



Action Plan Update

July 2024

CHARLOTTE DEPARTMENT *of* TRANSPORTATION

Vision Zero Action Plan Update

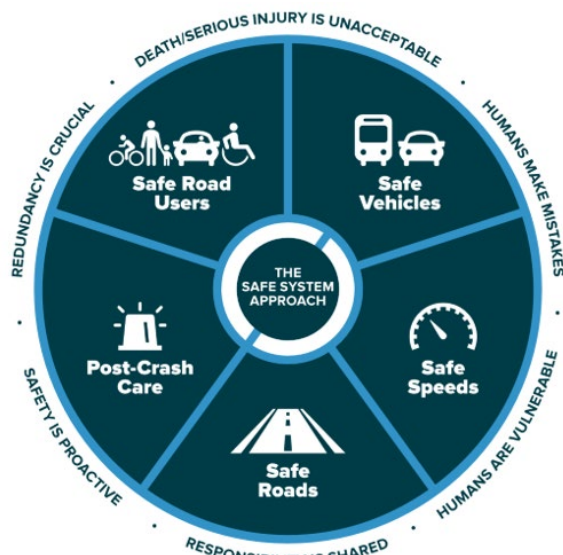
INTRODUCTION

The Charlotte Department of Transportation (CDOT), with the help of a local Vision Zero Task Force, released an Action Plan in 2019 which laid out activities to move the community towards a future with zero traffic fatalities or serious injuries. City Council affirmed the city's commitment to Vision Zero with the adoption of the Strategic Mobility Plan in 2022.

The 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 the whole community work together. CDOT is doing our part by creating safe streets for all users, shaping community culture of safety, analyzing the data, and evaluating policy and legislation.

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. Vision Zero made its debut in the United States in New York City in 2014 and has since spread to dozens of cities across the country.



Source: Federal Highway Administration

Key to Vision Zero is the Safe Systems Approach, founded on the principles that humans make mistakes and that human bodies have limited ability to withstand crash impacts. **CDOT contributes to the elements of the Safe Systems Approach in a variety of ways, from operating the transportation system to sharing data for use in local, state, and national research.**

Whereas the traditional road safety practice was to prevent all crashes, the Safe Systems approach aims to prevent deaths and serious injuries. The elements of Safe System Approach are shown to the left and further explained below.

Safe Road Users: The safety of all road users is addressed, including those who walk, bike, drive, ride transit, or travel by other modes.

- **CDOT contributes** by considering all users in the design, maintenance, and operation of the transportation system. Specific interventions are considered with vulnerable road users including pedestrians and cyclists. Safety is considered when prioritizing investments across all CDOT programs.

Safe Vehicles: Modern vehicle safety features in vehicles help minimize the frequency and severity of collisions, improving safety for all road users.

- **CDOT contributes** by sharing local data, participating in local, state, and national research efforts, and procuring city vehicles with advanced safety features.

Safe Speeds: Humans are less likely to survive high-speed crashes. Improved outcomes can be achieved by reducing impact forces, additional time for drivers to stop, and improving visibility.

- **CDOT contributes** by continually assessing speed limits, reducing neighborhood streets to 25 mph, installing traffic calming measures, and annually producing the High Injury Network to identify areas where serious and fatal crashes have occurred.

Safe Roads: Designing roads to accommodate human mistakes and abilities to withstand crash impacts can reduce the severity of crashes that do occur.

- **CDOT contributes** by planning, designing, and maintaining the transportation system. Activities include maintaining traffic signals, signage, and pavement marking infrastructure to alert users of hazards and others road users.

Post-Crash Care: When a person is injured in a crash, they rely on emergency services to get to them quickly and transport them to medical care.

- **CDOT contributes** by conducting fatal crash investigations to identify immediate remedies that could improve outcomes should future crashes occur.

TAKING ACTION NOW

Charlotte's Vision Zero Action Plan is the framework strategy that incorporates engineering, education, enforcement, and evaluation 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.

These focus areas were further expanded into Strategy Tables (Attachments A - D), which outline specific action steps that were developed and promoted by the Vision Zero Task Force. **Of the 73 actions identified in the Strategy Tables, 43 have been completed and many of those are ongoing with commitments for completion each year. Another 16 actions have started, many of which are multi-year, multi-agency efforts. A few actions have not started, primarily due to resource availability and/or shifts in priorities.** A summary breakdown by each focus area is noted below.

FOCUS AREA: CREATE SAFE STREETS FOR ALL USERS

We plan and design for all ages and abilities to make our city accessible to all users. This is a change from the automobile-centric focus of the last 50 years, and we are making great strides to support multi-modal infrastructure. The Strategy Tables in Attachment A include 25 actions specific to this focus area.

A cornerstone of our progress has been the implementation of various infrastructure projects aimed at improving pedestrian and cyclist safety while providing essential connections for users on the street network. Between 2021 and 2023, we completed the following:

- Installed 22 pedestrian hybrid beacons (PHBs) and 19 rectangular rapid flashing beacons (RRFBs) for safer road crossing.
- Installed 15 new school zone flashers and 80 new Leading Pedestrian Intervals (LPis) at key signalized intersections.
- Constructed **40 miles of new sidewalks**, providing safer pathways for pedestrians along arterial streets.
- Established **29 miles of dedicated bike lanes** for improved cyclist safety.
- Reduced speed limits on 275 streets supported by community input and through traffic studies.
- Installed **4,600 streetlights along the High Injury Network**, including 2,600 new lights and 2,000 light emitting diode (LED) upgrades, contributing to enhanced visibility and security after dark.



FOCUS AREA: SHAPE COMMUNITY CULTURE OF SAFETY

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 electric scooter. Vision Zero continues to focus on community engagement, education, and enforcement. The Strategy Tables in Attachment B include 15 actions for this focus area.

Vision Zero has significantly bolstered its outreach efforts by expanding its presence on social media platforms in addition to ongoing engagement efforts in the community. This proactive approach is focused on increasing public awareness of newly installed safety measures, how to use them, and helps to foster community engagement in promoting safer streets throughout the city.

Other highlights include:

- Since the pandemic, CDOT has been represented at **100+ in-person engagement events**, interacting with thousands of residents to continuously shape a culture of safety in Charlotte.
- Charlotte-Mecklenburg Police Department conducts enforcement patrols and targeted campaigns.
- Installed **69 speed cushions to reduce traffic speeds in residential areas**.
- Provided **training to 240 individuals representing 63 construction companies** and other city agencies that perform maintenance or street cut work citywide.
- Trained over 60 field employees in CDOT on proper traffic control.



FOCUS AREA: ANALYZE THE DATA

We have a comprehensive traffic safety program that includes data collection, evaluation and monitoring of crash trends, and implementation of proven safety countermeasures. We developed the High Injury Network to better understand the system factors that contribute to fatal and serious injury crashes and ensure safety improvements have direct impacts on eliminating these crashes. The Strategy Tables in Attachment C include 17 actions for this focus area.

Highlights include:

- Analyzed vehicle probe data before, during, and after CMPD targeted enforcement operations on two key HIN corridors.
- Began a collaborative effort with the Insurance Institute for Highway Safety (IIHS) to study traffic safety measures in Charlotte.
- Evaluate and **adjust traffic signal timing on corridors to move traffic more safely and efficiently.**



FOCUS AREA: EVALUATE POLICY & LEGISLATION

We understand that organizational processes and policies can have a significant impact on the safety of our streets. We continue to work with policy makers to ensure local, state, and federal policies support safe walking, biking, and driving to address violations that contribute to fatal and serious injury crashes. The Strategy Tables in Attachment D include 17 actions for this focus area.

Highlights include:

- Council adopted Streets Manual, including the Streets Map. The Streets Manual promotes safe and equitable mobility options which integrates key aspects of the transportation network with land use and design policies that will best provide safe transportation choices for all users.
- Council adopted increased fines to deter obstructions in bike lanes and sidewalks.
- CDOT Director serves as the local representative on the North Carolina Legislative Fully Autonomous Vehicle Committee to advance statewide policy in support of autonomous vehicles.



WHAT'S NEXT FOR VISION ZERO IN CHARLOTTE?

Priorities for 2024 and 2025

Increased Investment

City Council approved record levels for the Transportation Safety program with \$20 million in funding in the 2024 Bond. This allocation represents the largest funding commitment in program history. Also included in the 2024 Bond is \$55 million for the first ever Strategic Investment Areas, \$50 million for the Sidewalk Program, and \$8 million for the Bicycle Program.

Projects include neighborhood traffic calming efforts such as the reduction of speed limits or the addition of speed humps. Spot safety treatments, small infrastructure projects such as pedestrian crossings, or signal technology solutions such as Accessible Pedestrian Signal push buttons, flashing beacons, and Leading Pedestrian Intervals, especially along transit routes and near schools are also included. This funding also supports the installation of new street lighting, as well as the enhancement of existing street lighting by converting existing lights to LED, which increases visibility and improves safety, in addition to providing environmental sustainability benefits.

Update Vision Zero Action Plan

In the coming year, we will collaborate closely with our Vision Zero Task Force partners to revise the Action Plan, ensuring it aligns with Council-adopted Strategic Mobility Plan and incorporates the Safe Systems Approach more effectively in its benchmarks. Comprehensive evaluation and consistent reporting are crucial to our data-driven Vision Zero strategy, reinforcing our commitment to eliminating traffic deaths and serious injuries. The Annual Plan Update will outline the resources and partners to underscore our dedication to accountability and continuous improvement.

Investigate Bicycle and Pedestrian Serious Injury Crashes

CDOT will **expand crash investigations to include bicycle and pedestrian-involved serious injury collisions.** These investigations can provide detailed insights into the contributing factors and circumstances surrounding each incident, allowing for a comprehensive understanding of the root causes. By analyzing patterns and trends, we can further identify high-risk areas and behaviors, enabling targeted interventions.

Improve Data Accessibility for the Community

Enable public access to historical crash data and analytics tools by **creating an interactive dashboard to allow residents and city staff to sort and filter crashes.** This will complement the data currently available through the city's open data portal.

Attachment A

FOCUS AREA: CREATE SAFE STREETS FOR ALL USERS

Benchmarks	2020	Partners	Status	Status Update
Pedestrian Network	Continue to construct at least 20 miles of sidewalks per year, prioritizing projects that fall on the HIN	CDOT, NCDOT, CATS		In progress
	Update Sidewalk Retrofit Policy to include HIN criteria			Complete
	Continue to implement the Americans with Disability Act (ADA) Transition Plan and review the results of the inventory			In progress
Pedestrian Crossings	Construct new or improved pedestrian crossings at 25 independent locations annually	CDOT, NCDOT, CATS, CMS-Safety		Complete and ongoing
Bicycle Network	Protect existing bike lanes with vertical elements on two pilot corridors	CDOT, NCDOT		Complete
	Complete 2 bicycle network pilot projects to test new safety treatments			Complete
	Evaluate speed limits and traffic calming opportunities on 5 miles of bike lanes located on the HIN			Not started, pending resources
Corridor Studies	Study the top 5 HIN corridors	CDOT, NCDOT, MCPH, Atrium Health, CCOG		In progress
	Prioritize corridor studies on multilane streets on the HIN			Complete and ongoing
Traffic Calming	Identify and prioritize traffic calming needs based on local streets that fall on the HIN	CDOT, Housing and Neighborhood Services		Complete and ongoing
Equity	Identify areas of our community that may be experiencing higher incidences of fatal and serious injury crashes	Vision Zero Task Force		Complete
	Explore senior mobility and safety issues identified in Sustain Charlotte's 2018 Senior Mobility Report			Not started, pending resources
Intersection Improvements	Pilot left turn traffic calming treatments on HIN in Uptown	CDOT, NCDOT		Not started, pending resources
	Identify 5 candidates for raised intersections			Not started, pending resources
	Install 5 Leading Pedestrian Interval Plus (LPI+) treatments annually at heavy right turn locations			Complete and ongoing
Traffic Signals	Install 10 leading pedestrian intervals per year	CDOT, NCDOT		Complete and ongoing
	Install 3 new traffic signals per year			Complete and ongoing
	Evaluate the use of exclusive pedestrian phase in Uptown			Complete
	Optimize signal timing at all signalized intersections every two years			Complete and ongoing
Speed Mitigation	Reduce speed limits on local streets to 25 mph where requested for traffic calming	CDOT, NCDOT, CMPD		Complete and ongoing
	Reduce speed limits on streets to 25 mph in Uptown			Complete
	Conduct 12 speed surveys on HIN streets and evaluate for lowering speed limits			Complete
Street Lighting	Formalize process for prioritizing street lighting	CDOT, NCDOT, Duke Energy, Mecklenburg County		Complete
	Identify and prioritize areas for lighting improvements along HIN			Complete
State and regional partnerships	Continue to work with Charlotte Regional Transportation Planning Organization (CRTPO) and NCDOT to ensure that funding allocated through North Carolina's Surface Transportation Investments law is used to implement projects that are consistent with Vision Zero and the TAP	CDOT, NCDOT, CRTPO		In progress

	Complete or Complete and Ongoing
	Started and In progress
	Not Started

Attachment B

FOCUS AREA: SHAPE COMMUNITY CULTURE OF SAFETY

Benchmarks	2020	Partners	Status	Status Update
Education	Develop a community ambassador program to promote traffic safety at events	CDOT, NCDOT, CMPD, MCPH, Atrium Health, CMS, Sustain Charlotte		Complete
	Work with NCDOT for safety messaging on digital highway signs			In progress
	Purchase a self-contained DWI simulator for outreach events			Complete
	Continue participation in Watch for Me NC			Complete
	Implement education campaigns from Shared Mobility Plan, Charlotte WALKS and Charlotte BIKES			Complete and ongoing
Enforcement	Implement data-driven enforcement strategy using HIN	CMPD, Mecklenburg County Sheriff's Office, NC Highway Patrol, District Attorney's Office		Complete and ongoing
	Conduct 25 enforcement events on HIN annually			Complete and ongoing
	Continue tracking citations specific to speeding annually			Complete and ongoing
	Report Vision Zero statistics at division safety meetings and quarterly staff CMPD meetings			Started and paused due to resources
Placemaking	Expand the Placemaking Hub toolbox to promote traffic safety	Housing and Neighborhood Services, Planning, CDOT, Engineering & Property Mgmt, Atrium Health, Sustain Charlotte		Complete
	Launch grant funding program to award funding to neighborhoods for traffic calming placemaking initiatives			Complete and ongoing
Safety Trainings	Continue crash report trainings for CMPD Recruit Classes and develop training on importance of data for all CMPD patrol officers	CDOT, NCDOT, CATS, CMPD		Complete and ongoing
	Leverage partnerships to identify training opportunities			Complete and ongoing
Marketing and public relations	Expand Vision Zero's role in marketing the importance of traffic safety at events	CC&M, CDOT, CMPD		Complete and ongoing
	Include Vision Zero messaging in media briefs			Complete and ongoing

	Complete or Complete and Ongoing
	Started and In progress
	Not Started

Attachment C

FOCUS AREA: ANALYZE THE DATA

Benchmarks	2020	Partners	Status	Status Update
Annual Vision Zero Progress Report	Publish first Vision Zero Annual Progress Report	Vision Zero Task Force		Started and In progress
	Include data from the updated High Injury Network (HIN) and before and after studies			Started and In progress
Data Collection	Update the HIN annually	Atrium Injury Prevention Center, Office of Data Analytics, CMPD, CDOT, CATS		Complete and ongoing
	Implement Pedestrian Bicycle Crash Assessment Tool			Not started
	Explore how to correlate hospital data with CMPD crash data			Not started
	Conduct interviews for unsafe location identification with stakeholder groups			Complete
Crash Investigations	Continue fatal crash investigations by CMPD and CDOT Traffic Safety	CMPD, CDOT, Atrium Injury Prevention Center, NCDOT		Complete and ongoing
	Begin serious injury crash investigations for bicyclists and pedestrians by CDOT Traffic Safety			Not started
	Continue quality assurance of crash coding			Complete and ongoing
Share Data	Publish HIN crash data on the City Open Data Portal	CDOT, Office of Data and Analytics, CMPD, NCDOT/ITRE		Complete
	Continue to share data with FHWA through HSIS			Complete and ongoing
	Continue to participate in the NCDOT/ITRE non-motorized vehicle data project			Complete
	Create data resource packets that can be used for education purposes			Complete
Project Prioritization	Prioritize all projects and programs based on the HIN	CDOT		Complete
Before and After Studies	Complete before and after studies for transportation safety projects	CDOT, NCDOT, CMPD		Ongoing as needed
	Conduct before and after studies on HIN enforcement areas			Pilot complete

	Complete or Complete and Ongoing
	Started and In progress
	Not Started

Attachment D

FOCUS AREA: EVALUATE POLICY & LEGISLATION

Benchmarks	2020	Partners	Status	Status Update
Unified Development Ordinance (UDO)	Ensure that Complete Street policies and designs are integrated into city's Comprehensive Plan	CDOT, Planning		Complete
School Zone Policy	Complete School Zone Policy update and implement recommended policy changes	CDOT, CMS-Safety, CMS-Transportation, MCPH, NCDOT, Atrium Health		Complete
	Begin discussions to develop a Safe Routes to Schools District Policy with CMS Board			Not started, pending resources
	Conduct a School Safety Study			Not started, pending resources
CATS Bus Stop Policy	Formalize bus stop policy	CATS, Bus Stop Committee, CDOT		In progress
	Include safety review in bus stop committee process			In progress
City fleet policy	Implement automatic vehicle locators (AVL) with speed indication on city vehicles	City of Charlotte Equipment Management		Complete
	Pilot underguard protection on large fleet vehicles			Not started, pending resources
Department of Motor Vehicles (DMV)	Update the DMV education pamphlet and incorporate Vision Zero education into new driver material	CMS Driver's Ed, DMV, CDOT, NCSHP		Not started, pending resources
Advocate for traffic safety policies at the state level	Review information on new legislation being introduced and share with Task Force	Vision Zero Task Force		In progress
	Research national policies that address traffic violations that contribute to fatal and severe injury crashes			In progress
Legislation to discourage speeding	Explore legislation on automated speed enforcement in school zones	CDOT, CMS, Mecklenburg County Courts, NCDOT		Not advancing at this time
	Work with court system to fully enforce speeding tickets and explore graduated penalties			Not advancing at this time
Autonomous vehicles (AV)	Create educational information around AV	CDOT, NCDOT, General Assembly, Law Enforcement Agencies, FHWA		Not started, pending resources
	Continue to follow and be involved in State legislature committees about AV			Complete and ongoing
DMV-349 (crash) report	Participate in update of DMV-349 with NCDOT	CDOT, Law Enforcement Agencies		In progress
	Explore opportunities for crash geocoding on DMV-349			In progress

	Complete or Complete and Ongoing
	Started and In progress
	Not Started