

# VISION ZERO

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## SAFER STREETS FOR CHARLOTTE

2019-2030 | Action Plan











# Charlotte's Road to Vision Zero

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# Executive Summary

Over the past decade our city has seen enormous population growth, adding close to 200,000 additional drivers, pedestrians and cyclists to our streets. In 2017, Charlotte drivers logged more than 23 million miles daily on our streets, up nearly a million miles from the year before. The good news is that total numbers of crashes in our city decreased by almost four percent compared to 2016. Yet, there is more work to be done. In 2017, there were 74 fatalities which represented a 35 percent increase from the previous year.

Charlotte is renewing its commitment to safer streets in 2019 with the adoption of Vision Zero, a traffic safety initiative designed to reduce crashes and eliminate traffic-related deaths and severe injuries. Why? Because even one traffic-related death is too many.

Vision Zero distinguishes itself from traditional road safety approaches by focusing on fatalities and serious injuries and through the acknowledgment of human error. It is the shared responsibility between users, designers and decision-makers. This Action Plan is a living document that will continually be updated as new data becomes available and as new strategies prove to be successful in making our streets safer.

## DEVELOPING THE ACTION PLAN

Charlotte's Vision Zero Action Plan was developed using a collaborative approach that focused on equity and engagement with an in-depth analysis of fatal and serious injury crash data. A Vision Zero Task Force was convened in June 2018 consisting of over 50 members from 25 organizations representing a breadth of safety professions and advocates – including public health, law enforcement agencies, transportation engineers and planners, emergency response and activists. The Task Force jointly developed the following commitment statement:

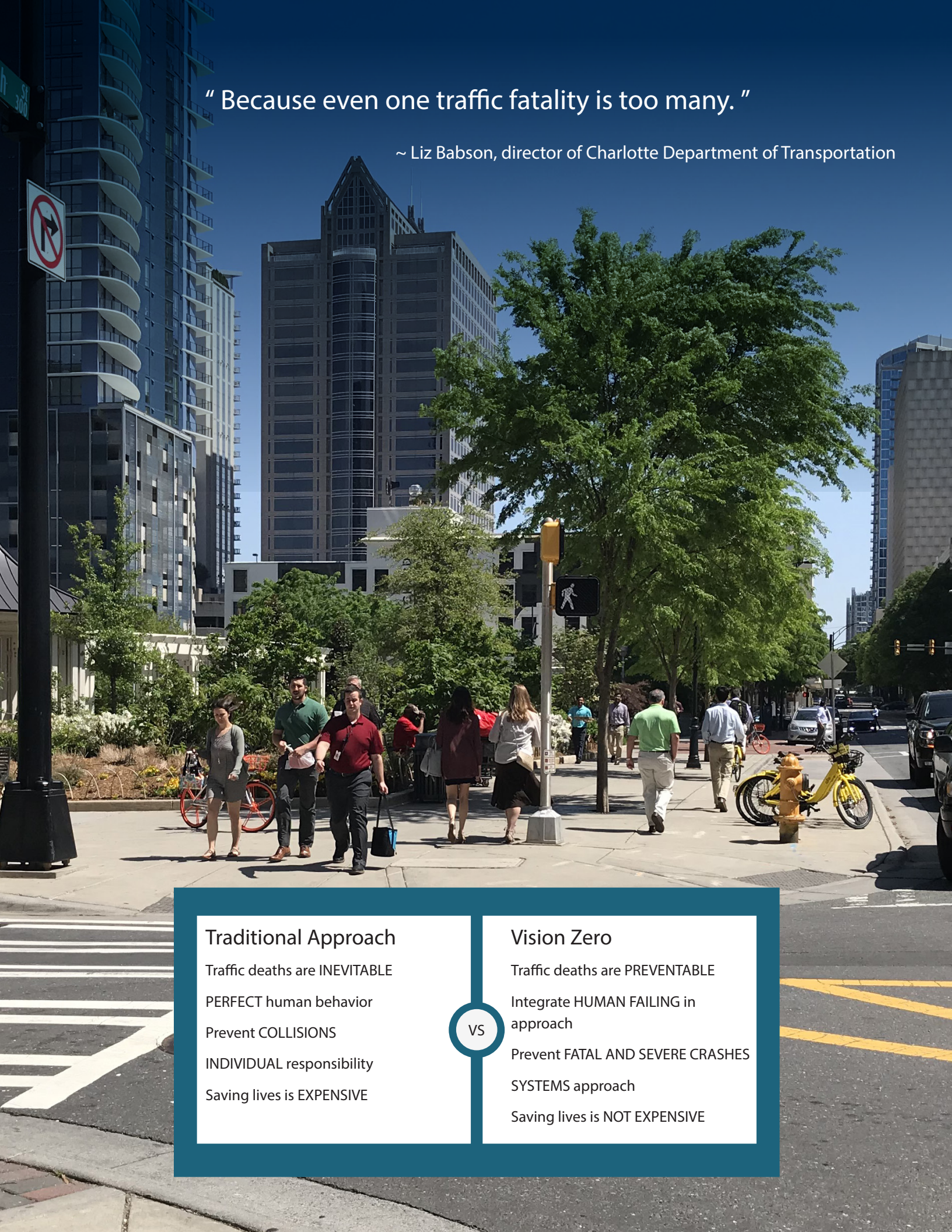
**“As a community, it’s our responsibility to eliminate traffic deaths and serious injuries for all who share Charlotte streets by 2030.”**





“ Because even one traffic fatality is too many. ”

~ Liz Babson, director of Charlotte Department of Transportation



### Traditional Approach

Traffic deaths are INEVITABLE  
PERFECT human behavior  
Prevent COLLISIONS  
INDIVIDUAL responsibility  
Saving lives is EXPENSIVE

VS

### Vision Zero

Traffic deaths are PREVENTABLE  
Integrate HUMAN FAILING in  
approach  
Prevent FATAL AND SEVERE CRASHES  
SYSTEMS approach  
Saving lives is NOT EXPENSIVE



## TAKING A DATA-DRIVEN APPROACH

According to data released by the National Highway Traffic Safety Administration more than 37,461 lives were lost on U.S. roads in 2016. Speeding was related to 27 percent of fatal traffic crashes and human error was linked to 94 percent of serious injury crashes. In the five years of crash data evaluated in Charlotte (2013-2017), there were 731 fatal and serious injury crashes. Speeding accounted for 45 percent of fatal crashes.

Charlotte's focus on a data-driven approach with Vision Zero led to the development of a High Injury Network that identifies locations where investments in safety are most urgent. Ten percent of all streets in Charlotte account for the High Injury Network. Of those streets, 66 percent are thoroughfares, which are higher traffic volume and higher speed streets. Priority corridors of the High Injury Network are identified (see page 20) based on areas where there are the greatest number of fatalities and serious injuries, and where investments in education, engineering, enforcement and other strategies will be focused over the coming year.

## WORKING TOGETHER TO GET TO ZERO

When it comes to experiences and in-depth knowledge of how a community really works, no one knows better than the people who live and work there. Throughout the development of the Action Plan, the Vision Zero Task Force engaged with the community at more than 25 events – including Open Streets 704, the Latin American Festival and the Romare Bearden Park Music Series. We had over 1,000 one-on-one conversations about traffic safety and received more than 1,700 comments on an interactive web-based map. Community engagement will continue. The Task Force is committed to making it an integral part of a successful Vision Zero strategy.

## TAKING ACTION NOW

Charlotte's Vision Zero Action Plan is the framework strategy that incorporates engineering, education and enforcement into four main focus areas – creating safe streets for all users, shaping a community culture of safety, analyzing the data, and evaluating policy and legislation to support traffic safety. Beginning on page 26 are "Strategy Tables" that outline specific benchmarks and actions steps for each focus area.

This is just the beginning! To quote the Vision Zero Network, a collaborative campaign that links together safety-minded communities, "the process of building an Action Plan is just as important as the final product." And for Charlotte, the importance of meaningful collaboration cannot be overstated; it is essential and a central tenant of our Vision Zero Action Plan. The interdisciplinary Task Force is empowered to take action, work closely with our community and achieve shared goals. We are









# What is Vision Zero

Vision Zero began as a national policy in Sweden in 1997 to address the very real public health crisis that too many people were killed or seriously injured in traffic related collisions. The goal was to eliminate all traffic related fatalities and serious injuries while increasing safety, health and mobility for all.

As a nation, they approached traffic safety in a systematic and proactive way. Since Vision Zero started, traffic deaths have dropped 30 percent in Sweden. In Sweden there is a significant emphasis on street design and speed enforcement.

As many good ideas and successful initiatives do, Vision Zero made its way across borders. Civic leaders around the globe saw its power to enhance the quality of life for their citizens, with the concept first making its debut in the United States shortly after the inauguration of New York City's mayor in 2014. Vision Zero was just one of several items on the mayor's transportation agenda, but a spate of traffic deaths in the weeks before his swearing-in convinced him to make it a top priority.

New York City saw similar traffic safety advancements as Sweden did, with the number of fatalities dropping significantly under Vision Zero, even as our national numbers were climbing.

Vision Zero has had further impact since it came to our shores. Vision Zero is now official policy in more than two dozen US cities, from Portland, OR to Fort Lauderdale, FL. What they learned will now help Charlotte improve traffic safety and allow us to provide even more learning for the cities that follow us.





A photograph of two children walking away from the camera on a paved path. The child on the left is wearing a yellow beanie with a black stripe, a pink long-sleeved shirt, and a purple and white plaid backpack. The child on the right is wearing a pink long-sleeved shirt and a blue and white patterned backpack. They are walking on a path with green foliage in the background.

# Why Vision Zero for Charlotte

Like many other growing cities, Charlotte is no longer just car-centric. The automobile revolution of the 20th century yielded a transition from horses to cars, which became our preferred means of getting around. But, the 21st century has seen the explosion of other modes of transportation, many of which people from coast-to-coast have embraced as part of their everyday lifestyles, including bicycles, walking, mass transit and, most recently, ride/scooter/bike share.

The Vision Zero Action Plan will serve to complement the new multimodal nature of transportation in Charlotte alongside the Transportation Action Plan, Charlotte WALKS, Charlotte BIKES and the Shared Mobility Plan.

Between 2013-2017, 121,010 crashes occurred on Charlotte streets. Of 121,010 crashes, 465 crashes involved a serious injury and 266 involved a fatality. People walking and bicycling were involved in less than 3 percent of all crashes, but accounted for 44 percent of fatalities. This disproportionate share of fatalities by mode of transportation highlights the need to re-evaluate our streets to account for all users.

Crashes are only part of Charlotte's "good and bad" traffic safety story. On the good side, in spite of the traffic challenges we face, Charlotte is still the 19th best US "city to drive in (Wallethub, 2018)." On the flip side, the old adage that "speed kills" certainly pertains to traffic safety in Charlotte.

Our answer to "Why Vision Zero in Charlotte?" has to address the organizational, environmental and individual contributions to why fatal crashes are occurring. These can range from organizational processes such as zoning ordinances to addressing individual errors and violations that contribute to the "why" behind fatal and serious injury crashes. This is why all three "E's" of traffic safety – Engineering, Education and Enforcement – are crucial to our Vision Zero Action Plan. In addition to the three "E's," getting to zero requires a focus on Equity and Engagement.

# Guiding Principles

The following principles were developed by the Vision Zero Task Force and guide the development of Charlotte's Vision Zero Action Plan.

- 1 Traffic deaths and severe injuries are preventable and unacceptable.
- 2 Protecting human lives takes priority over all other objectives of the road system.
- 3 The transportation system should be designed so mistakes are not fatal.
- 4 Solutions must be collaborative, equitable and data-driven.
- 5 Safety on our streets is everyone's responsibility.
- 6 Our community is accountable for implementing the Vision Zero Action Plan, measuring performance and responding accordingly.

## Building on adopted plans and policies

The Guiding Principles build upon Charlotte plans that promote a safe, balanced and efficient multimodal transportation system including the Transportation Action Plan (TAP), Urban Street Design Guidelines (USDG), Charlotte WALKS, Charlotte BIKES and the Shared Mobility Plan.

- The **Transportation Action Plan** considers the transportation challenges and opportunities facing Charlotte over the next 25 years. Through Vision Zero, the city will continue to implement projects that are consistent with the TAP.
- The **Urban Street Design Guidelines (USDG)** is the implementation tool for the planning and design of Charlotte's streets. The USDG provides design guidance to create context-sensitive streets that serve all users.
- **Charlotte WALKS** brings together a number of walkability initiatives and identifies new strategies for meeting pedestrian safety and walkability goals. Through Vision Zero, the city will continue to enhance safety for all pedestrians.
- **Charlotte BIKES** guides the city's bicycling efforts. Charlotte BIKES will continue to be the guideline of how Charlotte's bicycle network is built, while the Vision Zero Action Plan will guide the city's efforts in how to provide safer streets for all users.
- The **Shared Mobility - E-Scooter Plan** promotes Charlotte's efforts to be the best place in the nation to ride an e-scooter. Through Vision Zero, the city will continue to invest in a connected, safe and comfortable bicycle network that also accommodates e-scooter use.









# Building Safe Streets

The City of Charlotte always prioritizes providing a safe and efficient transportation system that supports economic vitality and quality of life for Charlotte residents and visitors.

Through approval of the recent Transportation Bond, the City will continue to work on improvements to the street network. The total of \$48 million approved in the 2018 capital improvement bonds will result in more sidewalk and pedestrian safety projects, new bike infrastructure and continued upgrades to our existing traffic control devices. All of these programs support the goal of Vision Zero.

Below are highlights of traffic safety work Charlotte has completed over the past five years related to safety such as expanding our pedestrian and bicycle network and installing new traffic signals.



## SIGNAL IMPROVEMENTS

- ✓ 56 traffic signals installed
- ✓ 152 leading pedestrian intervals
- ✓ 12 school flashers installed



## MAINTENANCE

- ✓ 1,151 miles of streets resurfaced
- ✓ More than 2,000 potholes repaired



## PEDESTRIAN NETWORK

- ✓ 71 miles of sidewalk constructed
- ✓ 115 pedestrian crossing upgrades



## STREET LIGHTING

- ✓ 3,424 street lights added, upgraded or transferred to the city's system



## BICYCLE NETWORK

- ✓ 41 miles of facilities constructed
- ✓ 12 urban trail crossings marked



## STREET PROJECTS

- ✓ 8 street projects constructed/initiated
- ✓ 12 intersections projects constructed/initiated









# Developing the Action Plan

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The Action Plan was developed using a collaborative approach that focused on equity and engagement and utilized public input in conjunction with an in-depth analysis of crash data. This Action Plan is a living document that will be updated with new data as it becomes available as well as incorporate new strategies proven to be the most successful for making our streets safer.

## COLLABORATIVE

Meaningful cooperation and collaboration across governmental agencies and community stakeholders was required to develop the Action Plan and establish Charlotte's Vision Zero Commitment, Guiding Principles and Focus Areas.

To achieve Vision Zero by 2030, the Vision Zero Task Force was convened to collaborate on strategies for community engagement, data analysis and equity. The Task Force included representatives from government and law enforcement agencies, hospitals, interest groups and engaged citizens who work together to create safe streets.

Throughout the development of the Action Plan, the Task Force participated in more than 25 community events all over Charlotte and engaged in over 1,000 conversations about traffic safety. The Task Force committees worked together to meet people in the community and engage with individuals digitally through an online interactive map.

The Task Force will continue to meet in 2019 to review actions and progress, advise on implementation, track equity impacts and oversee performance measure reporting.





“ Keeping drivers and pedestrians safe is a priority for CMPD. We are aggressively enforcing traffic laws in support of Charlotte’s Vision Zero efforts. ”

~ Kerr Putney, chief of Charlotte-Mecklenburg Police Department

## DATA-DRIVEN

Achieving Vision Zero requires a data-driven approach, which includes gathering, analyzing and sharing reliable data to understand traffic safety issues and prioritize resources based on evidence of the greatest need and impact.

By developing Charlotte’s High Injury Network, we are using crash data to better understand corridors that have a higher incidence of severe and fatal crashes. Using the High Injury Network to inform our Action Plan has guided our systems approach to improving safety, a key component of Vision Zero.

## EQUITY & ENGAGEMENT

All people have the right to move about their community safely. Achieving Vision Zero requires a commitment to an equitable approach, ensuring safe transportation options for all who use Charlotte streets.

Creating opportunities to invite meaningful input through community engagement across the city was vital to the development of this Action Plan. Using community conversations about traffic safety in conjunction with an in-depth crash analysis ensures that the Action Plan puts forth strategies that are collaborative, data-driven and equitable in creating safer streets.





# Collaborative

## VISION ZERO TASK FORCE

The Vision Zero Task Force includes more than 50 members from 25 stakeholder groups representing government and law enforcement agencies, hospitals, interest groups and other citizens who work together to identify a variety of safe ways for people to move around the city and connect with others.

In short, the Task Force is charged with implementing Vision Zero in a collaborative, data-driven and equitable manner in the Queen City. The work the Task Force accomplished in 2018 is outlined below.

### DEVELOPMENT OF THE ACTION PLAN (2018)



**JUNE**

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Kick-off Task Force meetings  
and develop committee groups



**JULY**

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Develop Commitment  
Statement & Guiding Principles



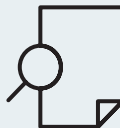
**AUGUST**

---  
Identify traffic safety concerns  
using crash data and mapping



**SEPTEMBER**

---  
Brainstorm strategies for  
Vision Zero Focus Areas



**OCTOBER | NOVEMBER**

---  
Engage with the public & finalize  
strategies for Focus Areas



**DECEMBER**

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Provide final comments for  
draft Action Plan





As a community, it's our responsibility to eliminate traffic deaths and serious injuries for all who share Charlotte streets by 2030.

- Vision Zero Commitment Statement

## Vision Zero Stakeholders

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### The Vision Zero Task Force is made up of representatives from:

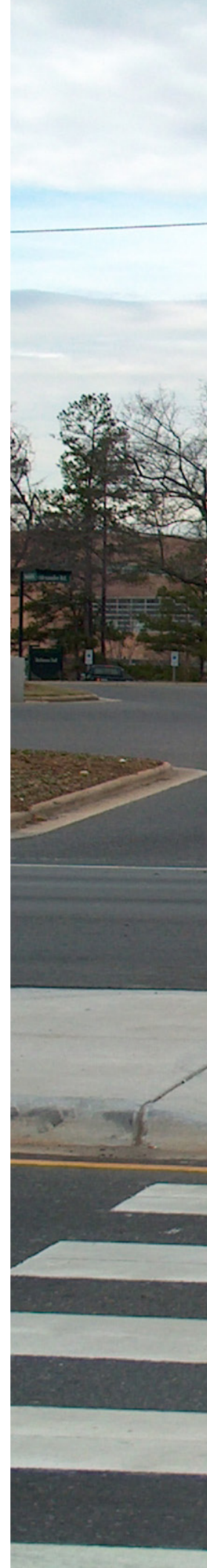
Anuvia, Atrium Health Care Injury Prevention Center, Charlotte AARP, Charlotte Area Transit System (CATS), Charlotte Communications & Marketing (CC&M), Charlotte Department of Transportation (CDOT), Charlotte District Attorney's Office, Charlotte Fire Department, Charlotte Mecklenburg Schools (CMS) - Driver Education, Transportation & Safety, Charlotte Planning, Design & Development, Charlotte-Mecklenburg Police Department (CMPD) and CMPD Victim Services, Charlotte Office of Data Analytics, Charlotte Regional Transportation Planning Organizations (CRTPO), NC Vision Zero, Mecklenburg County Public Health (MCPH), Mecklenburg County Sheriff's Office, Mecklenburg Transportation Alliance, North Carolina Department of Transportation (NCDOT) and Sustain Charlotte



# Shared Responsibility

Charlotte's Vision Zero Action Plan is based on the concept of shared responsibility for safety. The importance of meaningful collaboration can't be overstated; it is an essential and central tenet of Vision Zero because eliminating traffic fatalities and serious injuries will require that the whole community work together.

The interdisciplinary Task Force that was convened in 2018 has been empowered to take the actions outlined in this plan. Moving forward, this plan will be updated with progress towards strategies, new data as it becomes available and adjusted strategies proven to be the most successful for making our streets safer.









# Data-driven

## 2013-2017 VISION ZERO DATA

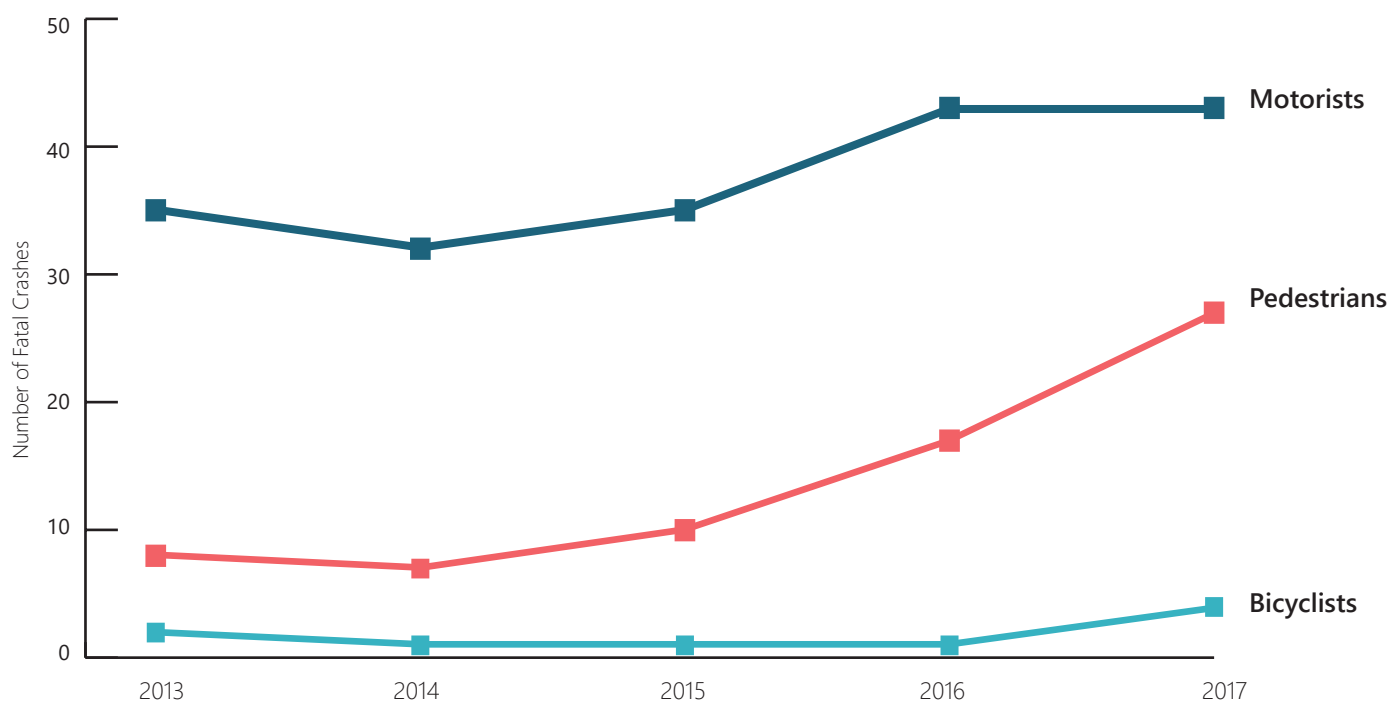
Developing a robust data framework was a key step in the development of the Action Plan. In partnership with the Office of Data and Analytics and the Technical Committee of the Task Force, five years of fatal and serious injury crash data was analyzed. Questions such as are serious injury and fatal crashes more likely to occur on certain corridors and are there crash factors that are more significant than others were analyzed.

To answer these questions, a High Injury Network was developed. A High Injury Network is a network of streets that have a higher incidence of severe and fatal collisions. **In Charlotte, 10 percent of all streets make up the High Injury Network.** In addition, crash analysis was completed to determine the top contributing circumstances to fatal and serious injury crashes.

The analysis found that of the 731 crashes:

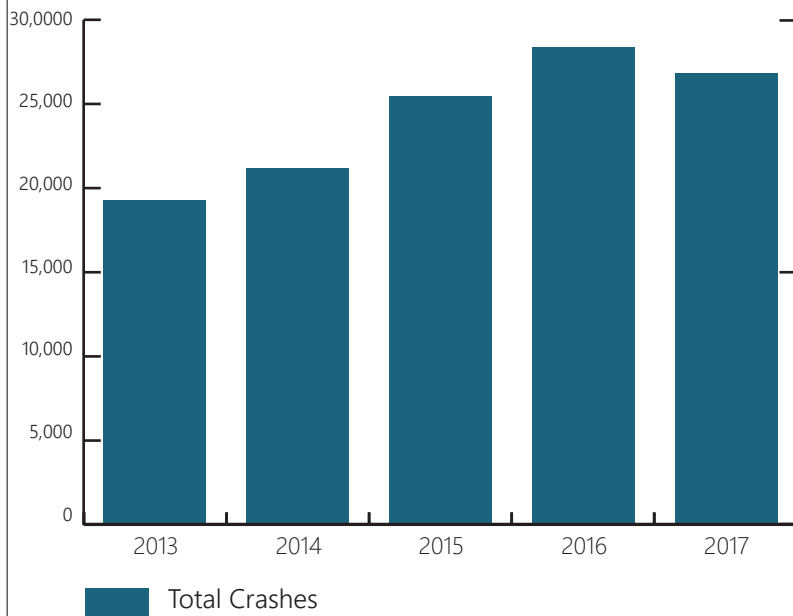
- **153 crashes** on Charlotte streets involved speeding;
- **71 crashes** involved drivers who failed to yield the right-of-way;
- **63 crashes** involved drivers who were distracted while operating the vehicle;
- **45 crashes** involved drivers who were impaired while operating their vehicle.

### 266 fatal crashes occurred on Charlotte streets between 2013-2017

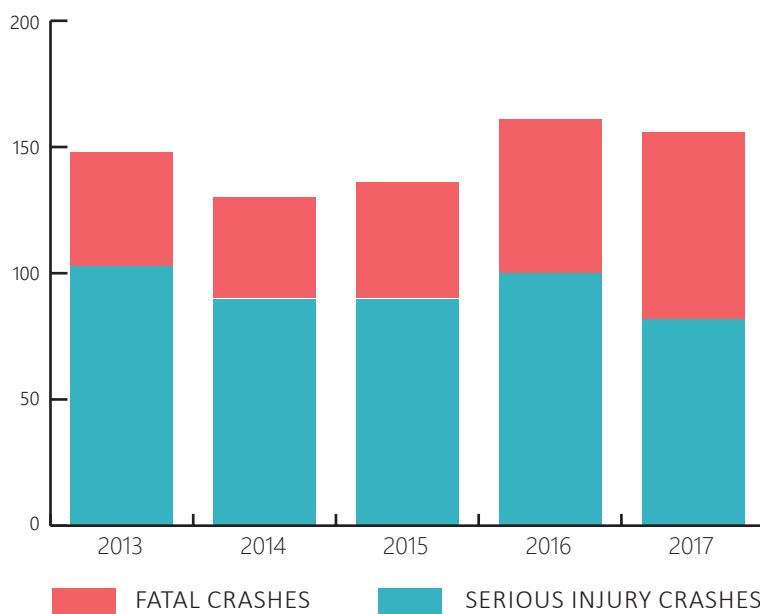




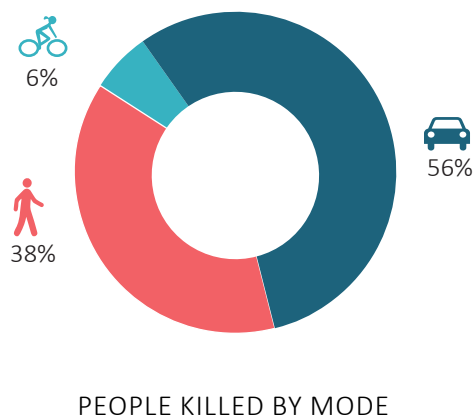
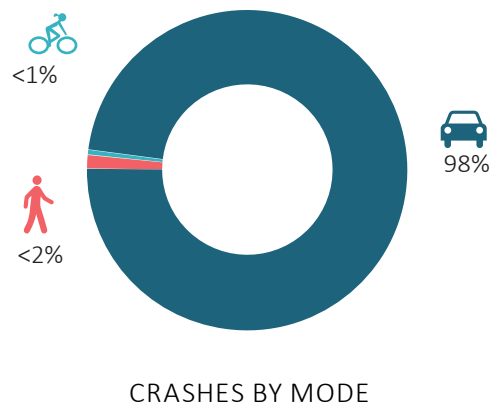
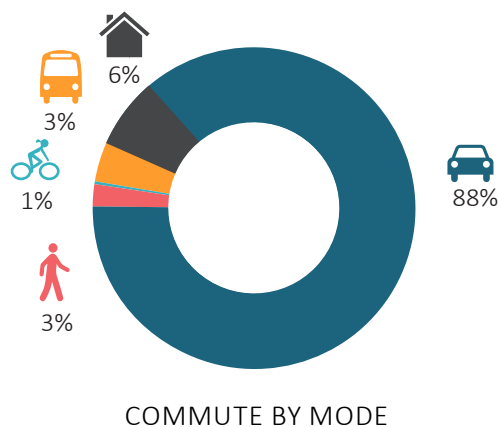
## 121,010 crashes occurred in Charlotte between 2013-2017



## 731 crashes involved a fatality or serious injury between 2013-2017



In 2017, people walking and bicycling were involved in less than **3% of all crashes** but accounted for **44% of all traffic deaths**.



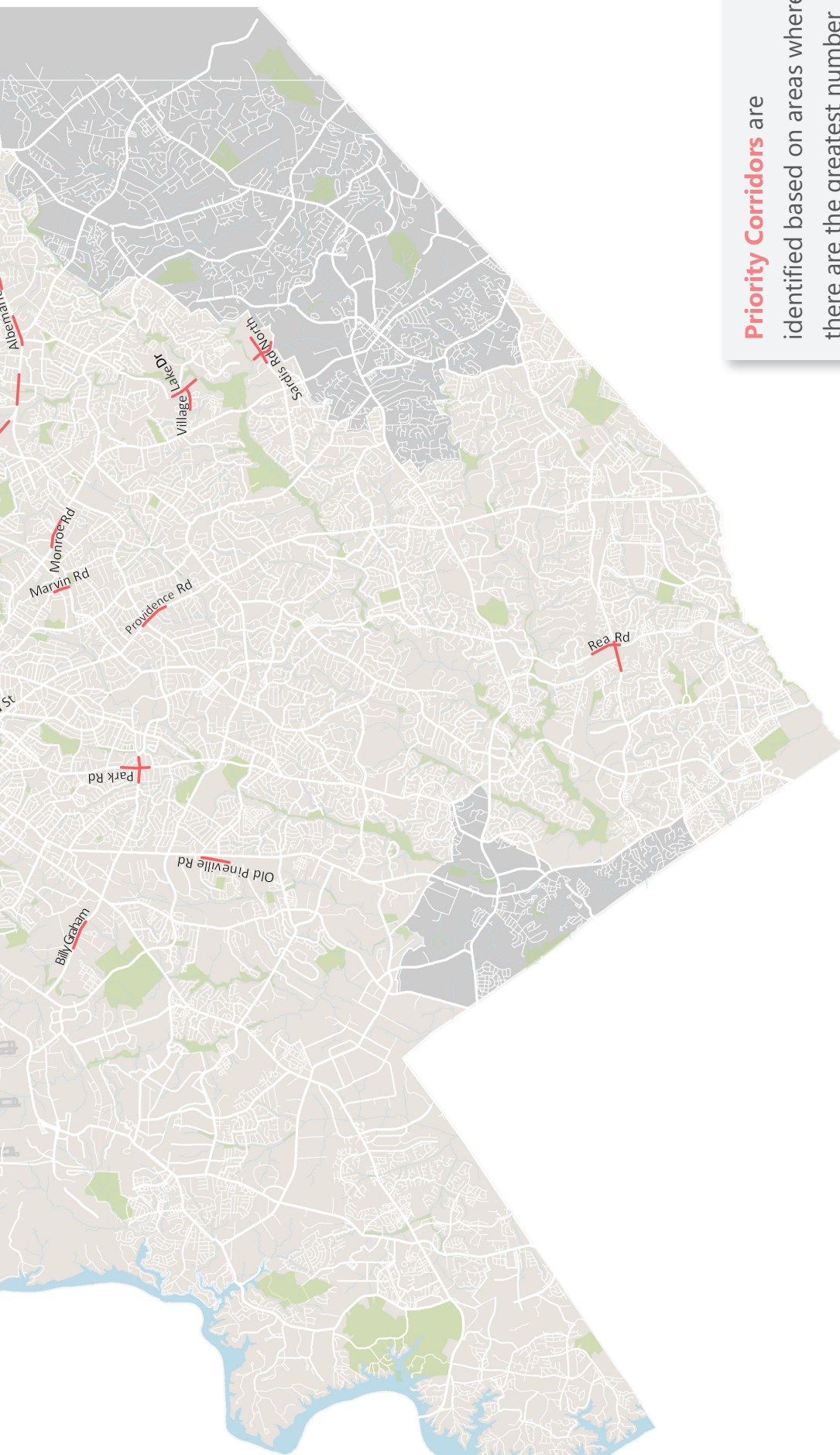


# High Injury Network - Priority Corridors

-a network of streets that have a higher incidence of severe and fatal crashes







## Priority Corridors of the High Injury Network

**Priority Corridors** are identified based on areas where there are the greatest number of fatalities and serious injuries on the High Injury Network.

To view all streets that make up High Injury Network in more detail visit: [CharlotteNC.gov/VisionZero](https://CharlotteNC.gov/VisionZero)

# Equity & Engagement

## WHAT WE LEARNED FROM YOU

An important goal of the public outreach process was to meet people where they live, work and play. Instead of convening a series of Vision Zero only meetings, the Vision Zero Task Force tagged along to community events happening all over Charlotte including, Open Streets 704, the Latin American Festival and the Romare Bearden Park Music Series.

Between September and October, the Task Force **attended more than 25 community events and engaged with thousands of Charlotteans.**

In addition, the Technical Committee of the Vision Zero Task Force developed an online interactive map so members of the community who we were not able to engage with the Vision Zero Task Force face to face, had an opportunity to engage digitally.

In-person and digital conversations were focused around learning more about how Charlotteans experience Charlotte streets and understanding traffic safety concerns they may have while walking, biking and driving. Throughout the course of the Action Plan development **more than 1,700 comments were submitted.**

The top five comments submitted related to traffic safety concerns were street design, speeding, lack of pedestrian facilities, failing to yield to pedestrians and drivers running stop signs and red lights.

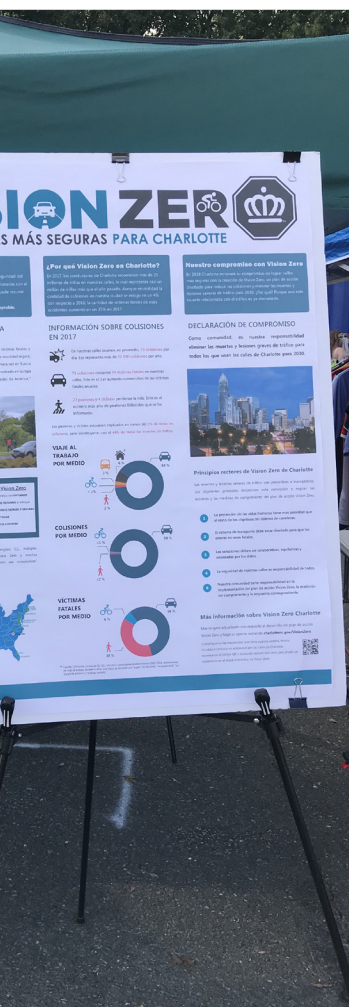
The Vision Zero Task Force will continue to work with the community in 2019 and beyond. While Vision Zero is a data-driven approach, it's also important to remember that there are people behind the numbers. The 74 fatalities in 2017 are 74 loved ones, 74 members of our community and 74 families impacted.

Understanding that data doesn't tell the whole story is why continued efforts to engage communities in the process of implementing strategies is vital. By attending community meetings, having conversations with neighbors and asking individuals to voice their concerns, we are taking time to learn about how our transportation network impacts day-to-day experiences and how we can all work together to take meaningful actions to achieve Vision Zero.

By combining in-depth data analysis with a deeper understanding of factors that impact how a community moves throughout the city, we will be able to take greater strides to providing an equitable approach to Vision Zero.









# Taking Action

## ENGINEERING

The transportation system should be designed and constructed so mistakes are not fatal. This means that engineering design must consider potential mistakes to the maximum extent practical. Keeping pace with the current transportation needs of Charlotte's population and growth requires multimodal transportation choices.

Providing the best possible streets to accommodate growth and provide multimodal transportation choices requires a different approach to planning and designing streets. With the adoption of the Urban Street Design Guidelines (2007) Charlotte made a commitment to design complete streets - streets that serve all users.

## EDUCATION

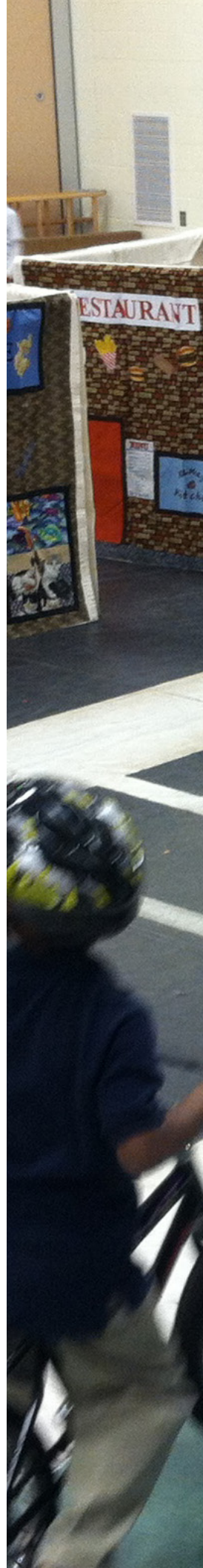
While CDOT has partnered with CMPD and NCDOT on the annual pedestrian and bicycle safety campaign, Watch For Me NC, there is more we can do to educate our community on safe driving, walking and biking behavior. For this reason, we have included Charlotte-Mecklenburg Schools and other education focused organizations on our Task Force. We will continue to communicate with the community and learn from them about their concerns regarding traffic safety. Additionally, we will focus on education in problem areas on the High Injury Network.

## ENFORCEMENT

As our commitment statement emphasizes, it will take the whole community to achieve Vision Zero. To that end, that means holding each other accountable for our actions on our streets. Enforcement of our laws is one way to hold each other accountable. Enforcement must be grounded in data to ensure equitable outcomes.

## EQUITY & ENGAGEMENT

While engineering, education and enforcement are key components of achieving Vision Zero, a commitment to equity and engagement ensures that all Charlotteans have the opportunity to shape city services. Through in-person conversations and comments on our interactive map, we are learning more about how individuals experience our streets. We will continue to learn from our residents, while working with engineering and enforcement partners to improve the services we offer our community.









# Focus Areas

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Charlotte's Vision Zero strategy can be summarized into four focus areas: creating safe streets for all users, shaping community culture of safety, analyzing the data, evaluating policy and legislation to support traffic safety. Our community is already doing great work in these areas, but there is more work that can be accomplished through Vision Zero. The following pages outline strategies for each focus area.



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01 //

## CREATE SAFE STREETS FOR ALL USERS

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We now plan and design for all ages to make our city accessible to all users. This is a change from the very automobile-centric focus of the last 50 years and it will take time to see the results of our efforts. Every year we build miles of new sidewalk and bike lanes, and invest in pedestrian safety improvement projects, such as enhanced crosswalks.



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02 //

## SHAPE COMMUNITY CULTURE OF SAFETY

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We all have a responsibility to each other to ensure we get to our intended destination safely, whether we choose to drive, bike, walk, take transit or ride an e-scooter. Vision Zero will continue to focus on community engagement and education around the issues highlighted by the data component of this plan.



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03 //

## **ANALYZE THE DATA**

We have a comprehensive traffic safety program that includes data collection, evaluation and monitoring of crash trends and implementation of safety countermeasures. We have developed a High Injury Network to better understand system factors that contribute to fatal and serious injury crashes and ensure that safety improvements will have direct impacts on eliminating these crashes.

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## **EVALUATE POLICY & LEGISLATION**

We understand that organizational processes and policies can have a significant impact on the safety of our streets. We will continue to work with policy makers to ensure that local and state policies support safe walking, biking and driving, and address violations that contribute to fatal and severe injury crashes.

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# Create safe streets for all users

Benchmarks	2020	2025	2030	Partners
<b>Pedestrian network</b>	<ul style="list-style-type: none"> <li>Continue to construct at least 20 miles of sidewalks per year, prioritizing projects that fall on the HIN</li> <li>Update Sidewalk Retrofit Policy to include High Injury Network (HIN) criteria</li> <li>Continue to implement the Americans with Disability Act (ADA) Transition Plan and review the results of the inventory</li> </ul>	<ul style="list-style-type: none"> <li>Continue to construct at least 10 miles of sidewalks per year, prioritizing projects that fall on the HIN</li> <li>Continue to implement the ADA Transition Plan</li> </ul>	<ul style="list-style-type: none"> <li>Continue to construct at least 10 miles of sidewalks per year, prioritizing projects that fall on the HIN</li> <li>Continue to implement the ADA Transition Plan</li> </ul>	CDOT, NCDOT, CATS
<b>Pedestrian crossings</b>	<ul style="list-style-type: none"> <li>Construct new or improved pedestrian crossings at 25 independent locations annually</li> </ul>	<ul style="list-style-type: none"> <li>Construct new or improved pedestrian crossings at 35 independent locations annually</li> </ul>	<ul style="list-style-type: none"> <li>Construct new or improved pedestrian crossings at 50 independent locations annually</li> </ul>	CDOT, NCDOT, CATS, CMS-Safety
<b>Bicycle network</b>	<ul style="list-style-type: none"> <li>Protect existing bike lanes with vertical elements on two pilot corridors</li> <li>Complete 2 bicycle network pilot projects to test new safety treatments</li> <li>Evaluate speed limits and traffic calming opportunities on 5 miles of bike lanes located on the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate and prioritize 10 miles of bike lanes for enhancement</li> <li>Complete 5 bicycle network pilot projects to test new safety treatments</li> <li>Evaluate speed limits and traffic calming opportunities on 10 miles of bike lanes located on the HIN</li> <li>Identify and prioritize 12 intersections for enhancements</li> </ul>	<ul style="list-style-type: none"> <li>Implement prioritized bike lanes enhancements</li> <li>Complete 5 bicycle network pilot projects to test new safety treatments</li> <li>Evaluate speed limits and traffic calming opportunities on 10 miles of bike lanes located on the HIN</li> <li>Implement prioritized intersection enhancements</li> </ul>	CDOT, NCDOT
<b>Corridor studies</b>	<ul style="list-style-type: none"> <li>Study the top 5 HIN corridors</li> <li>Prioritize corridor studies on multilane streets on the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Study the top 5 HIN corridors</li> <li>Continue to convert undivided four lane streets to three lane streets where feasible through resurfacing</li> </ul>	<ul style="list-style-type: none"> <li>Study the top 5 HIN corridors</li> </ul>	CDOT, NCDOT, MCPH, Atrium Health, CCOG
<b>Traffic calming</b>	<ul style="list-style-type: none"> <li>Identify and prioritize traffic calming needs based on local streets that fall on the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Implement projects from results of prioritization and needs assessment</li> </ul>	<ul style="list-style-type: none"> <li>Implement projects from results of prioritization and needs assessment</li> </ul>	CDOT, Housing and Neighborhood Services
<b>Equity</b>	<ul style="list-style-type: none"> <li>Identify areas of our community that may be experiencing higher incidences of fatal and serious injury crashes</li> <li>Explore senior mobility and safety issues identified in Sustain Charlotte's 2018 Senior Mobility Report</li> </ul>	<ul style="list-style-type: none"> <li>Begin measuring and tracking the numbers of projects in Communities of Interest</li> <li>Evaluate serious injury and fatalities in Communities of Interest</li> </ul>	<ul style="list-style-type: none"> <li>Continue tracking the numbers of projects in the Communities of Interest</li> <li>Compare serious injury and fatalities in Communities of Interest</li> </ul>	Vision Zero Task Force, Sustain Charlotte

\* See page 36 for acronym definitions

Benchmarks	2020	2025	2030	Partners
<b>Intersection improvements</b>	<ul style="list-style-type: none"> <li>Pilot left turn traffic calming treatments on HIN in Uptown</li> <li>Identify 5 candidates for raised intersections</li> <li>Install 5 Leading Pedestrian Interval Plus (LPI+) treatments annually at heavy right turn locations</li> </ul>	<ul style="list-style-type: none"> <li>Identify and install left turn traffic calming treatments on HIN in Charlotte</li> <li>Install 5 raised intersections and identify 5 additional candidates</li> <li>Continue to install 5 LPI+ pedestrian treatments annually at heavy right turn locations</li> </ul>	<ul style="list-style-type: none"> <li>Identify and install left turn traffic calming treatments on HIN in Charlotte</li> <li>Install 5 raised intersections and identify 5 additional candidates</li> <li>Continue to install 5 LPI+ pedestrian treatments annually at heavy right turn locations</li> </ul>	CDOT, NCDOT
<b>Traffic signals</b>	<ul style="list-style-type: none"> <li>Install 10 leading pedestrian intervals per year</li> <li>Install 3 new traffic signals per year</li> <li>Evaluate the use of exclusive pedestrian phase in Uptown</li> <li>Optimize signal timing at all signalized intersections every two years</li> </ul>	<ul style="list-style-type: none"> <li>Install 15 leading pedestrian intervals per year</li> <li>Install 3 new traffic signals per year</li> <li>Pilot exclusive pedestrian phase in Uptown</li> <li>Evaluate the use of exclusive pedestrian phase in Transit Station Areas</li> <li>Optimize signal timing at all signalized intersections every two years</li> </ul>	<ul style="list-style-type: none"> <li>Install 20 leading pedestrian intervals per year</li> <li>Install 3 new traffic signals per year</li> <li>Pilot exclusive pedestrian phase in Transit Station Areas</li> <li>Evaluate the use of exclusive pedestrian phase in high pedestrian activity areas</li> <li>Optimize signal timing at all signalized intersections every two years</li> </ul>	CDOT, NCDOT
<b>Speed mitigation</b>	<ul style="list-style-type: none"> <li>Reduce speed limits on local streets to 25 mph where requested for traffic calming</li> <li>Reduce speed limits on streets to 25 mph in Uptown</li> <li>Conduct 12 speed surveys on HIN streets and evaluate for lowering speed limits</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed limits on local streets to 25 mph where requested for traffic calming</li> <li>Conduct 12 speed surveys on HIN streets and evaluate for lowering speed limits</li> </ul>	<ul style="list-style-type: none"> <li>Reduce speed limits on local streets to 25 mph where requested for traffic calming</li> <li>Conduct 12 speed surveys on HIN streets and evaluate for lowering speed limits</li> </ul>	CDOT, NCDOT, CMPD
<b>Street lighting</b>	<ul style="list-style-type: none"> <li>Formalize process for prioritizing street lighting</li> <li>Identify and prioritize areas for lighting improvements along HIN</li> </ul>	<ul style="list-style-type: none"> <li>Improve lighting along 50 miles of HIN streets</li> <li>Continue to identify future lighting improvements from updated HIN</li> </ul>	<ul style="list-style-type: none"> <li>Improve lighting along 50 miles of HIN</li> <li>Continue to identify future lighting improvements from updated HIN</li> </ul>	CDOT, NCDOT, Duke Energy, Mecklenburg County
<b>State and regional partnerships</b>	<ul style="list-style-type: none"> <li>Continue to work with regional partners and NCDOT to ensure that state transportation funding is used to implement projects that are consistent with Vision Zero</li> </ul>	<ul style="list-style-type: none"> <li>Continue to work with regional partners and NCDOT to ensure that state transportation funding is used to implement projects that are consistent with Vision Zero</li> </ul>	<ul style="list-style-type: none"> <li>Continue to work with regional partners and NCDOT to ensure that state transportation funding is used to implement projects that are consistent with Vision Zero</li> </ul>	CDOT, NCDOT, CRTPO



# VISION ZERO IN ACTION

## Leading Pedestrian Intervals (LPIs)

The Leading Pedestrian Interval (LPI) gives pedestrians a walk signal before vehicle traffic gets a green signal. LPI typically provides the pedestrians 3-10 seconds to gain a head start in the crosswalk.

**LPIs improve the pedestrian walking experience and have been shown to reduce crashes between vehicles and pedestrians by as much as 60% at treated intersections.**

The city currently has over 150 intersections with LPIs and will install an additional 15 LPIs annually through Vision Zero.





## Corridor Studies - Parkwood Avenue & The Plaza

The city completes multimodal planning studies to enhance safety on thoroughfares in Charlotte. These studies **evaluate existing conditions, identify deficiencies and make recommendations to improve the safety and ease of walking and biking along and across busy streets.**

### *Parkwood Avenue & The Plaza Corridor Study*

Identified through a corridor study, the Parkwood Avenue streetscape project will improve accessibility for pedestrian, bicycle and vehicular connections to the adjacent light rail station. The project will reconfigure vehicle travel lanes, add buffered bike lanes, install wider planting strips and sidewalks and add planted medians and street trees. The completed streetscape will reduce vehicular travel speeds, improve economic development and create a safe street for all users.

Through Vision Zero, CDOT and key partners will complete corridor studies on thoroughfares identified on the High Injury Network and develop a toolbox of recommendations to improve safety.





# Shape community culture of safety

Benchmarks	2020	2025	2030	Partners
<b>Education</b>	<ul style="list-style-type: none"> <li>Develop a community ambassador program to promote traffic safety at events</li> <li>Work with NCDOT for safety messaging on digital highway signs</li> <li>Purchase a self-contained DWI simulator for outreach events</li> <li>Continue participation in Watch for Me NC</li> <li>Implement education campaigns from Shared Mobility Plan, Charlotte WALKS and Charlotte BIKES</li> </ul>	<ul style="list-style-type: none"> <li>Continue education campaigns and community ambassador program</li> <li>Refer 250 people annually to bike education courses</li> <li>Create Vision Zero curriculum for driver's education courses and safety events</li> <li>Implement pedestrian and cycling safety coursework as a prerequisite to Drivers' Education</li> <li>Evaluate safety signage to identify the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Continue education campaigns and community ambassador program</li> <li>Refer 250 people annually to bike education courses</li> </ul>	CDOT, NCDOT, CMPD, MCPH, Atrium Health, CMS, Sustain Charlotte
<b>Enforcement</b>	<ul style="list-style-type: none"> <li>Implement data-driven enforcement strategy using HIN</li> <li>Conduct 25 enforcement events on HIN annually</li> <li>Continue tracking citations specific to speeding annually</li> <li>Report Vision Zero statistics at division safety meetings and quarterly staff CMPD meetings</li> </ul>	<ul style="list-style-type: none"> <li>Update enforcement strategies using HIN</li> <li>Conduct 50 enforcement events on HIN annually</li> <li>Continue to track citations specific to speeding annually</li> <li>Continue to report Vision Zero statistics at division safety meetings and quarterly staff CMPD meetings</li> </ul>	<ul style="list-style-type: none"> <li>Update enforcement strategies using HIN</li> <li>Conduct 50 enforcement events on HIN annually</li> <li>Continue to track citations specific to speeding annually</li> <li>Continue to report Vision Zero statistics at division safety meetings and quarterly staff CMPD meetings</li> </ul>	CMPD, Mecklenburg County Sheriff's Office, NC Highway Patrol, District Attorney's Office
<b>Placemaking</b>	<ul style="list-style-type: none"> <li>Expand the Placemaking Hub** toolbox to promote traffic safety</li> <li>Launch grant funding program to award funding to neighborhoods for traffic calming placemaking initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Award grants for 25 placemaking community events related to traffic safety</li> <li>Conduct before and after studies to measure the impact on driving, walking and biking behaviors</li> </ul>	<ul style="list-style-type: none"> <li>Award grants for 25 placemaking community events related to traffic safety</li> <li>Conduct before and after studies to measure the impact on driving, walking and biking behaviors</li> </ul>	Housing and Neighborhood Services, Planning, CDOT, Engineering & Property Mgmt, Atrium Health, Sustain Charlotte
<b>Safety trainings</b>	<ul style="list-style-type: none"> <li>Continue crash report trainings for CMPD Recruit Classes and develop training on importance of data for all CMPD patrol officers</li> <li>Leverage partnerships to identify training opportunities</li> </ul>	<ul style="list-style-type: none"> <li>Develop and implement workplace traffic safety campaign targeting Uptown businesses</li> <li>Develop Vision Zero safety trainings for special user groups</li> </ul>	<ul style="list-style-type: none"> <li>Expand workplace safety campaigns to businesses on the HIN</li> <li>Activate partnerships and complete 250 safety trainings</li> </ul>	CDOT, NCDOT, CATS, CMPD
<b>Marketing and public relations</b>	<ul style="list-style-type: none"> <li>Expand Vision Zero's role in marketing the importance of traffic safety at events</li> <li>Include Vision Zero messaging in media briefs</li> </ul>	<ul style="list-style-type: none"> <li>Continue to target media with Vision Zero messaging and updates</li> </ul>	<ul style="list-style-type: none"> <li>Continue to target media with Vision Zero messaging and updates</li> </ul>	CC&M, CDOT, CMPD

\* See page 36 for acronym definitions

\*\* Visit: [CharlotteNC.gov/Placemaking](https://CharlotteNC.gov/Placemaking)



### Education - Watch For Me NC

Safe places to walk and bike are important for supporting active, vibrant communities. The North Carolina Department of Transportation (NCDOT) Watch For Me NC program **aims to reduce pedestrian and bicycle injuries and deaths through a comprehensive, targeted approach of public education, community engagement and high visibility law enforcement.**

Charlotte has been a partner community in the Watch For Me NC program for four years. In that time, more than 39 enforcement events have taken place across the city. Charlotte will continue participation in the Watch For Me NC program to educate drivers, bicyclists and pedestrians on state and local laws that ensure the safety of all street users.



# Analyze the data

Benchmarks	2020	2025	2030	Partners
<b>Annual Vision Zero Progress Report</b>	<ul style="list-style-type: none"> <li>Publish first Vision Zero Annual Progress Report</li> <li>Include data from the updated High Injury Network (HIN) and before and after studies</li> </ul>	<ul style="list-style-type: none"> <li>Continue to publish Vision Zero Annual Progress Report</li> <li>Include data from the updated HIN and before and after studies</li> </ul>	<ul style="list-style-type: none"> <li>Continue to publish Vision Zero Annual Progress Report</li> <li>Include data from the updated HIN and before and after studies</li> </ul>	Vision Zero Task Force
<b>Project prioritization</b>	<ul style="list-style-type: none"> <li>Prioritize all projects and programs based on the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Prioritize all projects and programs based on the HIN</li> </ul>	<ul style="list-style-type: none"> <li>Continue to prioritize projects &amp; programs based on the HIN</li> </ul>	CDOT
<b>Before and after studies</b>	<ul style="list-style-type: none"> <li>Complete before and after studies for transportation safety projects</li> <li>Conduct before and after studies on HIN enforcement areas</li> </ul>	<ul style="list-style-type: none"> <li>Complete before and after studies for transportation safety projects</li> <li>Conduct before and after studies on HIN enforcement areas</li> </ul>	<ul style="list-style-type: none"> <li>Complete before and after studies for transportation safety projects</li> <li>Conduct before and after studies on HIN enforcement areas</li> </ul>	CDOT, NCDOT, CMPD
<b>Crash investigations</b>	<ul style="list-style-type: none"> <li>Continue fatal crash investigations by CMPD and CDOT Traffic Safety</li> <li>Begin serious injury crash investigations for bicyclists and pedestrians by CDOT Traffic Safety</li> <li>Continue quality assurance of crash coding</li> </ul>	<ul style="list-style-type: none"> <li>Continue fatal crash investigations by CMPD and CDOT Traffic Safety</li> <li>Begin serious injury crash investigations by CDOT Traffic Safety</li> <li>Continue quality assurance of crash coding</li> </ul>	<ul style="list-style-type: none"> <li>Continue fatal and serious injury crash investigations</li> <li>Continue quality assurance of crash coding</li> </ul>	CMPD, CDOT, Atrium Injury Prevention Center, NCDOT
<b>Data collection</b>	<ul style="list-style-type: none"> <li>Update the HIN annually</li> <li>Implement Pedestrian Bicycle Crash Assessment Tool</li> <li>Explore how to correlate hospital data with CMPD crash data</li> <li>Conduct interviews for unsafe location identification with stakeholder groups</li> </ul>	<ul style="list-style-type: none"> <li>Update the HIN annually</li> <li>Implement near miss/reckless category for neighborhood condition data team</li> <li>Work with Atrium Health to correlate hospital data with CMPD crash data</li> </ul>	<ul style="list-style-type: none"> <li>Update the HIN annually</li> <li>Continue to correlate hospital data with CMPD crash data</li> </ul>	Atrium Injury Prevention Center, Office of Data Analytics, CMPD, CDOT, CATS
<b>Share data</b>	<ul style="list-style-type: none"> <li>Publish HIN crash data on the City Open Data Portal</li> <li>Continue to share data with FHWA through HSIS</li> <li>Continue to participate in the NCDOT/ITRE non-motorized vehicle data project</li> <li>Create data resource packets that can be used for education purposes</li> </ul>	<ul style="list-style-type: none"> <li>Continue to publish HIN crash data on the City Open Data Portal</li> <li>Continue to share data with FHWA through HSIS</li> <li>Continue to participate in the NCDOT/ITRE non-motorized vehicle data project</li> </ul>	<ul style="list-style-type: none"> <li>Continue to publish HIN crash data on the City Open Data Portal</li> <li>Continue to share data with FHWA through HSIS</li> <li>Continue to participate in the NCDOT/ITRE non-motorized vehicle data project</li> </ul>	CDOT, Office of Data and Analytics, CMPD, NCDOT/ITRE

\* See page 36 for acronym definitions

## Before & After Studies - 7th St & Clement Ave

A pedestrian activated crosswalk beacon (PACB) was installed at 7th Street and Clement Avenue in 2017 to supplement an existing crosswalk. PACBs are effective in improving driver yielding behavior and promoting safe crossings along busy arterial streets.

In 2018, CDOT conducted a study to measure the effect of the crossing treatment. CDOT found that **driver yielding rates increased by five times after the installation of the PACB.**

Through Vision Zero, CDOT will formalize a process for conducting before and after studies to measure the impact of transportation safety projects and enforcement events.



## Share Data - HSIS Data Partnership

The Highway Safety Information System (HSIS) is a roadway-based system that provides quality data on a large number of crash, roadway and traffic variables. The crash data, managed by the Federal Highway Administration (FHWA), is acquired annually from a select group of States and one municipality (Charlotte). The FHWA included Charlotte as the one municipal agency **due to the high quality of its data, including files related to Charlotte's street network, traffic count locations, crash data and other transportation network related inventories.**

Through Vision Zero, CDOT will continue to maintain a high quality crash database, and share data through partnerships with the FHWA, NCDOT, the Institute for Transportation Research and Education (ITRE) and other key stakeholders.



# Evaluate policy and legislation

Benchmarks	2020	2025	2030	Partners
<b>Unified Development Ordinance (UDO)</b>	<ul style="list-style-type: none"> <li>Ensure that Complete Street policies and designs are integrated into city's Comprehensive Plan</li> </ul>	<ul style="list-style-type: none"> <li>Ensure that Complete Street policies and designs are appropriately implemented through the UDO</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement Complete Street policies and designs through the UDO</li> </ul>	CDOT, Planning
<b>School Zone Policy</b>	<ul style="list-style-type: none"> <li>Complete School Zone Policy update and implement recommended policy changes</li> <li>Begin discussions to develop a Safe Routes to Schools District Policy with CMS Board</li> <li>Conduct a School Safety Study</li> </ul>	<ul style="list-style-type: none"> <li>Revisit School Zone Policy for needed changes and implement all needed changes</li> <li>Implement short-term project recommendations from School Safety Study</li> <li>Adopt a Safe Routes to Schools District Policy with CMS Board</li> </ul>	<ul style="list-style-type: none"> <li>Revisit policy for needed changes and implement all needed changes</li> <li>Implement long-term project recommendations from School Safety Study</li> </ul>	CDOT, CMS-Safety, CMS-Transportation MCPH NCDOT, Atrium Health
<b>CATS bus stop policy</b>	<ul style="list-style-type: none"> <li>Formalize bus stop policy</li> <li>Include safety review in bus stop committee process</li> </ul>	<ul style="list-style-type: none"> <li>Continue to include safety review in bus stop committee process</li> </ul>	<ul style="list-style-type: none"> <li>Continue to include safety review in bus stop committee process</li> </ul>	CATS Bus Stop Committee, CDOT
<b>City fleet policy</b>	<ul style="list-style-type: none"> <li>Implement automatic vehicle locators (AVL) with speed indication on city vehicles</li> <li>Pilot underguard protection on large fleet vehicles</li> </ul>	<ul style="list-style-type: none"> <li>Ensure all new fleet vehicles have backup cameras</li> <li>Install underguard protection on all large city vehicles such as trash and dump trucks</li> </ul>	<ul style="list-style-type: none"> <li>Install backup cameras on all fleet vehicles including large vehicles</li> </ul>	City of Charlotte Equipment Management
<b>Department of Motor Vehicles (DMV)</b>	<ul style="list-style-type: none"> <li>Update the DMV education pamphlet and incorporate Vision Zero education into new driver material</li> </ul>	<ul style="list-style-type: none"> <li>Continue to update the DMV education pamphlet with information on Vision Zero and new traffic control devices</li> </ul>	<ul style="list-style-type: none"> <li>Continue to update the DMV education pamphlet with information on Vision Zero and new traffic control device</li> </ul>	CMS Driver's Ed, DMV, CDOT,
<b>Advocate for traffic safety policies at the state level</b>	<ul style="list-style-type: none"> <li>Review information on new legislation being introduced and share with Task Force</li> <li>Research national policies that address traffic violations that contribute to fatal and severe injury crashes</li> </ul>	<ul style="list-style-type: none"> <li>Continue to review information with Task Force on new legislation being introduced specific to traffic safety</li> <li>Develop traffic safety reports to help legislative strategy and generate public support</li> </ul>	<ul style="list-style-type: none"> <li>Continue to review information with Task Force on new legislation being introduced specific to traffic safety</li> </ul>	Vision Zero Task Force
<b>Legislation to discourage speeding</b>	<ul style="list-style-type: none"> <li>Explore legislation on automated speed enforcement citywide</li> <li>Work with court system to fully enforce speeding tickets and explore graduated penalties</li> </ul>	<ul style="list-style-type: none"> <li>Implement speed cameras citywide</li> </ul>	<ul style="list-style-type: none"> <li>Continue to implement speed cameras citywide</li> </ul>	CDOT, CMS, Mecklenburg County Courts, NCDOT
<b>Autonomous vehicles (AV)</b>	<ul style="list-style-type: none"> <li>Create educational information around AV</li> <li>Continue to follow and be involved in State legislature committees about AV</li> </ul>	<ul style="list-style-type: none"> <li>Continue to follow and be involved in State legislature committees about AV</li> </ul>	<ul style="list-style-type: none"> <li>Continue to follow and be involved in State legislature committees about AV</li> </ul>	CDOT, NCDOT, General Assembly, Law Enforcement Agencies, FHWA
<b>DMV-349 (crash) report</b>	<ul style="list-style-type: none"> <li>Participate in update of DMV-349 with NCDOT</li> <li>Explore opportunities for crash geocoding on DMV-349</li> </ul>	<ul style="list-style-type: none"> <li>Continue to revise DMV-349 report with NCDOT</li> <li>Implement crash geocoding on DMV-349</li> </ul>	<ul style="list-style-type: none"> <li>Continue to revise DMV-349 report with NCDOT</li> </ul>	CDOT, Law Enforcement Agencies

## Traffic Calming Policy

The city believes that all traffic – vehicular, pedestrian, bicycle and e-scooter traffic – benefits from the establishment of a robust “toolbox” of traffic calming measures. Ultimately, the **goal of traffic calming is to create a safer and friendlier environment for all street users**, and provide a happier and higher quality of life for everyone in Charlotte.

The city currently offers residents the following solutions that neighborhoods can ask the city to implement to calm traffic on residential streets.

- speed limit reduction
- speed humps
- multi-way stops

To request a traffic calming solution, residents may call 311 or submit a request online.





# What You Can Do

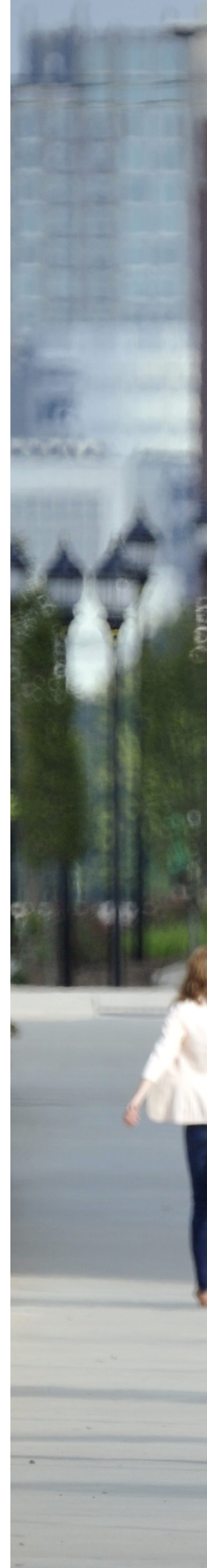
## BECOME A VISION ZERO ADVOCATE!

As a community, it's our responsibility to eliminate traffic deaths and serious injuries for all who share Charlotte streets by 2030. We can't get to zero alone and everyone has a role to play in traffic safety. Every choice you make while moving through Charlotte impacts your safety and the safety of those walking, biking, taking transit and driving around you. Join us on our road to Vision Zero by modeling safe behaviors and ensuring that each trip you take is safe.

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### Three ways you can get involved today:

- ✓ Spread the word and email [CLTVisionZero@charlottenc.gov](mailto:CLTVisionZero@charlottenc.gov) to include Vision Zero at your next community meeting or event
- ✓ Take the pledge to obey all traffic laws at: [NCVisionZero.org/join-us](https://NCVisionZero.org/join-us).
- ✓ Use and share our interactive map. Tell us about your traffic safety concerns at [CharlotteNC.gov/VisionZero](https://CharlotteNC.gov/VisionZero).





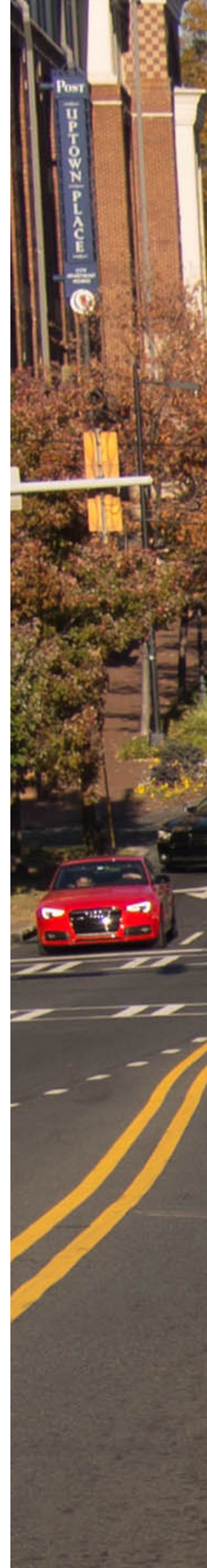




# Appendix

## Definitions

Acronym	Definition
CATS	Charlotte Area Transit System
CC&M	Charlotte Communications and Marketing
CCOG	Centralina Council of Governments
CDOT	Charlotte Department of Transportation
CMPD	Charlotte Mecklenburg Police Department
CMS	Charlotte Mecklenburg Schools
CRTPO	Charlotte Regional Transportation Planning Organization
FHWA	Federal Highway Administration
HIN	High Injury Network
HSIS	Highway Safety Information System
ITRE	Institute for Transportation Research and Education
LPI	Leading Pedestrian Interval
MCPH	Mecklenburg County Public Health
NCDOT	North Carolina Department of Transportation
TAP	Transportation Action Plan











CITY OF  
CHARLOTTE

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DEPARTMENT OF TRANSPORTATION