action	Ongoing action	City Communications, DPW, VZC, DPD
Develop branded Vision Zero signage to be installed with Vision Zero infrastructure projects during construction.	Complete action		DPW, City Communications
<b>Strengthen traffic safety enforcement policies and practices</b>			
Update officer trainings to reflect new safety priorities and regularly conduct trainings. Consider equity and demographics when updating and delivering training.	Ongoing action	Ongoing action	DPD
Prioritize enforcement against dangerous moving violations. Carefully consider equity implications to avoid burdening disadvantaged communities.	Complete action		DPD, DPW
Conduct targeted impairment enforcement on City-owned streets throughout the HIN, including sobriety checkpoints, saturation patrols, and issuance of warnings.	Ongoing action	Ongoing action	DPD, CDOT, City Communications
Continue to conduct targeted impaired driving enforcement on days with major community events, including notification to attendees of enforcement actions.	Ongoing action	Ongoing action	DPD, CDOT, City Communications
Research and pilot diversion program in lieu of fines to encourage safe behaviors.	Initiate action	Complete action	District Attorney, Denver Courts, DPW, <i>Mayor's Office, DPD</i>
<b>Implement training to promote culture change</b>			
Work with the media to more accurately report traffic crashes to avoid victim-blaming. Coordinate with DFD Media Day Camps and DPD Media Academies.	Complete action		City Communications, VZC, DPW, DPD, DFD
Deliver "safe server training" for bars and restaurants and increase messaging in bars to promote awareness of safe alternatives to impaired driving.	Complete action		DEH, <i>Excise and Licenses</i>
Create and deliver a training course to City organizations about Vision Zero goals, actions, and language. Design so that attendees can train others within their organizations.	Complete action		Mayor's Office, DPW, VZC
<b>Work with schools to improve the culture of safety around schools and to promote safe, active transportation through education, school policies, and pick-up and drop-off transportation procedures</b>			
Develop travel plans that reduce congestion and increase safety during pick-up and drop-off times. Coordinate with Safe Routes to School efforts.	8 plans/year	11 plans/year	DEH, DPS, DPW, RTD
Expand bicycle and pedestrian education programs for staff, students, and families.	Ongoing action	Ongoing action	DEH, OCA, DPS, DPW

\* Supporting organizations are italicized.



## 5. Improve Data and Be Transparent

A Vision Zero approach is different from previous safety approaches in that it focuses on collecting, analyzing, and using data to save lives. Vision Zero also holds the government and its partners accountable for its commitments. Clear, usable data that is available to both the City and to the public is essential to progress, not to mention the secondary benefits like telling a compelling story on progress and outcomes. We will take these actions.

### KEYSTONE ACTION NEEDED



**Establish an official crash data source to be used by all City agencies and provide consistent reporting.**

DPW and DPD will work together to establish an official data source for traffic crashes so that all City agencies and partners are consistent in reporting and measuring progress. Having a single source for crash data will enable the City to regularly monitor and communicate Vision Zero progress in a meaningful way.





Action	2018-2019	2020-2023	Partners*
<b>Implement demonstration and pilot projects to test innovative safety interventions</b>			
Conduct a pilot corridor safety plan on a State Highway in the HIN to develop a process that can be replicated for other State Highway corridors in Denver. If appropriate, include surrounding area in safety and equity assessment.	1 pilot study		DPW, CDOT, VZC, DEH
As opportunities and needs arise, evaluate street design treatments from NTMP Multimodal Safety Toolbox.	Begin action	Ongoing action	DPW, DEH, DFD
<b>Routinely conduct evaluation studies to determine safety impacts of Vision Zero projects</b>			
Develop metrics to support evaluation of safety projects, including leading indicators such as operating speed and yielding behavior. Collect and geocode data before and after projects are completed.	Complete action		DPW, DPD, DEH, CDOT, VZC
Document effects of infrastructure projects, including speed reduction along the HIN, and share findings with the public. Coordinate with Create Safe Speeds actions.		Complete action	DPW, DPD, DEH
Develop annual report to document safety benefits of automated enforcement; distribute report through City website and agency/community partners.	Begin action	Ongoing action	DPD, DPW
<b>Increase speed data collection and analysis</b>			
Expand the use of speed data collection boxes to collect operating speed data. Purchase additional equipment and work across agencies to analyze and process data.	1 new box/year	2 new boxes/year	DPD, DPW, DOR, STRAC
Develop and implement a speed data collection program that covers a high percentage of the city street network, focusing on the HIN. Publish citywide existing conditions, slow zone information, and speed data collection results on Denver Open Data Catalog or another publicly-accessible site. Coordinate with Create Safe Speeds Actions.		Complete action	DPD, DPW, DOR, STRAC
Use speed data to proactively identify areas that need enforcement or engineering measures.		Complete action	DPD, DPW, DOR, STRAC
<b>Regularly report back to the community about Vision Zero progress</b>			
Develop and publish a biannual report that documents the implementation status of the Vision Zero Action Plan, tracks progress toward fatality, serious injury, and overall crash reduction, and summarizes the effects of safety interventions.	Begin action	Ongoing action	DPW, DEH
<b>Improve crash data management processes</b>			
Submit crash records to the Department of Revenue electronically.	Begin action	Ongoing action	DPD, Technology Services, DOR
Establish an official crash database from multiple sources, which includes all fields from the State crash reporting form, to be used by all City agencies and to provide consistent reporting to the media and in City publications.	Complete action		DPW, DPD, City Communications
Improve accuracy of geocoded crash locations to reflect accurate crash point of impact.	Complete action		DPD, Technology Services
Share crash analysis data and summary files, such as hotspot locations, on internal City file networks for use in other planning efforts, and publish on Denver Open Data Catalog or another publicly-accessible site.		Begin action	DPW, DEH, Technology Services

\* Supporting organizations are italicized.

## An Equitable Plan

We must reach higher and dream bigger. We must aspire to help everyone, to knock down barriers and create pathways and opportunities where today there are only roadblocks and obstacles. That is the kind of city we must be. It's the kind of city I know we can be. We will lean in. We will never give up. And we will succeed, all of us, together.

-Mayor Michael B. Hancock, 2016 State of the City Address



**EQUITY**  
justice according to natural law or right;  
specifically: freedom from bias or favoritism

*(Merriam-Webster)*

Equity is an important Vision Zero guiding principle. It acknowledges that **streets are for everyone** and that our transportation system must be **safe for all**. In Vision Zero planning, an exploration of equity has led to two findings. First, research has shown that traffic crashes disproportionately affect low-income neighborhoods and communities of color. In Denver, nearly 40 percent of all traffic deaths occur in the Communities of Concern (CoC)—those neighborhoods that comprise about 30 percent of Denver with lower incomes and vehicle ownership and high numbers of seniors, people with a disability, schools, and community centers.

Second, programs like Vision Zero don't happen in a social vacuum. Enforcement is a critical component of Vision Zero initiatives around the world, yet increasing traffic enforcement—especially in CoC—could exacerbate injustices of the past and inadvertently increase distrust in the very communities the program seeks to serve. Denver's Action Plan addresses the potential for these unintended consequences in a number of ways:

- Instead of increasing in-person traffic enforcement along the HIN or within CoC, our actions focus instead on street design changes in these areas. These will include safe speed limits, mid-block and intersection changes, pedestrian crossings, sidewalks, and enhanced street lighting.
- We will increase automated speed enforcement, which is unbiased, along the HIN and along school routes, but we will pair this with warning signs so that drivers are not surprised. The goal will be to reduce speeds along these dangerous routes and ultimately have no violations.
- Instead of increasing fines for traffic violations, we will pilot a "diversion" program, which will offer positive reinforcement and education to encourage safe behaviors.
- We will work with people in the CoC to have discussions and offer education about traffic safety.
- We will incorporate equity and demographic considerations into police officer training courses.

These types of actions will help Denver overcome barriers to safety and enable all to succeed regardless of age or ability.



## Vision Zero Best Practices

### ✓ Multimodal Street Design Guidelines

One of the single biggest influencers of how a street is built is a city's design standards or guidelines. Transportation Professionals and others look to these types of documents to inform street width, intersection geometry, sidewalk and bikeway configurations, and crossing treatments. Many cities have created new, comprehensive design guidelines to incorporate state-of-the-art principles that prioritize people walking and biking, context-sensitive street typologies and speeds, and traffic safety treatments. Creating multimodal street design guidelines is a key part of a safe systems approach and will allow for more consistency, transparency in decision-making processes, and great street experiences in Denver.

### ✓ Parking Restrictions/Daylighting

Vehicles that are parked too close to intersections or midblock crossings block sight lines, which can contribute to crashes. Eliminating on-street parking near a crossing can improve visibility and in turn, improve safety. Instituting no-parking zones for vehicles within 20-50 feet of an intersection is one strategy to improve sight lines and decrease certain crash types. Where possible and appropriate, this space could instead be filled with street-level bike corrals, curb extensions, or landscaping/green infrastructure that could also have complementary benefits such as improving water quality. **Restricting parking near intersections has been shown to reduce crashes by 30 percent and decrease aggressive driving.**



### ✓ Leading Pedestrian Intervals

Leading Pedestrian Intervals (LPIs) give pedestrians a head start at a traffic light by approximately five seconds, with the precise time depending on the intersection. This signalized intersection treatment is intended to improve safety by separating the pedestrian crossing from turning vehicles, and by increasing the visibility of pedestrians to drivers. **Research suggests that a nearly 60 percent reduction in pedestrian-vehicle crashes can be achieved by adding LPIs.**

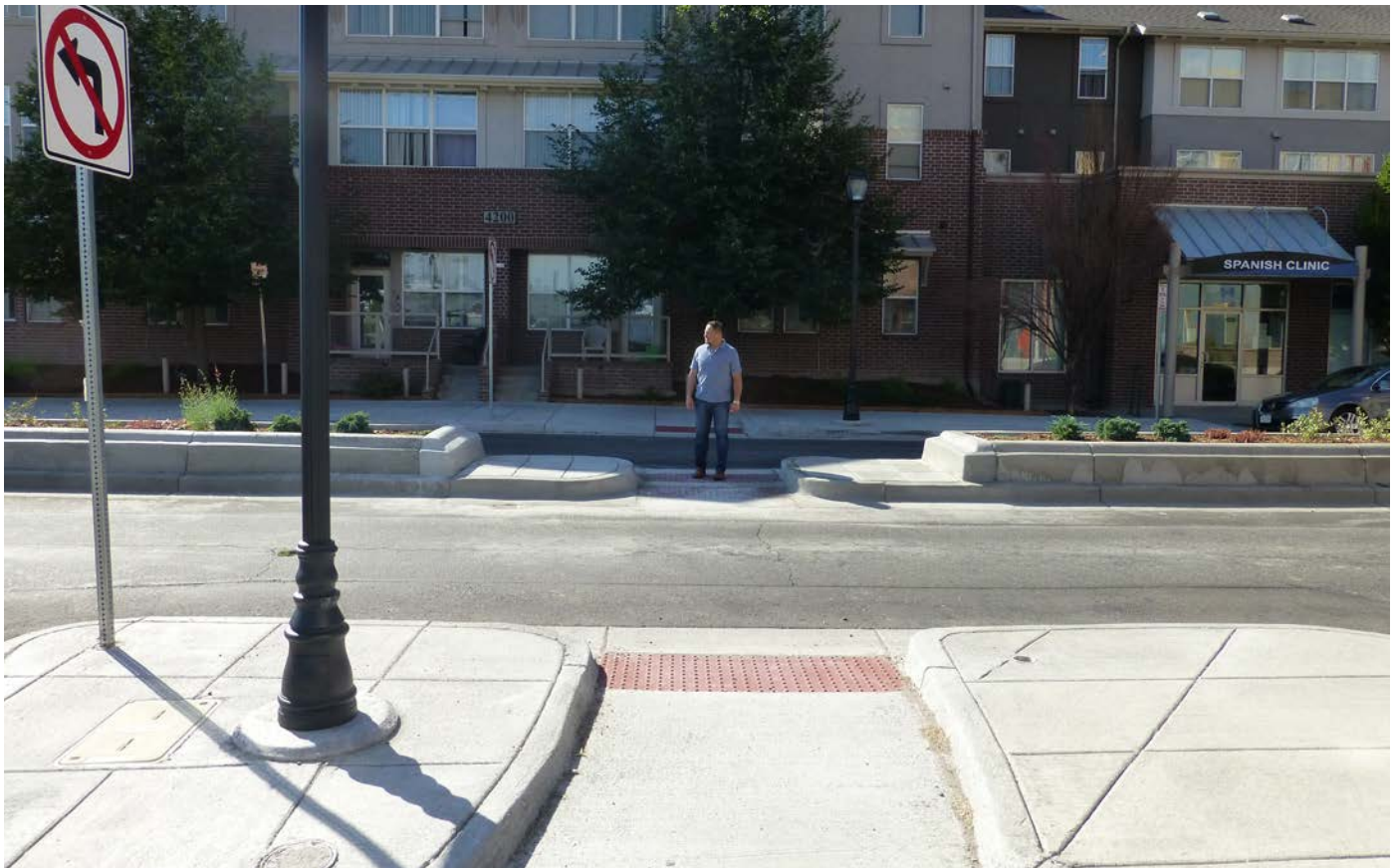
## ✓ Slow Zones

Slow zones provide safety benefits through speed limit reductions, often set to 20 mph, that are typically applied through signage, pavement markings, and self-enforcing traffic calming treatments. Zones are typically applied to areas with sensitive land uses, such as residential areas with a concentration of schools or senior centers, that also have clearly-delineated edges (e.g., by arterials or railroads). **Research shows that 20 mph speed zones are effective in reducing pedestrians' risk of injury or death, with the greatest benefits observed for children under age 15.** Slow zones have been found to reduce the number of pedestrians killed or seriously injured by up to 35 percent.



## ✓ Median Refuge Islands

Median refuges (also called median crossing islands) provide protected spaces for pedestrians and bicyclists in the middle of the street to facilitate crossings. They are often used to slow traffic and simplify crossings by allowing people to walk across just one direction of travel at a time. To account for human behavior, median refuges should be provided where pedestrians naturally cross. **Studies show that median refuges at unsignalized crossings with a marked crosswalk provide a 46 percent crash reduction, while median refuges with an unmarked crosswalk provided a 39 percent crash reduction.**









# POSITIVE CHANGES



# Positive Changes

Denver is ready to refocus its transportation system. As we make positive mobility changes towards a safer city, we will continue our history of innovative leadership.

## Where We Started

The history of Denver is heavily influenced by rail, transit, innovation, leadership, and local spirit.

### LATE 1800S



Denver leaders lobbied and raised funds to build a Union Pacific rail spur to Denver—a key move in making Denver a viable city. Denver Union Station opened in 1881 as a major transportation hub.

### EARLY 1900S



The Stapleton International Airport opened and work began on Valley Highway (I-25). In the 1950s, Denver's first City Traffic Engineer, Henry Barnes, promoted the "pedestrian scramble," also known as a Barnes Dance, now re-emerging as an effective Vision Zero street design tool.

### LATE 1900S



Major milestones occurred such as the formation of the Regional Transportation District (RTD), opening of the 16th Street Pedestrian Mall, opening of the Denver International Airport, and completion of the Transportation Expansion (T-REX) project.

### EARLY 2000S



The City adopted ambitious documents like *Blueprint Denver* and the *Strategic Transportation Plan*. In 2004, Denver voters supported FasTracks, a program to build a regional transit system including 122 miles of new commuter and light rail, 18 miles of bus rapid transit, and 57 new stations. In 2010, Denver B-cycle was launched as the country's first large-scale citywide bike sharing system.

### PRESENT DAY



In recent years, the City has embarked on a number of groundbreaking initiatives.

- The Denver Moves plans were initiated/completed.
- The community-driven Denveright planning process began.
- The Bicycle and Pedestrian Crash Analyses and the Bike Safety Action Plan were published.
- Mayor Hancock announced Denver's commitment to Vision Zero and the Action Plan was launched.

### LOOKING AHEAD



**It is time for a new era of transportation in Denver.**

We need a transportation system that honors where we've been and where we need to go. The Mayor's Mobility Action Plan, which Vision Zero and Denver Smart City are integral parts of, will prioritize human lives over all other factors to be a truly equitable city.



***"The reasons to transform are frustratingly obvious."***

—2017 Mobility Action Plan

To address the tragic reality that **61 people died** on Denver streets in 2016, including 22 people walking and four people riding bicycles, Denver's 2017 Mobility Action Plan calls for the acceleration of safety improvements and robustly pursuing Vision Zero.



## What We're Doing

Since announcing its commitment to Vision Zero in 2016, the City and County and Denver has made several important street changes. These upgrades, a few of which are highlighted on the following pages, have been in direct response to an existing or potential safety issue and have proven safety benefits. The City will continue making these types of changes in the future, consistent with the **Build Safe Streets for Everyone** and **Create Safe Speeds** actions presented in the previous section, and focused on the HIN and within CoC whenever possible.



### 30th Avenue & Downing Street

Before 2017, pedestrians walking to the 30th Avenue and Downing Street light rail station had to cross two lanes of traffic traveling 30 mph or faster. In 2017, Denver Public Works took action by adding a Rectangular Rapid Flash Beacon (RRFB) to raise driver awareness and increase yielding. RRFBs are not traffic signals, but push-button flashing warning devices that encourages motorists to yield to pedestrians and bicyclists. **Studies show that the RRFB can significantly increase motorist yielding behavior at uncontrolled crosswalks, with motorist yield rates ranging from 34 percent to over 90 percent after implementation.**





## Morrison Road Speed Reduction

Nine people walking and biking were seriously injured on Westwood's Morrison Road between 2012 and 2015. To address this safety issue, Denver Public Works lowered the speed limit from 35 to 30 mph and installed intersection curb extensions and a raised median between Perry and Raleigh streets, with intermittent refuges for people crossing. The City will also be installing a new traffic signal and infrastructure improvements at Knox Ct/Alameda Ave/Morrison Rd in 2017 that will enhance bicycle and pedestrian mobility. **Studies show that traffic calming features such as these can reduce the number of injurious crashes by 6 percent on main roads.** Other research shows that areawide traffic calming results in more walking and less injury for all road users.

## 13th Avenue & Broadway

A pedestrian was killed while walking in the crosswalk at 13th Avenue and Broadway in October 2016. In addition to this tragic hit-and-run crash, this intersection has been the site of nine other crashes since 2012 involving left-turning vehicles and pedestrians in the south crosswalk, despite the presence of a leading pedestrian interval. To address this issue, Denver Public Works took action in early 2017 by adding a protected left-turn phase at the intersection. Protected left-turn phases at signalized intersections separate vehicular, pedestrian, and bicyclist movements to minimize potential conflicts. **Protected left-turn phases have been shown to result in a 45 percent reduction in pedestrian crashes.**





# HOW WE DEVELOPED THE PLAN



# How We Developed The Plan

The Denver Vision Zero Action Plan is a result of a one-year analysis, action planning, and engagement process. The Project Team regularly met with the Technical Advisory Committee (TAC) and held topic- and agency-specific meetings to develop and refine the actions. The following individuals and organizations of the TAC were critical partners in shaping this Plan.

## Project Team

### Core Team, City and County of Denver

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### Sander Marketing Group

Steve Sander  
 Alexis Nichols

## Technical Advisory Committee

### City and County of Denver Project Team Members

Evan Dreyer, Mayor's Office  
 Ella Stueve, Community Planning and Development  
 Gretchen Armijo, Dept. of Environmental Health  
 Sarah Moss, Denver Fire Department  
 Jay Henke, Denver Parks & Recreation  
 Ted Block, Denver Police Department  
 Mark Chuck, Denver Police Department  
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 Perla Gheiler, Office of Aging  
 Aisha Rousseau, Office of Disability Rights  
 Jerry Tinianow, Office of Sustainability  
 Jolon Clark, City Council  
 Anthony Aragon, City Boards and Commissions  
 ShehilaRae Stephens, Denver Health and Hospital Authority  
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 Myles Tangalin, Mayor's Pedestrian Advisory Committee  
 Katie McKenna, Mayor's Bicycle Advisory Committee  
 Gosia Kung, Vision Zero Coalition  
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 Clark Roberts, CDOT Region 1  
 Steve Sherman, CDOT Region 1





## Other Partners

Public Information Officers from the Mayor's Office, Denver Public Works, Denver Police Department, Denver Environmental Health, Denver Marketing Office, Community Planning and Development, and Denver Fire Department.

City and County of Denver:

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Nicole Portee, Denver Public Schools

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Robert Rock, Denver Police Department

Lynn Holly, CDOT Safety Office

Glenn Davis, CDOT Safety Office

Ginna Jones, CDPHE

Jen Knudsen, Colorado District Attorney's Office

Wave Dreher, AAA Colorado

The Citizens of Denver

# Vision Zero Technical Advisory Committee Charter 2016-2017

The TAC developed a committee charter in January 2017 to help guide its work on the Action Plan and the Vision Zero Program.

## Overall Vision Zero Purpose Statement

Denver's commitment to Vision Zero is based on the principle that traffic fatalities and serious injuries on our streets are unacceptable and preventable. Vision Zero reflects and emphasizes our core values—that everyone has a right to be safe on Denver streets no matter what mode of transportation they choose. The City and County of Denver and its partners commit to achieve a vision of zero fatalities and serious injuries on our streets. Denver will accomplish a roadmap to Vision Zero through the development of a comprehensive and multidisciplinary Action Plan inspired by data, innovation, equity and swift implementation.

## Charge

The Vision Zero Technical Advisory Committee (TAC) has been assembled to provide technical support to Denver's Vision Zero Program. The TAC will participate in and advise on community outreach, data analysis, standards, performance measures, and progress reports. These efforts will be implemented through a lens of equity and accountability, with documented goals and priorities. The TAC will jointly work with other functional teams within the City and County of Denver and will provide input into Vision Zero's activities, projects, and strategic plans.

## Guiding Principles

1. As a TAC, we will be accountable. We will:
  - Foster two-way communication with community engagement so that all people have the opportunity to have a meaningful impact;
  - Plan for and conduct evaluation of our efforts; and
  - Make data-driven and transparent decisions.
2. As a TAC, equity will be embedded in all that we do. We will:
  - Make streets safe for everyone; and
  - Focus on vulnerable communities that are disproportionately victims of traffic fatalities and serious injuries.
3. As a TAC, our work will demonstrate the urgency needed. We will:
  - Not postpone action;
  - Prioritize preservation of life and health as the most important community goals; and
  - Be innovative, human-inspired, and bold.
4. Traffic deaths are preventable and unacceptable:
  - We recognize that crashes are not "accidents," but rather are a consequence of the physical environment and individual decision making;
  - Human error is inevitable and unpredictable but the consequence of error should not be severe injury or death. We will plan for this error in our transportation system; and
  - Safe designs will lead to safe streets.
5. We will prioritize speed reduction as an essential strategy to reduce fatalities and serious injuries because:
  - Speed fundamentally affects crash outcomes;
  - People are inherently vulnerable; and
  - We can reduce speeding through engineering, enforcement, and education working in tandem.

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## Crash Data Sources

### Denver Police Department

Page 2: 'Traffic Fatalities over Time' (Annual Reports)

Page 2: 'Traffic Deaths' (2011-2016 Fatality List)

Page 4: Fatal crashes by functional class (2011-2015 Fatality List)

Page 5: Speed data (2013-2017)

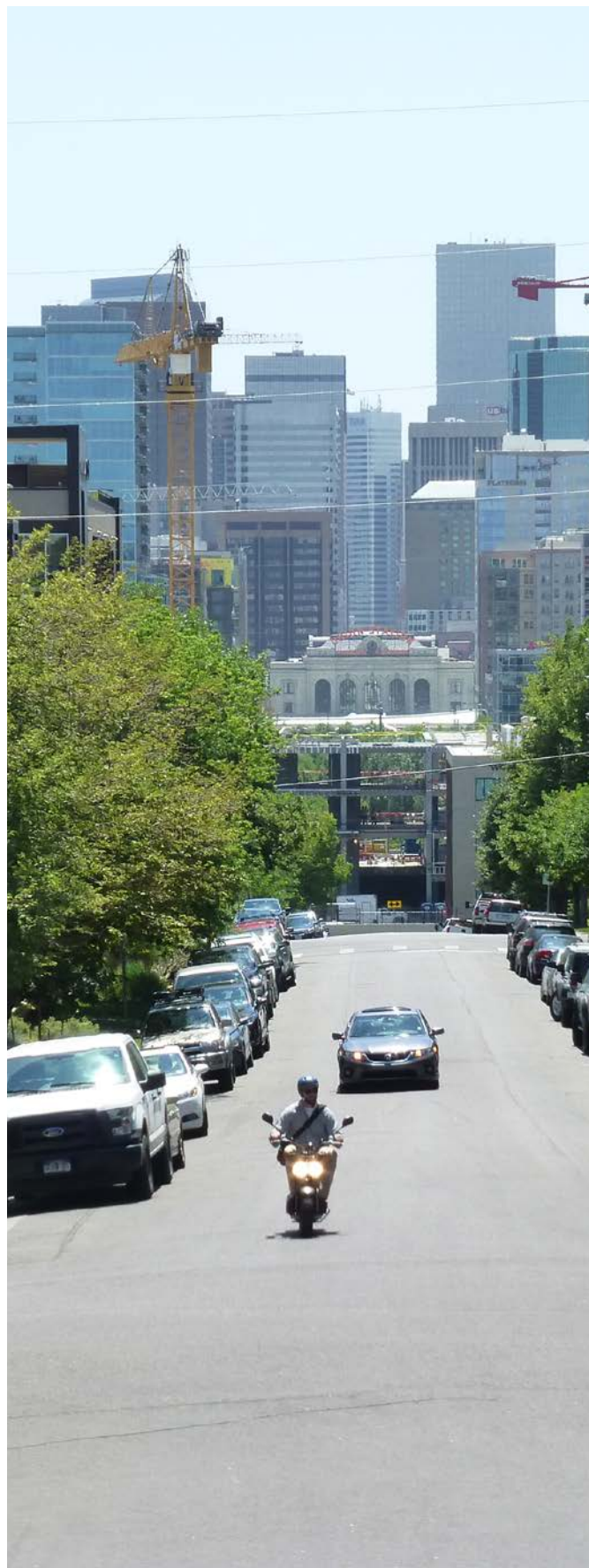
### Denver Public Works

Page 1: Fatal crash risk statistics (2011-2015 vehicle, pedestrian, and bicycle crash files; analysis by Toole Design Group)

Page 8-9: 'High Injury Network' Maps (2011-2015 vehicle, pedestrian, and bicycle crash files; Street Centerline file; analysis by Toole Design Group)

### Colorado Department of Transportation

Page 6: 'Risky Behaviors' (2017 Problem Identification Report)



## We Pledge

to lead and implement the Denver Vision Zero Action Plan to achieve the goal of zero traffic deaths and serious injuries by 2030.



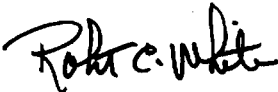
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Mayor  
Mayor's Office



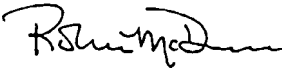
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Director  
Department of Public Works  
Transportation & Mobility



George Delaney  
Interim Executive Director  
Department of Public Works



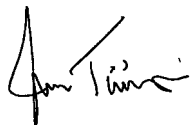
Robert C. White  
Chief  
Denver Police Department



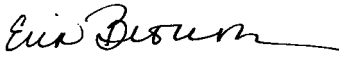
Robert McDonald  
Executive Director  
Department of Environmental Health



Jill Locantore  
Chair  
Denver Vision Zero Coalition



Jerry Tinianow  
Chief Sustainability Officer  
Mayor's Office of Sustainability



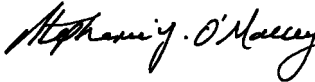
Erin Brown  
Executive Director  
Mayor's Office of Children's Affairs



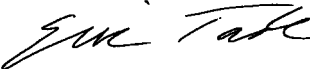
Brad Buchanan  
Director  
Community Planning & Development



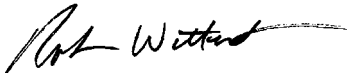
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Executive Director  
Agency for Human Rights  
& Community Partnerships



Stephanie O'Malley  
Director  
Department of Public Safety



Eric Tade  
Chief  
Denver Fire Department



Robin Wittenstein  
Chief Executive Officer  
Denver Health and Hospital Authority



Perla Gheiler  
Director  
Human Rights & Community  
Partnerships, Office of Aging



Happy Haynes  
Manager  
Department of Parks and Recreation



Shailen Bhatt  
Executive Director  
CDOT



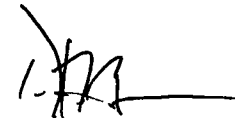
Scott Hernandez  
Colonel  
Colorado State Patrol



Tom Boasberg  
Superintendent  
Denver Public Schools



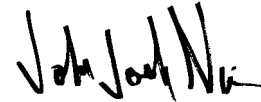
Doug Rex  
Acting Executive Director  
DRCOG




David Genova  
General Manager  
RTD



Brian Elms  
Director  
Denver Peak Academy



JJ Niemann  
Chair  
Mayor's Pedestrian Advisory Committee

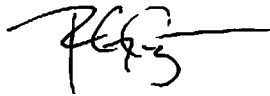


Katie McKenna  
Chair  
Mayor's Bicycle Advisory Committee



# We Pledge

## Denver City Council



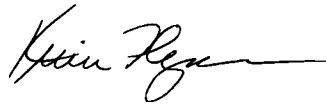
Rafael Espinoza  
District 1



Mary Beth Susman  
District 5



Wayne New  
District 10



Kevin Flynn  
District 2



Paul Kashmann  
District 6



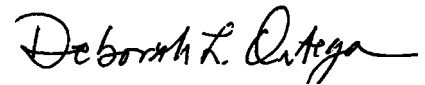
Stacie Gilmore  
District 11



Paul D. López  
District 3



Jolon Clark  
District 7



Deborah Ortega  
At-Large



Kendra Black  
District 4



Christopher Herndon  
District 8



Robin Kniech  
At-Large



Albus Brooks  
District 9



Photo by Denver Vision Zero Coalition



## How to be part of Vision Zero

We're all in this together. To carry out many of the actions presented in this Plan and to successfully eliminate traffic fatalities and serious injuries by 2030, we need your help. We all have a personal responsibility to make the right choices and to spread the word about why traffic safety matters—making the City's efforts even more effective.



### Your actions affect others.

- Be mindful and aware of your surroundings.
- Follow the rules of the road—drive the speed limit, do not text and drive, do not drive while impaired, and yield to other people.
- Be visible and predictable.

### Remember that human lives are irreplaceable and our highest priority.

Please visit the Denver Vision Zero website ([denvergov.org/visionzero](https://denvergov.org/visionzero)) or join the Vision Zero Coalition ([walkdenver.org/vision-zero](https://walkdenver.org/vision-zero)) to become directly involved in events and activities.