vision zero

SAFER STREETS FOR KNOXVILLE

CITY OF KNOXVILLE VISION ZERO ACTION PLAN

JUNE 2023

ACKNOWLEDGMENTS

The City of Knoxville Vision Zero Action Plan is a product of the hard work and commitment of Knoxville's Steering Committee and the members of the Knoxville TPO's Safety Task Force. Their efforts are a testament to the outstanding partnership and collaboration that will be necessary to achieve zero traffic deaths and severe injuries in the City of Knoxville and across the entire Knoxville region.

VISION ZERO STEERING COMMITTEE

Amber Ford, Knox County Health Department

Andrew Padgett, Tennessee Department of Transportation

Billy Pike, University of Tennessee Police

Bryan Hill, AICP, Senior Planner AECOM

Carly Pearson, Knox County ADA

Caroline Cooley, Bike Walk Knoxville

Chris Cherry, University of Tennessee Engineering

Christie Brown, Tennessee Department of Transportation

Ellen Zavisca, Knoxville Regional Transportation Planning Organization

Jay Price, University of Tennessee Sustainability

Mark Hairr, University of Tennessee Knoxville Parking & Transit

Michelle Moyers, Knox County Health Department

Moira Bindner, University of Tennessee Parking & Transit

Ron Humble, University of Tennessee Police

Zoe Scott, Bike Walk Knoxville

CITY OF KNOXVILLE SUPPORT TEAMS

MAYOR'S OFFICE

Indya Kincannon, Mayor

Erin Gill, Deputy Mayor

OFFICE OF SUSTAINABILITY

Brian Blackmon, Director

Dawn Michelle Foster, Deputy Director

Grace Levin, Coordinator

Alex Marsicovetere, Bloomberg Harvard City Hall Fellow

ENGINEERING

Tom Clabo, Director

Karen McKeehan, Transportation Engineering Chief

George Daws, Civil Engineering Manager

Evan Hoffman, Professional Transportation Engineer

Jon Livengood, Alternative Transportation Coordinator

Shawn Garner, Transportation Engineer

Jonathan West, Transportation Engineer

OFFICE OF COMMUNITY SAFETY

LaKenya Middlebrook, Director

Mustafa Ali-Smith, Program Specialist

OFFICE OF NEIGHBORHOOD EMPOWERMENT

Debbie Sharp, Coordinator

Hayley Howard, Assistant Coordinator

KNOXVILLE AREA TRANSIT

Isaac Thorne, Director

KNOXVILLE POLICE DEPARTMENT

Michael Tucker, Sergeant

Scott Erland, Communications Manager

PARKS AND RECREATION

Tim Hester, Greenways Coordinator

CONSULTANT TEAM

alta

FAIRPOINTE PLANNING

OUR COMMITMENT

In the last five years, more than 1,200 friends, neighbors, and family members in Knoxville have had their lives changed forever due to crashes that resulted in a fatality or serious injury.

That is not okay. No Knoxville resident should feel like they're risking their life to get groceries, go to work, or visit friends and family.

That's why I'm proud to present the City of Knoxville Vision Zero Action Plan. This plan is a collaboration with the Knoxville Regional Transportation Planning Organization with guidance from the Vision Zero Steering Committee that first convened in 2022.

Over the last year and a half, this team used data and input from residents to identify where and why life-altering crashes happen in Knoxville so that we can work together to prevent them in the future. This proactive, data-informed approach will help the city and its partners develop targeted strategies to save lives.

Moving around our city should not be a life or death proposition. **That's why I am committed to an aspirational Vision Zero goal of eliminating traffic fatalities on city-controlled roads by 2040.** By working together, we can make our streets safer for everyone who uses them.

INDYA KINCANNON
CITY OF KNOXVILLE MAYOR

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Chapter 1

INTRODUCTION

Our Call to Action

Every year, people who live, work, and travel in Knoxville are needlessly injured or killed in traffic crashes. The City rejects the status quo that these life-altering crashes are inevitable. In reality, tragedies can be prevented through bold and aggressive action. We embrace a Vision Zero approach, which means shifting our priorities from moving vehicles quickly to moving people safely, and taking a proactive approach to prevent crashes before they happen.

In 2021, City Council unanimously resolved to endorse a Vision Zero goal to eliminate traffic deaths and serious injuries on Knoxville's streets. Vision Zero aligns with the City's focus on public safety, connectivity, and equitable mobility. By using a comprehensive approach that brings together road design, public education, and law enforcement, we can prevent life-altering crashes. Steps to achieve Vision Zero in Knoxville include:

- **Designating** a high injury network, those roadway segments that see the most life-altering crashes in our city.
- **Identifying** projects and strategies that will reduce the number of fatal and severe injury crashes on our roadways.
- **Creating** a transparent platform for tracking our progress on improving roadway safety.
- **Coordinating** between the City of Knoxville, the Tennessee Department of Transportation (TDOT), and Knoxville TPO in implementing this plan.

IN 2021, 48 PEOPLE WERE KILLED IN TRAFFIC CRASHES IN KNOXVILLE. **ONE LIFE LOST IS ONE TOO MANY.**

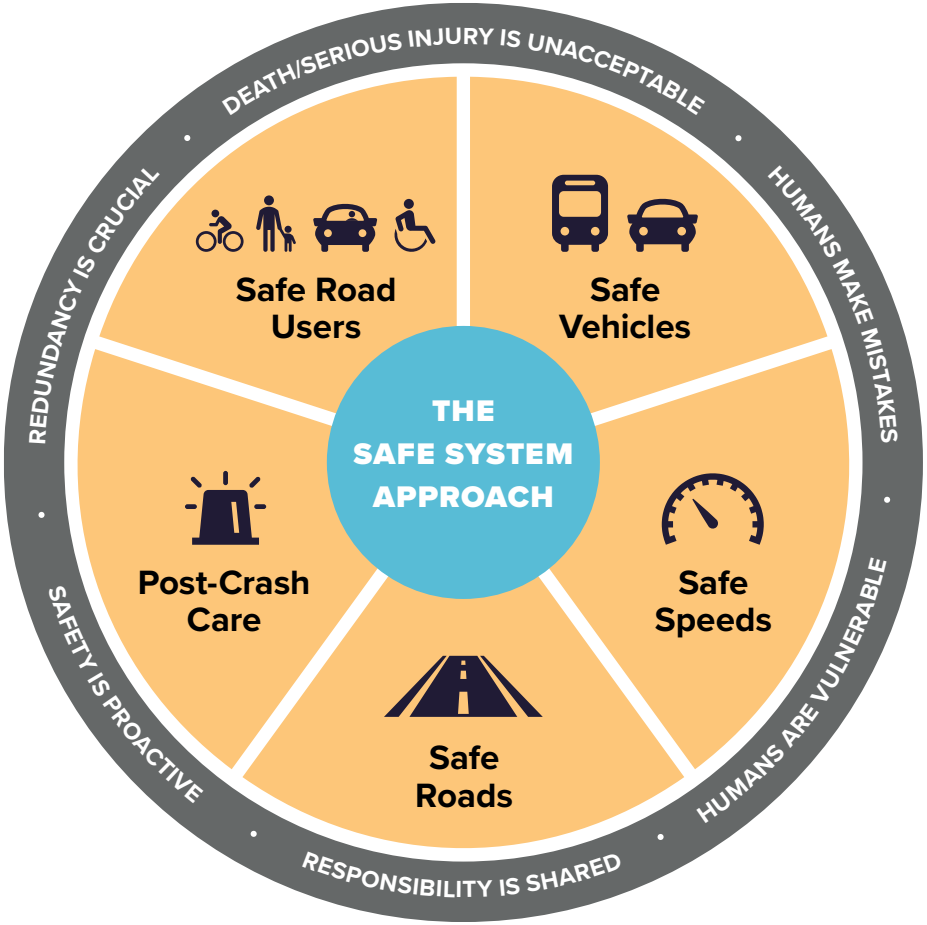
THE CITY OF KNOXVILLE COMMITS TO ELIMINATE TRAFFIC FATALITIES ON CITY-CONTROLLED ROADS BY

2040.

Basics of the Safe System Approach

The Safe System approach is the framework that guides Vision Zero efforts. The Safe System approach anticipates human mistakes by building redundancy into transportation systems, so if one aspect of the system breaks down, there are others in place to prevent life-altering crashes and injuries. This approach involves identifying multiple aspects of safety: road users, vehicles, speed, road design, and post-crash care. The Safe System approach requires adopting a culture of safety by those who plan, govern, maintain, and use our roadways in Knoxville.

> *I only ride the greenways since the streets are unsafe for bicyclists.*
>
> *Community Survey Response*



Source: USDOT Safe System Approach

OUR SAFETY MILESTONES

2021

October 2021 City Council passes resolution endorsing Vision Zero goal.

December 2021 Council approves policy reducing speed limits to 25 mph on any street where a limit is not posted.

2022

January 2022 City finalizes its Safer and Complete Streets Study. Launches public survey on road safety.

February 2022 City launches the planning stage of the Vision Zero Plan.

May 2022 Vision Zero Steering Committee meets.

June 2022 WATE interviews Vision Zero leaders on speed limit reduction.

July 2022 City launches "Save Lives with 25" campaign to support speed limit reductions in 2021.

Tennessee Highway Safety Office announces "Operation Southern Slow Down."

August 2022 City Council workshop on active transportation studies.

October 2022 Bike Walk Knoxville releases "Crash Survivor Stories" video.

2023

January 2023 Knoxville joins a coalition of local governments as the TPO begins the regional roadway safety planning process.

February 2023 City launches public outreach to gather input on life-altering crashes for the regional plan.

June 2023 City finalizes Vision Zero Action Plan which is adopted as part of the TPO Regional Roadway Safety Action Plan.

Building On Our Success

As the largest municipality in the region, the City of Knoxville plays a vital role in informing and advancing regional priorities. The City of Knoxville has been a regional trendsetter with respect to safety, with the City Council passing a unanimous resolution to support a Vision Zero goal to eliminate serious injuries and traffic deaths in Knoxville.

The City has invested time and funds into plans and policies that support safer roads, including collecting and analyzing transportation safety data, establishing partnerships for comprehensive safety work, developing internal staff knowledge about safety best practices, adopting a Complete Streets Policy, and recognizing the urgency and equity implications of biking and walking safety.

With these actions, detailed to the left, Knoxville has set the foundation for Vision Zero in the city and for the development of this plan.

Pedestrian improvements on E. Summit Hill Drive

Bike box at Blount Avenue and Henley Street

Pedestrian refuge island on George Williams Road

HAWK signal on Dale Avenue

Our Shared Responsibility

Collaboration and partnerships will be an essential part of working toward the shared goal of improving safety for all roadway users within the City of Knoxville and also across the region and state. The Knoxville Regional Transportation Planning Organization (TPO) has been a chief partner in this planning effort, and the Tennessee Department of Transportation will be an important partner moving forward.

KNOXVILLE REGIONAL TRANSPORTATION PLANNING ORGANIZATION

The Knoxville TPO region consists of Knox County in its entirety, as well as the contiguous areas of Anderson, Blount, Loudon, Roane, and Sevier counties. Within those counties, these cities and towns are also included in the TPO: Alcoa, Clinton, Farragut, Knoxville, Lenoir City, Loudon, Maryville, and Oak Ridge.

Concurrent with the development of this Knoxville Vision Zero Action Plan, the Knoxville TPO, in partnership with the City, developed the Regional Roadway Safety Action Plan covering all jurisdictions mentioned above.

The Knoxville TPO's key safety responsibilities include the following:

- Improve the safety of the transportation system for all users, motorized and non-motorized. The TPO does not implement projects, but it does bring together agencies and people on shared goals and on determining funding priorities.
- Coordinate regional planning efforts by vetting and approving projects to be included in the long-range Mobility Plan and the four-year Transportation Improvement Program (TIP). The Mobility Plan and the TIP include all phases of transportation projects of regional significance for the Knoxville region.
- Provide vital technical assistance to all jurisdictions including safety analysis, contract procurement, evaluating performance measures, and prioritizing the perspectives of the traditionally underserved and underrepresented.

TENNESSEE DEPARTMENT OF TRANSPORTATION

Nurturing and maintaining collaborative working relationships between the City of Knoxville and the Tennessee Department of Transportation (TDOT) is essential to reducing traffic deaths and severe injuries. As the primary owner of the major roadways throughout Tennessee, TDOT serves to connect regions of the state with each other. Agency missions should be coordinated and aligned with the common goal of reducing crashes and eliminating traffic fatalities and severe injuries.

Pedestrian safety tour near Green Magnet Elementary School

Our Guiding Principles

A Vision Zero Action Plan is led by the goal of eliminating all traffic-related deaths and severe injuries. Considering the rate of traffic-related fatalities and injuries, this goal can seem overwhelming and out-of-reach, but the opportunity to save lives is worth it. To make our goal a reality will require commitment to shared values and the guiding principles on this page. When design and policy challenges arise, these principles serve as a reminder of the importance of this work, underlying the values and elements needed to make this goal a reality.

> *There are several areas where the sidewalk just ends before my destination, requiring walking in the grass or side of the road.*
>
> *Community Survey Response*

Traffic deaths and severe injuries are unacceptable and preventable.

The City of Knoxville will prioritize actions that reduce crashes that result in a severe injury or death.

Human life is vulnerable and takes priority over moving cars.

The impact of heavy, fast-moving vehicles is often too much for our bodies. Saving lives is more important than improving roadway capacity.

Traffic safety is everyone's responsibility and should reflect community needs.

Everyone who lives in, works in, visits, or travels through Knoxville shares responsibility for the safety of our streets. This includes elected officials, government staff, advocates, the vehicle industry, and members of the public.

Roadways should be designed to account for human error and ensure that mistakes aren't deadly or life-altering.

We know humans make mistakes, but one mistake should not end a life. Design of our streets should anticipate these risks and minimize harm.

Quality data, transparent evaluation, and transparent decision-making are needed at all levels of government.

High-quality data is foundational to informing safety improvements. Data should be made available to the public to hold everyone accountable on progress toward zero traffic deaths.

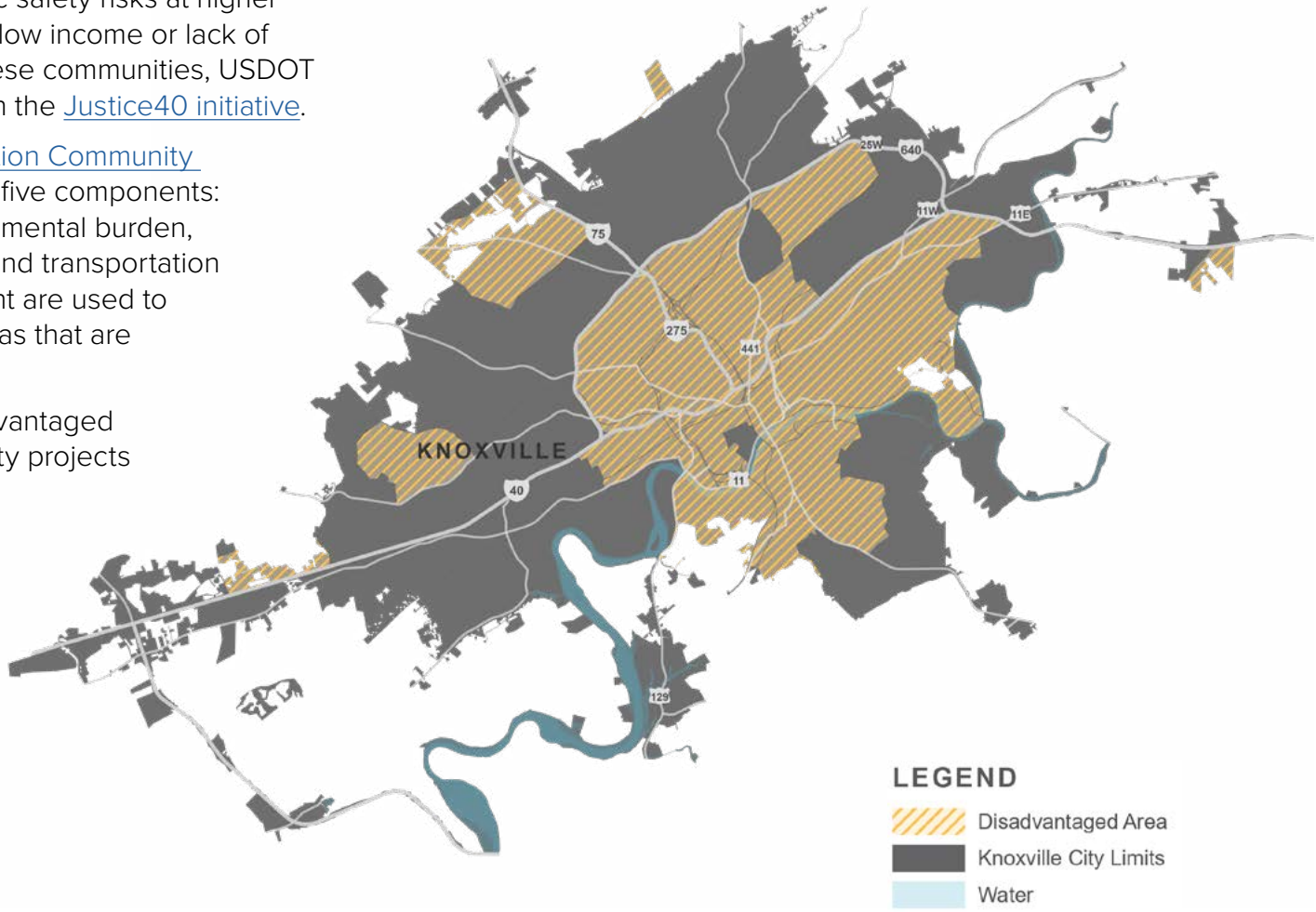
Prioritizing Equity

Some communities are exposed to traffic safety risks at higher rates than others due to factors such as low income or lack of vehicle access. To better understand these communities, USDOT references equity tools provided through the Justice40 initiative.

One such tool, the Equitable Transportation Community Explorer tool, assesses indicators within five components: climate and disaster risk burden, environmental burden, health vulnerability, social vulnerability, and transportation insecurity. Scores within each component are used to create a final index score that shows areas that are considered disadvantaged.

The map to the right identifies the disadvantaged areas in the City of Knoxville where safety projects should be prioritized.

44% OF RESIDENTS IN THE CITY OF KNOXVILLE LIVE IN A DISADVANTAGED AREA



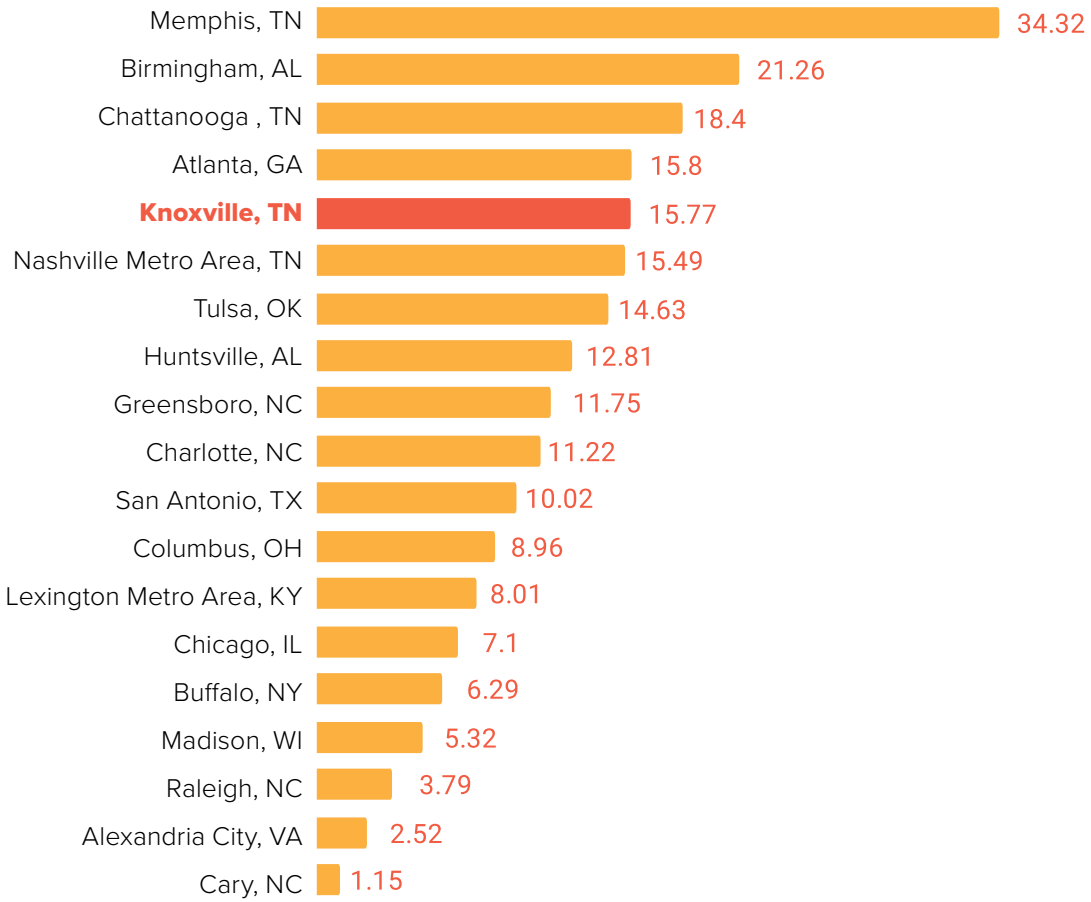
Safety in the City and Region Today

Between October 2016 and September 2021, 1,183 traffic crashes in the City of Knoxville resulted in a fatality or serious injury. This amounts to a life-altering crash every 37 hours in the City.

While all road users are impacted by these safety trends, bicyclists and pedestrians are particularly vulnerable to crashes that cause serious injuries or death.

- Between the Vision Zero study period of January 2007 and June 2019, there were 1,626 reported crashes involving either pedestrians or bicyclists. This averages to a rate of 11 crashes per month, 130 crashes per year.
- 1,216 crashes (75% of total crashes) involved pedestrians, 406 involved bicyclists, and four crashes involved both.

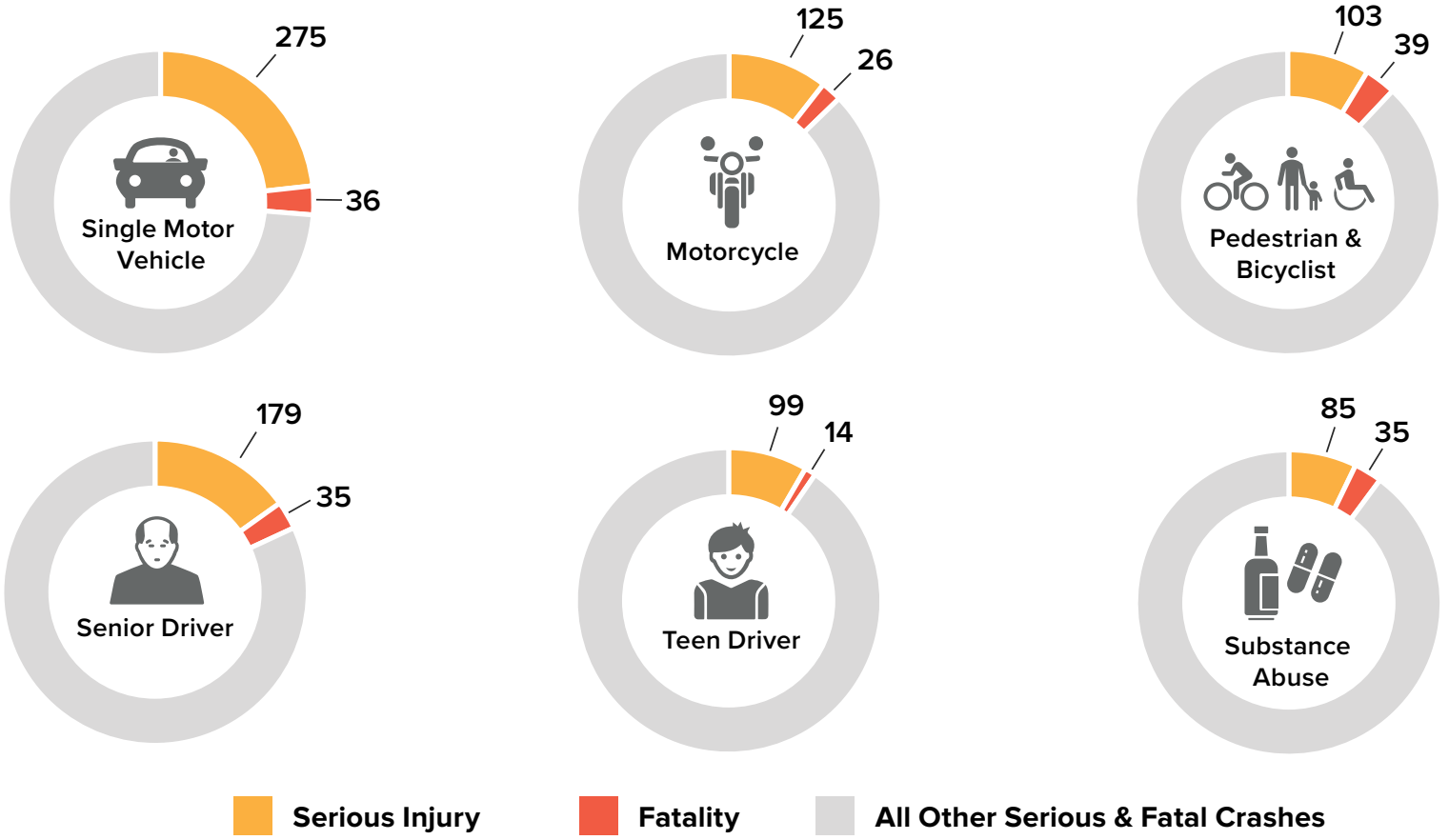
The chart below shows the average crash fatality rate for all modes per 100,000 residents in Knoxville and peer cities. Overall, Knoxville ranks 25th worst out of 172 cities in the study group (every U.S. city above 150,000 residents), based on the most recent available data (2020). While cities in the South overall rank highly, places such as Cary in North Carolina demonstrate the possibilities to lower the crash rate. Cary had just two fatal crashes in 2020.



National Highway Traffic Safety Administration's Traffic Safety Facts Annual Report, 2020

WHO'S GETTING HURT?

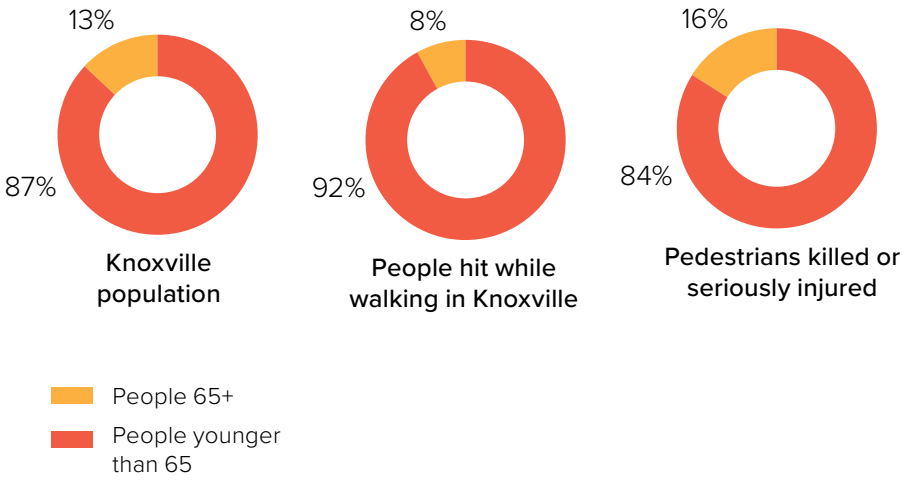
The charts below show the total number of road user attributes that were factors in crashes resulting in death or serious injury between October 2016 and September 2021 in the City of Knoxville. However, when all crashes are considered, pedestrians, bicyclists, and motorcyclists are overrepresented in serious and fatal crashes.



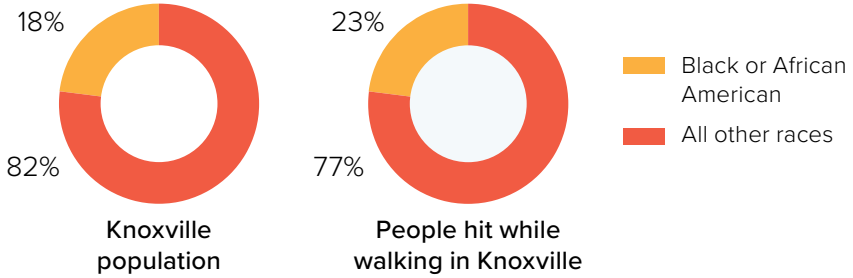
DISPARITIES IN PEDESTRIAN CRASHES

National studies have found that certain demographics are most at risk when it comes to pedestrian traffic crashes. People of color (including Black people, Latino/a people, and Indigenous people) are more likely to be killed in crashes, as are older Americans. Some of these disparities occur in the City of Knoxville and the surrounding area.

Older Adults: People age 65 and older are less likely to be hit as pedestrians, compared with their share of the population, but are more likely to be killed or seriously injured.



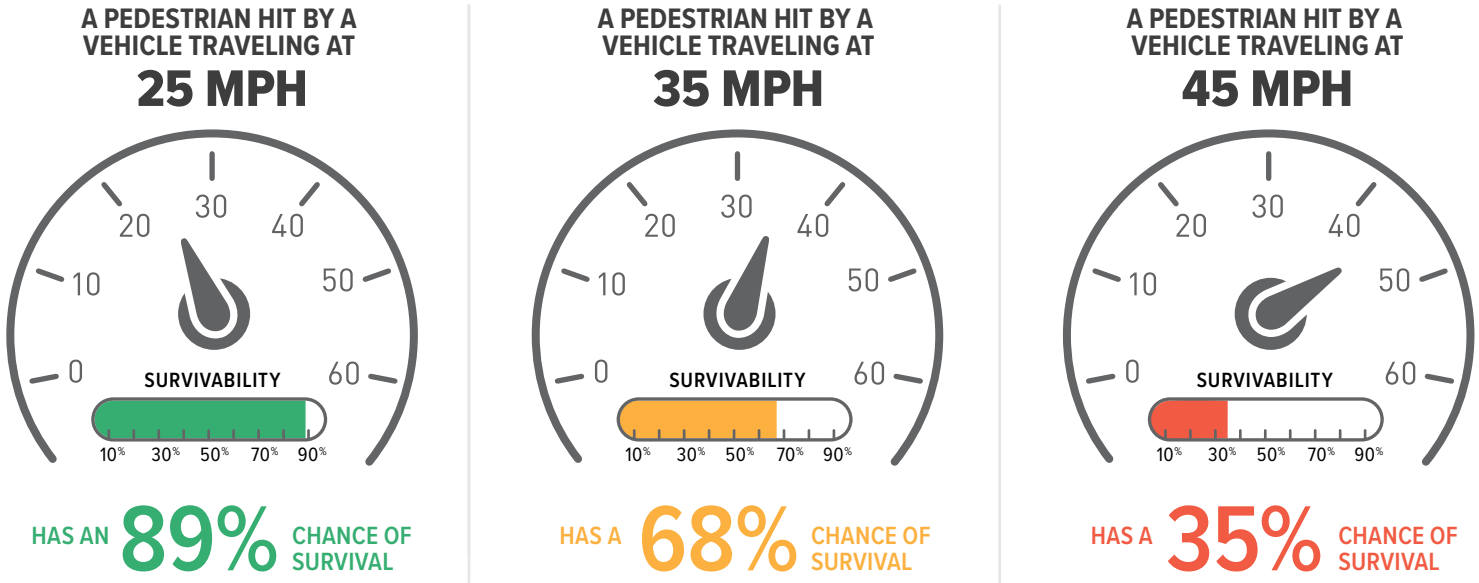
People of Color: Black people represent a larger share of people hit by cars while walking, compared with their share of the Knoxville population.



CONTEXT AND CRASH FACTORS

Speed

Speed is one of the most important predictors of whether a crash is survivable. Lower speeds make crashes more avoidable as well. Due to the high speeds common on major arterials and suburban roads, crashes tend to be more severe on these roadways. This is a significant crash factor throughout Knoxville and for people using all modes of transportation. However, higher speeds are particularly dangerous for people walking, with a pedestrian's chance of surviving a crash declining to 35% when hit by a vehicle traveling at 45 mph. The graphic below illustrates the likelihood of a pedestrian being killed in a crash based on the speed of the motor vehicle.



Tefft, B. C. *Impact speed and a pedestrian's risk of severe injury or death.* Accident Analysis & Prevention 50 (2013) 871-878.

CONTEXT AND CRASH FACTORS

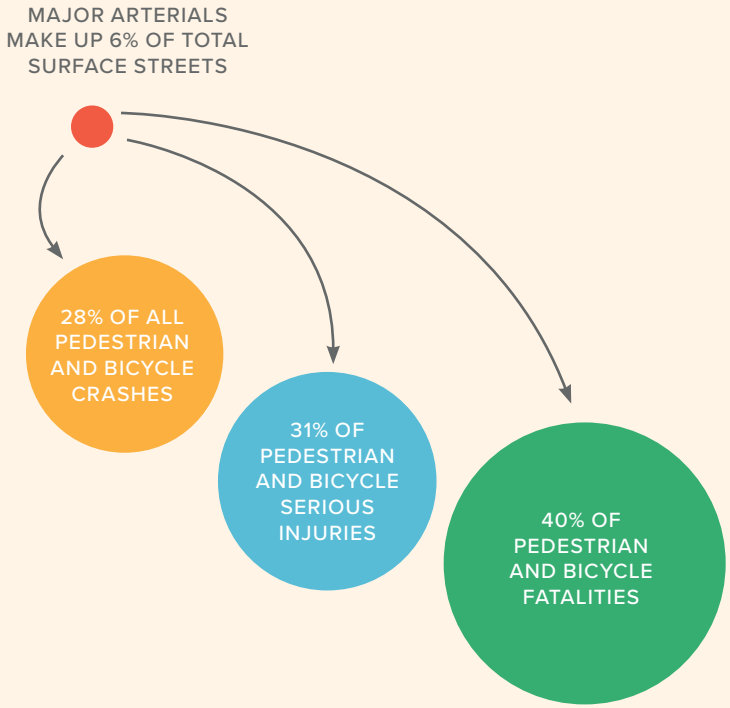
Crashes within the City of Knoxville are more common than in the outlying areas, but are generally less severe. This is likely due to lower travel speed of motor vehicles in the City when compared to surrounding rural areas. For example, Cumberland Avenue in Knoxville has the most crashes per mile involving pedestrians and bicyclists of any corridor, yet it hasn't seen any pedestrian/bicycle fatalities since 2007.

Cumberland Avenue before streetscape improvements

Cumberland Avenue after streetscape improvements

Major Arterials

Major arterials make up six percent of the surface streets (non-freeway) mileage in Knoxville. Yet a disproportionate share of pedestrian/bicycle crashes, especially serious crashes, occur on major arterials (streets such as Broadway and Kingston Pike).



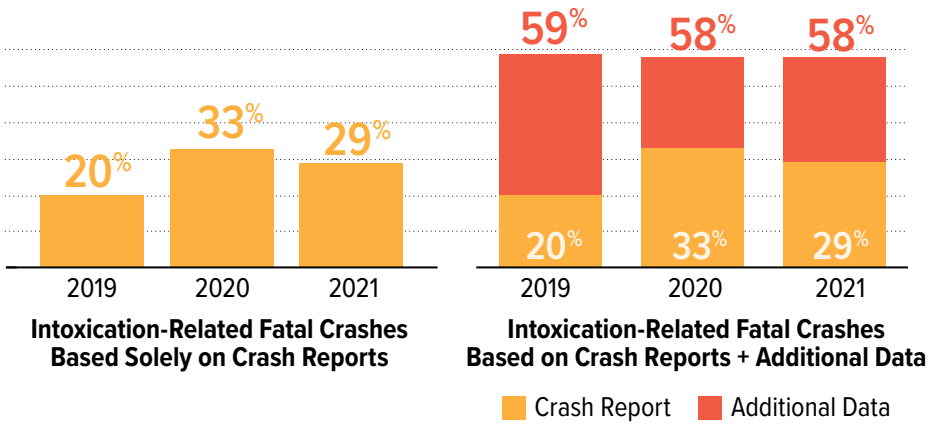
Case Study: Joint Fatal Crash Review

JOINT REVIEW PROCESS

The City Department of Engineering and the Police Department actively participate in a process that brings together stakeholders every six months to discuss fatal crashes with the goal of identifying steps to reduce and ultimately eliminate fatalities on our roadways. The TPO began coordinating the joint review of fatal crashes in Knox County in 2019. Attendees included local law enforcement, transportation engineers, the Knox County Health Department, the Knox County Regional Forensic Center, the Metro Drug Coalition, Mothers Against Drunk Driving, the Tennessee Department of Transportation, and the Tennessee Highway Safety Office. This joint review has helped share vital information, identify gaps in data collection, and build relationships among the different agencies working in traffic safety.

One key finding from the joint review was that driving under the influence (DUI) crashes are significantly underreported. This underreporting often happens because the driver who was under the influence of alcohol or other substances dies in the crash. Law enforcement has no need to order testing in those situations, and therefore DUI status is not included in those crash reports. Medical examiner staff does have access to that information but has no way to add it to the crash reports.

The City found that in 2019, based only on crash reports, the share of fatal crashes with an intoxicated driver was 20%. When information from the medical examiner's staff was factored in, the share of fatal crashes involving an intoxicated driver jumped to 59%. The City found a similar pattern in 2020 and 2021, with 33% (in 2020) and 29% (in 2021) of fatal crash reports noting involvement of an intoxicated driver. Those percentages jumped to 58% for both years once information from the medical examiner's office was included.



JOINT REVIEW IMPACT

The joint review helps us to see the true safety toll of substance abuse and misuse. Information on intoxicated driving is often included in Fatality Analysis Reporting System (FARS) data that is compiled by the state and reported to the National Highway Traffic Safety Administration (NHTSA), but local agencies often are not aware of the scope of the problem.

This new awareness has led to greater collaboration between the joint review group and Knox County Health Department's Overdose Fatality Review Team, which is dealing with the hundreds of fatal overdoses that occur annually in Knox County. The interventions they are discussing may also help reduce the incidence of intoxicated driving.

The joint review committee has also contributed to more collaboration and understanding among various agencies and individuals. This has even eased the process for law enforcement officers when they need to report things like malfunctioning traffic signals and broken guardrails to engineers. Reporting and repairing those problems in a timely manner can help save lives and prevent crashes.

In 2019, based only on crash reports, the share of fatal crashes with an intoxicated driver was 20%. When information from the medical examiner's staff was factored in, the share of fatal crashes involving an intoxicated driver jumped to 59%.

Chapter 2

THE HIGH INJURY NETWORK

Where Is the Risk?

In addition to understanding overall trends, it's important to know the places people have been killed or seriously injured in traffic crashes. The results of this crash analysis is the High Injury Network (HIN), which identifies specific roads that bear a disproportionate amount of serious crashes. These corridors are a small subset of the larger overall roadway network, highlighting opportunities for targeted investments where it is needed the most. Roads on the HIN that ranked particularly high for severe crashes are shown as a Tier 1 priority on the map on the following page.

KNOXVILLE'S HIGH INJURY NETWORK

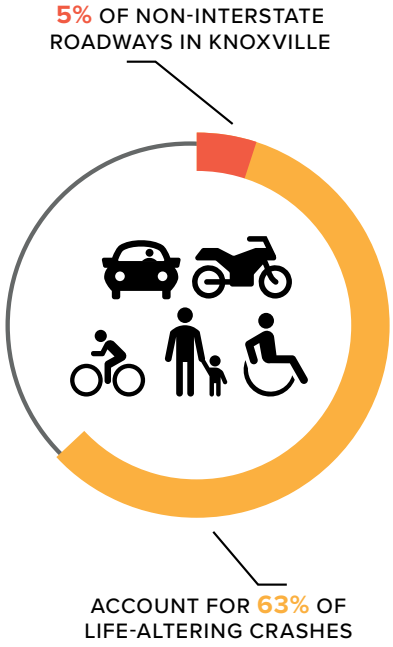
The HIN identifies Knoxville's most dangerous roads, those with the greatest number of serious crashes. This analysis helps guide the City of Knoxville's investments in infrastructure and programs and ensures that Vision Zero projects support those most in need.

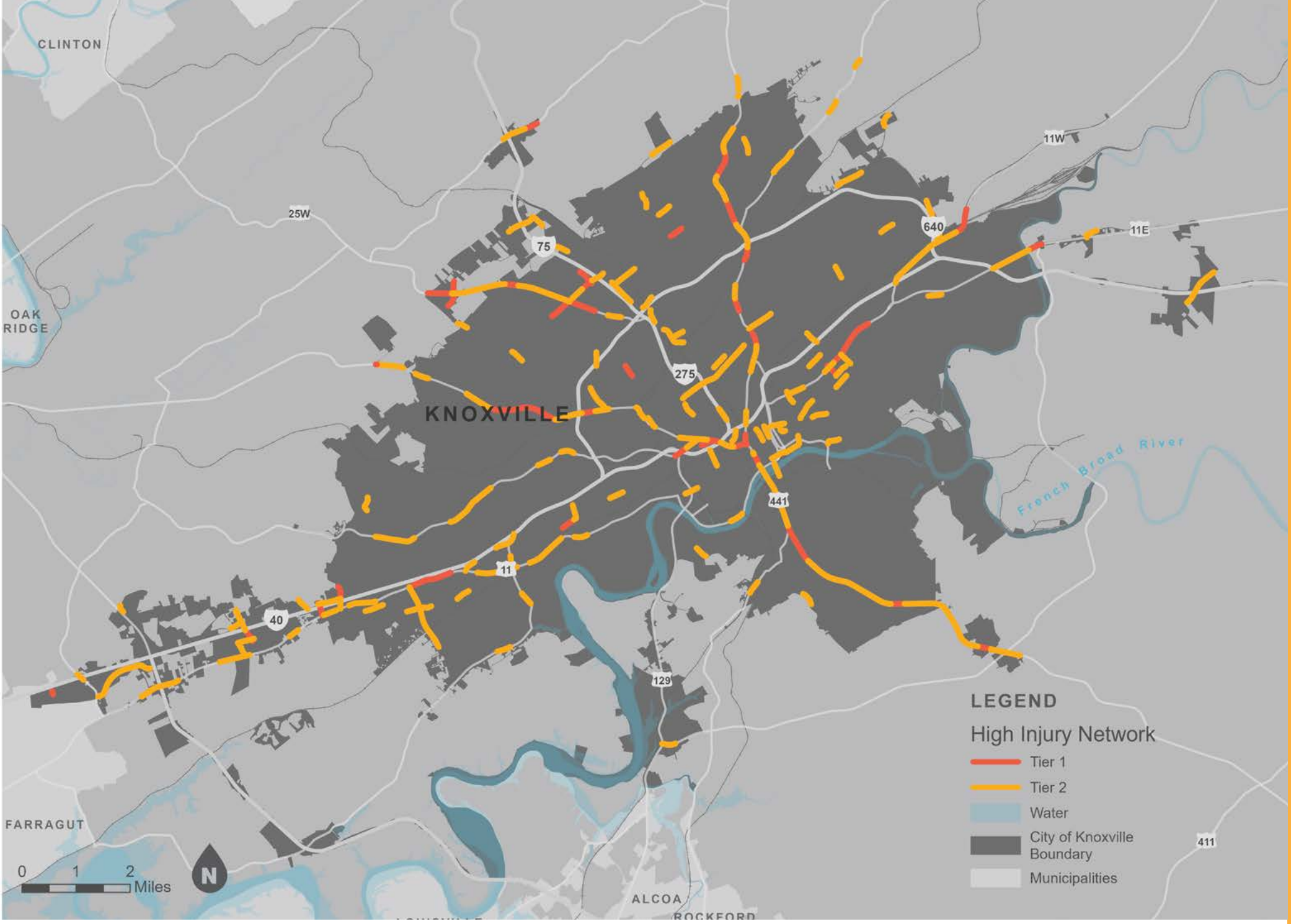
KNOXVILLE'S HIGHEST INJURY ROADS

The HIN analysis is a process of ranking roadways with the highest overall score, based on the number and severity of crashes on that road. See the Appendix for a full list of the City HIN corridors. Roads in Knoxville with the highest overall score include:

- Clinton Highway (US-25W) from Old Callahan Drive to Schaad Road
- North Broadway from Old Broadway to Highland Drive
- Chapman Highway (SR-71) from Nixon Road to Norton Road
- Western Avenue from 17th Street to Interstate 40
- East Magnolia Avenue from North Harrison Street to North Beaman Street

East Magnolia at Kirkwood Street is part of a roadway corridor on the City of Knoxville's HIN.





5% OF NON-FREEWAY ROADWAYS IN THE CITY OF KNOXVILLE ACCOUNT FOR **63%** OF SEVERE INJURY CRASHES

PREDICTING WHERE A CRASH MAY OCCUR BEFORE IT HAPPENS

This predictive crash analysis highlights roadways where severe crashes are likely to occur in the future. This is done by identifying characteristics associated with high-crash locations and identifying other roadways with those characteristics, even if they have not experienced a high number of actual crashes.

The following variables collected for each road segment were used in the analysis to compare roadways with observed crashes to other roadways throughout the area. These variables are focused on land uses near the roadway, road characteristics, and relation to intersections.

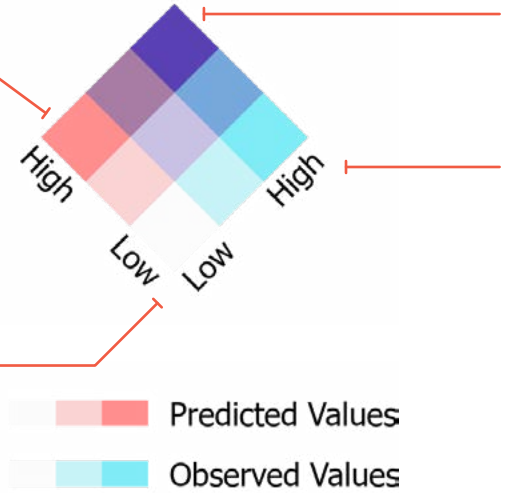
VARIABLE

- Near commercial land use
- Near multifamily land use
- Average annual daily traffic (AADT)
- At signalized intersection
- Speed limit
- Functional class
- At intersection (regardless of signal)
- Segment length
- Road curvature

HOW THE PREDICTIVE ANALYSIS IS USED

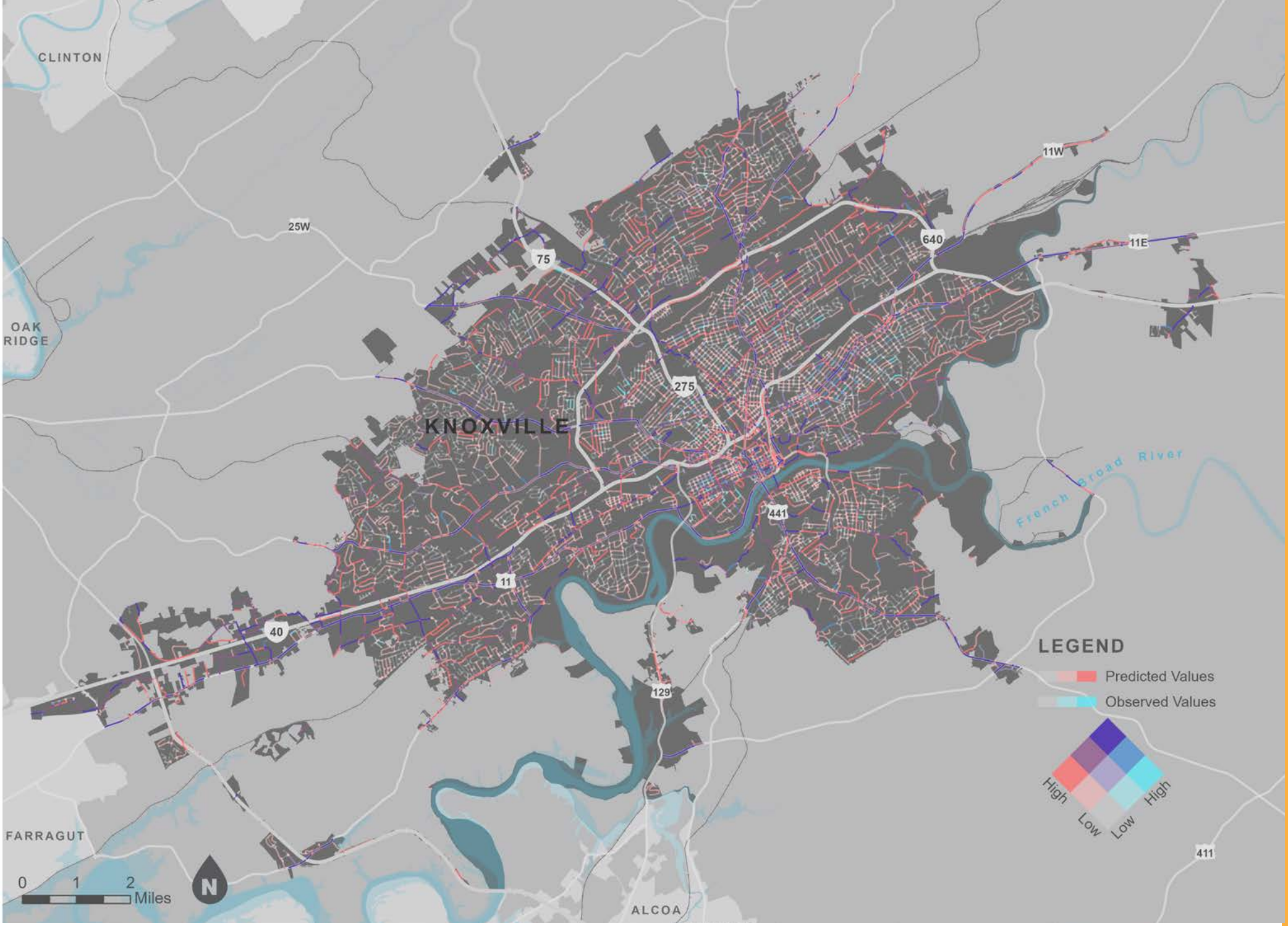
High Predicted but Low Observed: These segments have characteristics of high-crash roadways but have not seen as many actual crashes. They could experience near misses that are not captured in crash data, or there may be other variables not included in the model that reduce their risk of severe crashes. **Improvements on these segments should be a priority for preventing crashes before they happen.**

Low Predicted and Low Observed: These are low-crash roadways that have characteristics consistent with low-crash roadways. **These characteristics should be documented as potential countermeasures.**



High Predicted and High Observed: These are high-crash roadways that have the characteristics that the model has shown are consistent with high-crash roadways. **These roads should be considered as high priorities.**

Low Predicted but High Observed: These are high-crash roadways that we would not expect to have a high number of crashes based on the characteristics identified in the model. There may be other variables not included in the model that cause these roadways to see high numbers of severe crashes, such as a blind curve or poor street lighting. **These factors should be further investigated.**



KNOXVILLE PREDICTIVE ANALYSIS MAP

ROADS WITH THE HIGHEST PREDICTED CRASH INDEX

The table below shows the roadways with the highest predicted crash index that have a high risk of injury crashes in the future. The results of this analysis can be used to identify roadways and intersections where safety improvements can be made to prevent injury crashes before they occur.

Table 1. Roads with the Highest Predicted Crash Index (all injury crashes)

Road Name	From / To	
W 5th Avenue	Intersection of N Broadway	
Kingston Pike	Walker Springs Road	N Gallaher View Road
Rutledge Pike	Intersection of Chilhowee Drive	
Pleasant Ridge Road Northwest	I-640 underpass	Wilson Road NW
Chapman Highway	Intersection of Majestic Grove Boulevard	
Kingston Pike	Intersection of Gerald R Ford Street	
Kingston Pike	Kingston Court	Lindsay Place SW
Rutledge Pike	Burns Road	I-640 underpass
N Broadway	Intersection of Gresham Road	
Middlebrook Pike	Lonas Drive	Ed Shouse Drive

West 5th Avenue at Broadway

PREDICTING WHERE SPECIFIC CRASH TYPES MAY HAPPEN

Three sets of analyses were run to make predictions for three types of crashes: injury crashes involving a **roadway departure**, **left-turn injury crashes**, and **all injury crashes**. The result show roadways and intersections that have a high risk of severe crashes within each of these crash types. Because these roads don't necessarily have a high number of observed crashes, they may not have been identified as areas of risk in the HIN. The results were used to inform priority projects, detailed in Chapter 5.

Chapter 3

CRASH PROFILES + COUNTERMEASURES

Crash Profiles

Through an examination of crash characteristics and contextual factors, the most pertinent crash trends were identified for further analysis. “Crash profiles” highlight specific conditions that account for a large share of fatal and serious injury crashes in Knoxville. These crash profiles are paired with potential countermeasures to identify system-wide safety interventions, in addition to the corridor interventions identified in the HIN.

The following crash profiles were identified for both the City of Knoxville and the region. More detail is provided on the following pages.

Crash profiles most relevant to the City of Knoxville:

- **Crash Profile 1:** Motor Vehicle Crashes in Commercial Areas
- **Crash Profile 2:** Left Turn/U-Turn-Related Motor Vehicle Crashes at Signalized Intersections
- **Crash Profile 3:** Pedestrian/Bicyclist-related Crashes in Commercial Areas along Arterials

Other crash profiles that are more applicable to rural parts of the TPO region, but may have some relevance within the City of Knoxville:

- **Crash Profile 4:** Motor Vehicle Crashes at Nighttime on Arterials
- **Crash Profile 5:** Motor Vehicle Roadway Departure Crashes on Slopes and Hill Crests
- **Crash Profile 6**: Crashes Involving Motorcycles

Safety Countermeasures are actions to counteract an identified danger to one or more modes of travel. A rectangular rapid flashing beacon (RRFB) is an example of a countermeasure.

CRASH PROFILE 1: MOTOR VEHICLE CRASHES IN COMMERCIAL AREAS

This factor analyzes crashes that resulted in death or serious injury that occurred within 200 feet of an area with commercial land use in the City of Knoxville.

OWNERSHIP

46% on local roads

54% on TDOT maintained roads

MODE: MOTOR VEHICLES

SERIOUS AND FATAL CRASHES

357

POTENTIAL COUNTERMEASURES

- Access management
- Driveway improvements, including sight distance improvements
- Lane narrowing
- Controlled pedestrian crossings

Clinton Highway & Callahan Drive / Schaad Road

Strawberry Plains Pike & Region Lane

CRASH PROFILE 2: LEFT TURN/U-TURN-RELATED MOTOR VEHICLE CRASHES AT SIGNALIZED INTERSECTIONS

This factor analyzes crashes that resulted in death or serious injury involving a motor vehicle making a left turn or U-turn at a signalized intersection in the City of Knoxville.

OWNERSHIP

27% on local roads

74% on TDOT maintained roads

MODE: MOTOR VEHICLES

SERIOUS AND FATAL CRASHES

83

POTENTIAL COUNTERMEASURES

- Reduced conflict intersections or other alternative intersections
- Protected left turn movements
- Retroreflective backplates
- One-lane roundabouts on lower volume roads
- Red light cameras
- Prohibit right turn on red
- Sight distance enhancements

Henley Street & Cumberland Avenue

Chapman Highway & Green Road

CRASH PROFILE 3: PEDESTRIAN/BICYCLIST-RELATED CRASHES IN COMMERCIAL AREAS ALONG ARTERIALS

This factor analyzes crashes that resulted in death or serious injury to a person walking within 200 feet of a commercial land use area along an arterial roadway in the City of Knoxville. The countermeasures address both pedestrians and bicyclists, even though bicyclist serious injuries or deaths did not occur in this crash profile, because people bicycling are vulnerable in this context as well.

OWNERSHIP

34% on local roads

66% on TDOT maintained roads

MODE: WALKING & BIKING

SERIOUS AND FATAL CRASHES

56

POTENTIAL COUNTERMEASURES

- Access management
- Add sidewalk
- Prohibit right turn on red
- Driveway improvements, including sight distance improvements
- Adding midblock crossings and improvements
- Pedestrian hybrid beacon (PHB) or Rectangular Rapid Flashing Beacon (RRFB)
- Pedestrian refuge islands
- Raised crosswalks and high-visibility crosswalks
- Road diets (cross-section reallocation)
- Bike facilities; including bike paths, protected bike lanes, cycle track, depending on context
- Lighting
- Speed management strategies

North Broadway & West 5th Avenue

Magnolia Avenue & Castle Street

CRASH PROFILE 4: MOTOR VEHICLE CRASHES AT NIGHTTIME ON ARTERIALS

This factor analyzes crashes that resulted in death or serious injury of a motorcyclist on roads with posted speed limits of 35 MPH or greater in the Knoxville Region.

OWNERSHIP

28% on local roads

72% on TDOT maintained roads

MODE: MOTOR VEHICLES

SERIOUS AND FATAL CRASHES

257

POTENTIAL COUNTERMEASURES

- Lighting
- Retroreflective traffic signal backplates
- Increase pavement marking reflectivity

**Crash statistics cover entire Knoxville TPO region outside of City of Knoxville*

Montvale Road & Boardman Avenue

Morganton Road

CRASH PROFILE 5: MOTOR VEHICLE ROADWAY DEPARTURE CRASHES ON SLOPES AND HILL CRESTS

This profile analyzes crashes resulting in death or serious injury that occurred when a motor vehicle leaves the roadway and hits a fixed object on a slope or hillcrest along a one or two-lane roadway in the Knoxville Region.

OWNERSHIP

75% on local roads

25% on TDOT maintained roads

MODE: MOTOR VEHICLES

SERIOUS AND FATAL CRASHES

273

POTENTIAL COUNTERMEASURES

- Remove or relocate fixed objects
- Crash cushions
- Breakaway posts/supports
- Longitudinal edge line rumble strips
- Safety edge
- Speed humps/cushions/tables
- High-friction surface treatment
- Speed feedback signs
- Wider edge lines
- Reconstruct roadway to flatten crest vertical curve
- Spot shoulder widenings

**Crash statistics cover entire Knoxville TPO region outside of City of Knoxville*

Maryville Pike

Boyds Creek Highway

CRASH PROFILE 6: CRASHES INVOLVING MOTORCYCLES

This factor analyzes crashes that resulted in death or serious injury that involved a motorcycle on roads with posted speed limits of 35 MPH or greater in the Knoxville Region.

OWNERSHIP

37% on local roads

63% on TDOT maintained roads

MODE: MOTORCYCLES

SERIOUS AND FATAL CRASHES

183

POTENTIAL COUNTERMEASURES

- Longitudinal rumble strips and stripes
- Lane narrowing
- Safety edge
- High-friction surface treatment
- Sight distance improvements
- Systemic application of multiple low-cost countermeasures at stop-controlled intersections

**Crash statistics cover entire Knoxville TPO region outside of City of Knoxville*

US 321

Clinton Highway

Safety Countermeasures

Proven safety countermeasures can be a powerful tool in accelerating safety goals. Countermeasures can be implemented through different delivery, material, and installation methods which allows them to be installed as a quick build or more permanent solution. The following are some sources for countermeasures:

- **Federal Highway Administration's (FHWA's) Proven Safety Countermeasures initiative (PSCi)** is a collection of 28 countermeasures and strategies designed for all road users and all kinds of roads—from rural to urban, from high-volume freeways to less traveled two-lane state and county roads, from signalized crossings to horizontal curves, and everything in between. Each countermeasure addresses at least one safety focus area – speed management, intersections, roadway departures, or pedestrians/bicyclists – while others are crosscutting strategies that address multiple safety focus areas. Search Proven Safety Countermeasures.
- **TDOT** has compiled a list of Roadside Design Resources that includes Tennessee specific guidance as well as serves as a clearinghouse of national best practices and resources for safety countermeasure implementation.
- The **Crash Modification Factors (CMF) Clearinghouse** provides a searchable database of CMFs along with guidance and resources on using CMFs in road safety practice.

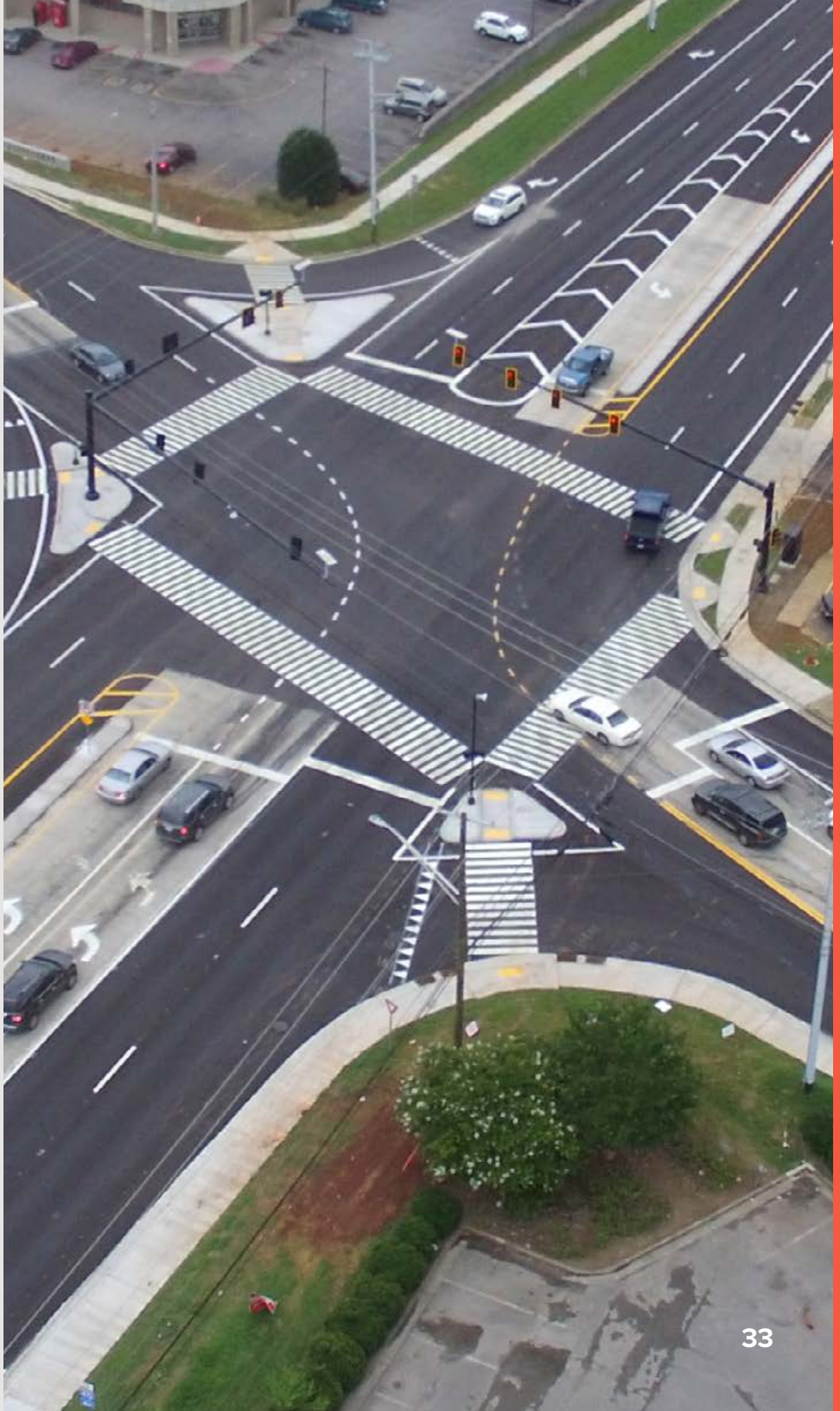
QUICK BUILD PROJECTS

Quick build is a method to help local governments improve safety on a minimal budget and on a compressed timeline. Projects can include safer crossings, slower streets, an extended bikeway network, or safer routes to transit, schools, and essential workplaces.

The City of Kirkwood, MO, installed quick build safety improvements as an engagement activity during the Vision Zero Action Plan development process.

Chapter 4

ACTION PLAN

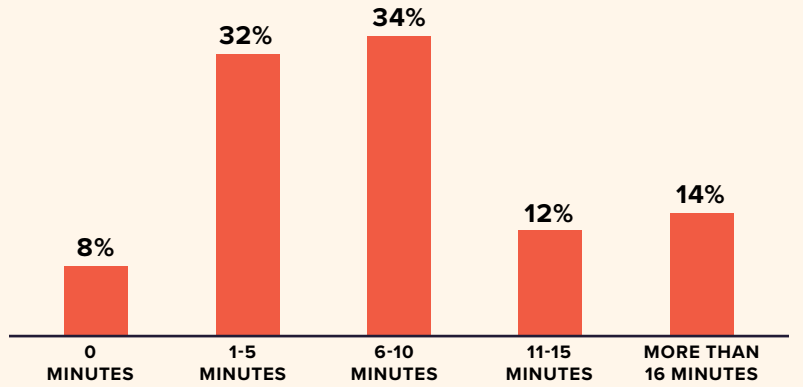


Building on Engagement

The City of Knoxville took a multi-pronged approach with gathering community input. In February 2022, Mayor Indya Kincannon convened the Vision Zero Steering Committee. Members of that committee learned about the history of the City's safety plans and processes, and identified an extended network of essential stakeholders. City staff conducted interviews with members of these organizations to learn about past and future initiatives and blind spots. The committee also reviewed the Vision Zero planning process as it developed over a year and a half.

The City of Knoxville went into communities to talk about the Vision Zero approach, gather additional information about traffic safety priorities, and conduct surveys in the spring of 2023. Staff spoke with community groups about perceptions of safety and potential problem areas in their communities. A team with Bike Walk Knoxville worked with the City team to provide on-the-street "intercept" surveys in and around the high-injury network. The team from Bike Walk Knoxville visited community centers, bus stops, and public events to engage with residents.

How many minutes would you be willing to add to your commute as a trade-off for safe streets in the Knoxville Region for all users?



The majority of survey respondents are willing to add at least some time to their commute in order to achieve safer streets.

142
ONLINE SURVEY RESPONSES

117
FOCUS GROUP PARTICIPANTS

341
INTERCEPT SURVEYS COLLECTED

14
TASK FORCE PARTICIPANTS

REGIONAL ENGAGEMENT SUMMARY

Key themes from engagement include:

- 61% of respondents felt either uncomfortable or very uncomfortable walking and 70% felt either uncomfortable or very uncomfortable bicycling.
- People are concerned about the number of drivers in the region who speed or drive distracted.
- There is a desire for expanding pedestrian and bicycle infrastructure, such as paths, crosswalks, and greenways.
- Over 50% of survey respondents supported reducing speed limits.

In-person engagement gathered valuable input from residents.

CITY ENGAGEMENT SUMMARY

Key themes from engagement include:

- People feel safest in their cars, and most people do not feel safe walking or biking. This is often due to missing or inadequate walking and biking facilities, such as unprotected bike lanes, unsafe crosswalks, or sidewalks in poor condition.
- People drive too fast, and there is not enough enforcement to address this issue.
- There are barriers to accessibility, such as sidewalk gaps and obstructions.
- People support expanded education on the rules of the road, and desire more transparent information on safety planning efforts.
- Knoxville residents highlighted unique safety concerns for vulnerable populations, such as elderly and young residents, unhoused individuals, and people with disabilities. Concerns included lack of visibility, hazardous conditions, and accessibility concerns.

Specific location concerns include:

- N Broadway
- Magnolia Avenue
- Kingston Pike
- Chapman Highway
- James White Parkway
- N Central Street & S Central Street
- Neyland Drive
- Sutherland Avenue
- Cumberland Avenue
- Summit Hill Drive
- Western Avenue

Action Plan Framework

To comprehensively identify solutions for transportation safety challenges and organize recommended strategies, this action plan's recommendations are organized into the following themes: Design, Land Use, Plans, Policies, and Programs.

In addition, the framework integrates the Safe System approach and identifies the corresponding category. Most recommendations fall into multiple categories, as the elements of a Safe System approach are interconnected.

SAFE SYSTEM CATEGORIES

SAFE ROAD USERS

SAFE SPEEDS

SAFE VEHICLES

SAFE ROADS

POST-CRASH CARE

HOW TO READ THE RECOMMENDATIONS

The table below outlines the definitions for the columns in the following pages.

Safe System Categories	Safe Road Users, Safe Vehicles, Safe Speeds, Safe Roads, Post-Crash Care
Recommendation	The key steps needed to achieve the recommendation.
Timeline	When the action should take place. Short (<1 Year) Medium (1-2 Years) Long (>2 years) 
Action Lead	Who are the leading and supporting partners?
Implementation Needs	Identifies if the action item will require funding, additional staff capacity, relationship building with external partners, or policy legislation in order to advance. Minimal  Significant
Example Performance Measure	How will the action be monitored, evaluated or communicated on progress?
Cost	What is the general expected cost to implement this recommendation?

DESIGN

D.1 IMPLEMENT SAFETY IMPROVEMENTS ON THE HIGH INJURY NETWORK.

Improving safety on the HIN should be a top priority as crash data shows those corridors as being the highest-risk crash areas for all road users. Quick build improvements should be considered for locations that need safety enhancements to be implemented rapidly and where traditional construction timelines would be lengthy. Specific vulnerable road user improvements should be incorporated as discussed in Strategy D.5.

Sample Performance Measure: Number of safety countermeasure projects implemented along HIN and the Crash Modification Factor or Crash Reduction Factor achieved through the countermeasure selection.

Timeline:

Cost:

$$$

Action Lead:

TDOT

City of Knoxville

Organizational Needs

D.2 USE PREDICTIVE ANALYSIS RESULTS TO IMPLEMENT PROACTIVE SAFETY IMPROVEMENTS.

Corridors with high crash risk are not reflected in historical crash data. Using the results of the Predictive Analysis to target safety improvements, in addition to the HIN, could help proactively prevent incidents. Quick build improvements should be considered for locations that need safety enhancements to be implemented rapidly and where traditional construction timelines would be lengthy. Specific vulnerable road user improvements should be incorporated as discussed in Strategy D.5.

Sample Performance Measure: Number of safety countermeasure projects implemented along the top tier of predictive analysis results.

Timeline:

Cost:

$$$

Action Lead:

TDOT

City of Knoxville

Organizational Needs

DESIGN

D.3 IMPROVE LEFT TURN AND U-TURN SAFETY.

The Crash Profile analysis found that left turns and U-turns resulted in a notable proportion of serious crashes. Countermeasures cited in the Crash Profile analysis should be implemented as appropriate.

Sample Performance Measure: Number of targeted left-turn conflict projects and the associated Crash Modification Factor.

Timeline:

Cost:
$$$

Action Lead:
TDOT
City of Knoxville

Organizational Needs

D.4 DEVELOP PEDESTRIAN AND BICYCLE COUNTERMEASURE GUIDANCE.

The Safety Practice Assessment showed a need for consistent design guidance on safety countermeasures for vulnerable road users. This should include pedestrian scale lighting standards and emphasize separated facilities where dictated by context.

Sample Performance Measure: Bicycle and pedestrian countermeasure guidance document.

Timeline:

Cost:
$$

Action Lead:
City of Knoxville
Knoxville TPO

Organizational Needs

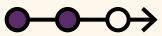
DESIGN

D.5 IMPROVE PEDESTRIAN AND BICYCLE INFRASTRUCTURE AND ADDRESS GAPS.

Enhance pedestrian and bicycle safety and fill gaps in the network by contextually implementing proven safety countermeasures where necessary. These could include Americans with Disabilities Act (ADA) retrofits and treatments such as new and/or improved midblock crossings, roundabouts, sidewalks, bicycle infrastructure, and curb extensions. This strategy should coordinate with Strategies D.1 and D.2.

Sample Performance Measure: Facilities added and gaps filled.

Timeline:



Cost:
$$$

Action Lead:
TDOT
City of Knoxville

Organizational Needs

D.6 EXPAND THE CITY OF KNOXVILLE'S NEIGHBORHOOD TRAFFIC SAFETY PROGRAM.

Expanded program could include additional collaboration between the Office of Neighborhood Empowerment, the Engineering Department, and Knoxville Police Department; developing the framework for public education and community engagement; establishing new partnerships with community organizations; and emphasizing the need to slow streets with design and enforcement.

Sample Performance Measure: Corridors improved through program.

Timeline:

Cost:
$$

Action Lead:
City of Knoxville

Organizational Needs

Policy Changes

DESIGN

D.7 ESTABLISH A CITY WORKING GROUP TO COORDINATE REGIONAL COMPLETE STREETS EFFORTS.

While the City of Knoxville has adopted a Complete Streets Policy, the Safety Practice Assessment identified the opportunity for coordination to ensure best practices are being used throughout the region. This strategy should coordinate with strategy PL.2

Sample Performance Measure: Establishment of working group to meet quarterly with regular distribution/posting of meeting minutes.

Timeline:

Cost:
$

Action Lead:
Knoxville TPO

Organizational Needs

D.8 IMPROVE ROADWAY LIGHTING, ESPECIALLY ON HIN.

Especially in rural parts of the region, nighttime traffic crashes on arterials contributed to a large number of fatalities or serious injuries. Lighting and visibility can also be especially important for vulnerable road users anywhere, which should be addressed through the addition of pedestrian scale lighting.

Sample Performance Measure: Decrease in numbers of traffic deaths and serious injuries associated with dark conditions.

Timeline:

Cost:
$$$

Action Lead:
City of Knoxville

Organizational Needs

DESIGN

D.9 MITIGATE HIGH SPEED FIXED-OBJECT CRASHES ON SLOPES AND HILL CRESTS.

The Crash Profile analysis showed that high speed vehicle collisions on curved or hilly roadways accounted for a lot of serious and fatal crashes, although this crash type was more prevalent on rural roads outside the City of Knoxville. A variety of countermeasures outlined in the Crash Profile analysis can help address the safety issues contributing to these crashes.

Sample Performance Measure: Decrease in numbers of traffic deaths and serious injuries associated with fixed-object collisions on curved roadways and hillsides.

Timeline:

Cost:

$$$

Action Lead:

TDOT

City of Knoxville

Organizational Needs

D.10 ADDRESS MOTORCYCLE SAFETY ISSUES.

According to the Crash Profile analysis, motorcycle crashes on roads with a speed limit of 35 mph or greater were a large source of fatal crashes. This crash type was more prevalent on rural roads outside the City of Knoxville. Refer to the Crash Profile analysis for specific countermeasures that an help improve safety for these users and pair with Strategies D.1, D.2, and PR.1.

Sample Performance Measure: Decrease in numbers of traffic deaths and serious injuries associated with motorcycle crashes on roads with a speed limit of 35 mph or greater.

Timeline:

Cost:

$$

Action Lead:

TDOT

City of Knoxville

Organizational Needs

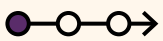
LAND USE

L.1 TARGETED REDUCTIONS TO OFF-STREET PARKING REQUIREMENTS.

Reducing mandates to provide off-street parking can help make areas more walkable and mitigate vehicle conflicts with vulnerable road users, as well as reducing development costs. This strategy could be coordinated with access management policy efforts in Strategy PO.4.

Sample Performance Measure: Review of jurisdictions reducing parking requirements.

Timeline:



Cost:
$$

Action Lead:
City of Knoxville

Organizational Needs

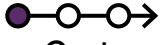
Policy Changes

L.2 REQUIRE NEW DEVELOPMENTS TO CONSIDER BICYCLE AND PEDESTRIAN IMPACTS.

A thorough analysis of the effect of new developments on bicycle and pedestrian travel, coupled with effective and appropriate mitigations, can improve roadway safety by ensuring that the needs of vulnerable road users are emphasized as a municipality grows. Long term, this could also contribute to lowering the high proportion of serious and fatal crashes for pedestrians along arterials in commercial areas in the City of Knoxville that was cited in the Crash Profile analysis.

Sample Performance Measure: Percent of new development proposals specifically considering bicycle and pedestrian impacts.

Timeline:



Cost:
$$

Action Lead:
City of Knoxville

Organizational Needs

Policy Changes

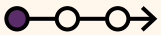
LAND USE

L.3 EXPAND BICYCLE PARKING REQUIREMENTS IN APPROPRIATE LOCATIONS.

Bicycle parking requirements could be expanded and unbundled from vehicle parking. This could support multimodal transportation by advancing the feasibility of bicycle travel for short trips in densely populated areas, and ultimately improving safety for those users.

Sample Performance Measure: New unbundled bicycle parking requirements implemented.

Timeline:



Action Lead:
City of Knoxville

Organizational Needs

Policy Changes

L.4 EXPAND PEDESTRIAN- AND TRANSIT-ORIENTED DESIGN STANDARDS FOR DEVELOPMENTS.

Design standards are present in many zoning districts and can help create safer and more comfortable streets for pedestrians, bicyclists, and transit users. For example, pedestrian-oriented building frontage requirements can frame pedestrian spaces and calm vehicle traffic. Such standards should be expanded and strengthened where possible and desirable.

Sample Performance Measure: Percent of developments implementing new pedestrian- or transit-oriented development design standards.

Timeline:

Action Lead:
City of Knoxville

Organizational Needs

Policy Changes

LAND USE

L.5 ANALYZE REGIONAL BARRIERS TO COMPACT DEVELOPMENT.

Reducing barriers to compact development can help facilitate denser development patterns where they are already intended to occur, which makes pedestrian travel easier and safer by reducing distances between destinations in high-activity areas. This strategy should be coordinated with Strategy L.1, since high off-street parking requirements can make compact developments less feasible.

Sample Performance Measure: Number of barriers identified and mitigated.

Timeline:

Action Lead:

City of Knoxville

Adjacent local governments

Organizational Needs

Policy Changes

PLANS

PL.1 INCORPORATE THE HIN, CRASH PROFILES AND PREDICTIVE ANALYSIS RESULTS INTO FUTURE PLAN UPDATES.

Ensuring that HIN is referenced in future plans and plan updates will carry recommendations forward for future implementation where needed, and potentially improve future funding applications.

Sample Performance Measure: The HIN integrated into every relevant plan.

Timeline:

Action Lead:

City of Knoxville

Organizational Needs

Policy Changes

PLANS

PL.2 UPDATE THE CITY OF KNOXVILLE COMPLETE STREETS POLICY AND COORDINATE WITH THE TPO.

Strategy D.4 notes the need for regional Complete Streets design standards coordination, which may be best achieved through an update and re-examination of the 2014 Knoxville Complete Streets Policy to act as a model for future City developments.

Sample Performance Measure: Knoxville Complete Streets Policy revised/updated.

Timeline:

Cost:

$

Action Lead:

City of Knoxville

Knoxville TPO

Organizational Needs

Policy Changes

PL.3 AUDIT BUS STOPS ALONG THE HIN TO IDENTIFY BOTH QUICK BUILD STRATEGIES AND LONG-TERM IMPROVEMENTS NEEDED, INCLUDING ADA COMPLIANCE.

Safe access to transit is essential, and safety issues can arise for vulnerable users when transit stops lack comfortable and accessible connections. Transit stop improvements could include a variety of interventions such as relocations to enhance safety, ADA improvements, or the addition of rider amenities to improve comfort and accessibility.

Sample Performance Measure: Percent of City bus stops audited. Number of bus stops improved.

Timeline:

Cost:

$

Action Lead:

Knoxville Area Transit

City of Knoxville

Organizational Needs

Policy Changes

POLICIES

PO.1 ADVANCE VISION ZERO POLICIES AND HIRE OR APPOINT A VISION ZERO COORDINATOR.

Tackling traffic safety is not new to the City of Knoxville; however, the City can continue to advance new policies (some found in this plan) while also hiring a full-time Vision Zero Coordinator who focuses on traffic safety at all times.

Sample Performance Measure: Vision Zero Coordinator hired or appointed. Percent of recommended Vision Zero policies implemented.

Timeline:

Cost:

$$

Action Lead:

City of Knoxville

Organizational Needs

Policy Changes

Staff Needs

PO.2 MONITOR AND IMPROVE EXISTING SAFETY POLICIES.

The Safety Practice Assessment noted that there are a variety of safety policies throughout the region. The City should track these policies, and TDOT and the Knoxville TPO should continually monitor and evaluate these policies for ongoing improvements.

Sample Performance Measure: Number of safety policies adopted or improved in the City of Knoxville

Timeline:

Action Lead:

City of Knoxville

Organizational Needs

Policy Changes

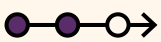
POLICIES

PO.3 DIVERSIFY SAFETY FUNDING SOURCES AND IDENTIFY DEDICATED FUNDING FOR VULNERABLE ROAD USER SAFETY IMPROVEMENTS.

Dedicated funding, such as reliable grant funding or new dedicated funding sources, can help improve vulnerable road user safety more quickly by making a larger, more consistent pool of funding available.

Sample Performance Measure: Total amount of dedicated funding.

Timeline:



Cost:
$$$

Action Lead:
TDOT
City of Knoxville

Organizational Needs

Policy Changes

PO.4 DEVELOP/UPDATE ACCESS MANAGEMENT POLICIES TO REDUCE DRIVEWAY CONFLICTS.

The Crash Profile analysis found that there were many vehicular traffic deaths in commercial areas. Access management policies can help address this by reducing conflicts along busy commercial corridors, making the roadway environment safer for all users.

Sample Performance Measure: Updated access management policies and percent of projects following those policies.

Timeline:

Action Lead:
TDOT
City of Knoxville

Organizational Needs

Policy Changes

POLICIES

PO.5 EXAMINE OPPORTUNITIES FOR LOWERING SPEED LIMITS ON COMMERCIAL ARTERIALS.

Lowering speed limits on areas with a lot of conflicts between users can lower stopping distance, lower the likelihood of serious or fatal crashes, and greatly improve safety for all users. This strategy can also help address the Crash Profile analysis's finding of high proportions of both vehicular and pedestrian traffic deaths and serious injuries in commercial areas and arterials. Lower speed limits should be implemented in coordination with Strategies D.1, D.2, PR.1, and PR.4.

Sample Performance Measure: Percent of local roadway network with reduced speed limit (where applicable) and accompanied by relevant supporting strategies.

Timeline:

Cost:

$

Action Lead:

TDOT

City of Knoxville

Organizational Needs

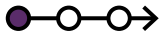
Policy Changes

PO.6 PROVIDE FOR PEDESTRIAN AND BICYCLE MOBILITY IN EXISTING OR NEW MAINTENANCE OF TRAFFIC POLICIES.

Vulnerable road users should be provided with safe routes when construction projects or road work disrupt connections.

Sample Performance Measure: Maintenance of traffic policies implemented or improved that contain bicycle and pedestrian mobility requirements.

Timeline:



Action Lead:

TDOT

City of Knoxville

Organizational Needs

Policy Changes

PROGRAMS

PR.1 DEVELOP TARGETED ROADWAY SAFETY EDUCATION AND ENFORCEMENT PROGRAMS.

Education and enforcement programs are most effective when paired together and/or with other safety improvements such as design changes. There should be clear and consistent messaging that includes high-quality materials that community stakeholders can distribute. Specific behaviors and groups can be targeted, which should be coordinated with findings in the Crash Profile analysis. Public outreach also showed that vehicle speeds, distracted driving, aggressive driving, and drivers failing to yield to pedestrian and bicyclists were the top four concerns of respondents, so these should be among the targeted behaviors.

Sample Performance Measure: Reach and number of safety education and awareness programs.

Timeline:

Cost:
$$

Action Lead:
City of Knoxville
TDOT
Knoxville TPO

Organizational Needs

Policy Changes

Staff Needs

PR.2 PRIORITIZE VULNERABLE ROAD USER FACILITY MAINTENANCE.

Improper facility maintenance can create safety hazards and additional conflict points with vehicles. For example, debris in bicycle lanes can cause cyclists to take evasive action into vehicle lanes, and barriers on sidewalks can make a sidewalk unusable for pedestrians.

Sample Performance Measure: Measure infrastructure improvements (both targeted and general).

Timeline:

Cost:
$$$

Action Lead:
TDOT
City of Knoxville

Organizational Needs

Policy Changes

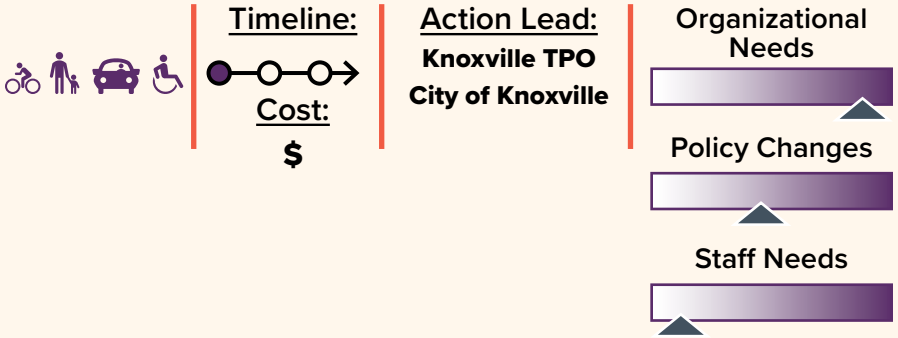
Staff Needs

PROGRAMS

PR.3 SPREAD AWARENESS OF AND PARTICIPATION IN SMART TRIPS, THE EXISTING REGIONAL TRANSPORTATION DEMAND MANAGEMENT (TDM) PROGRAM.

The regional TDM program, Smart Trips, incentivizes alternatives to single-occupancy vehicle travel through centralized information and travel rewards. Increasing visibility and knowledge of this program could improve safety by spreading awareness of the travel needs of alternative modes. This strategy could be used in conjunction with changes to roadway design or enforcement measures, such as in Strategies PR.4, PO.4, D.1, and D.2.

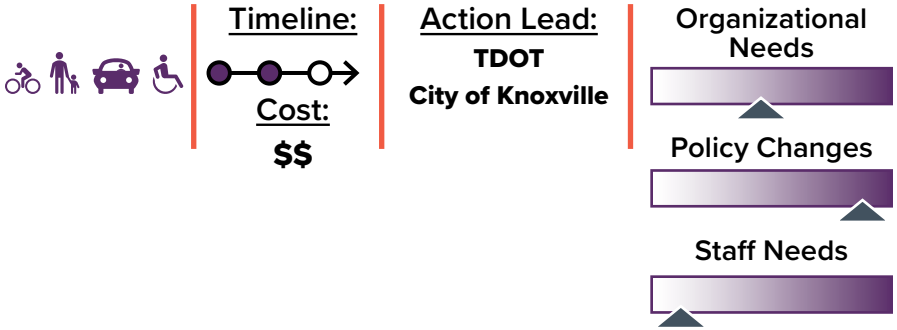
Sample Performance Measure: Number of new memberships and recorded trips in the Smart Trips program.



PR.4 EXPAND AUTOMATED ENFORCEMENT PROGRAMS.

Automated speed and/or red light enforcement programs have received very high effectiveness ratings through the National Highway Traffic Safety Administration's (NHTSA's) Countermeasures That Work. The City can expand existing programs and pair these programs with Strategy PR.1.

Sample Performance Measure: Number of new automated enforcement efforts.



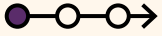
PROGRAMS

PR.5 IMPROVE CRASH DATA AND TRANSPARENCY.

Reliable crash data is essential to understanding and responding to crash patterns in the City of Knoxville. Crash data should be shared publicly and the City could explore ways to collect data on near misses and unreported traffic-related injuries. Data on near misses and unreported traffic-related injuries can contribute to advancing Strategy D.2.

Sample Performance Measure: Launch a City and/or regional interactive data dashboard.

Timeline:



Cost:
$$

Action Lead:
TDOT
Knoxville TPO
City of Knoxville

Organizational Needs

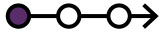
Policy Changes

PR.6 ESTABLISH A CITYWIDE SAFETY EVALUATION WORKING GROUP TO MONITOR PERFORMANCE MEASURES.

A regional working group focused on monitoring performance measures would ensure that regional progress on addressing these strategies is tracked and documented over time.

Sample Performance Measure: Establishment of working group with regular distribution/posting of meeting minutes.

Timeline:



Action Lead:
Knoxville TPO
City of Knoxville

Organizational Needs

Staff Needs

Chapter 5

PRIORITY LOCATIONS + FUNDING OPPORTUNITIES

City of Knoxville Priority Actions

We are committed to eliminating deaths and serious injuries on our streets. The strategies outlined in this action plan were developed to help guide the implementation efforts of the City and its partners to improve safety in Knoxville.

ACTION ITEMS

The following immediate action items are intended to be the priority steps the City will take toward implementing the Vision Zero Action Plan. While this is an aggressive approach, we're committed to making Knoxville safer for all users, and we will update these action steps publicly based on performance and progress.

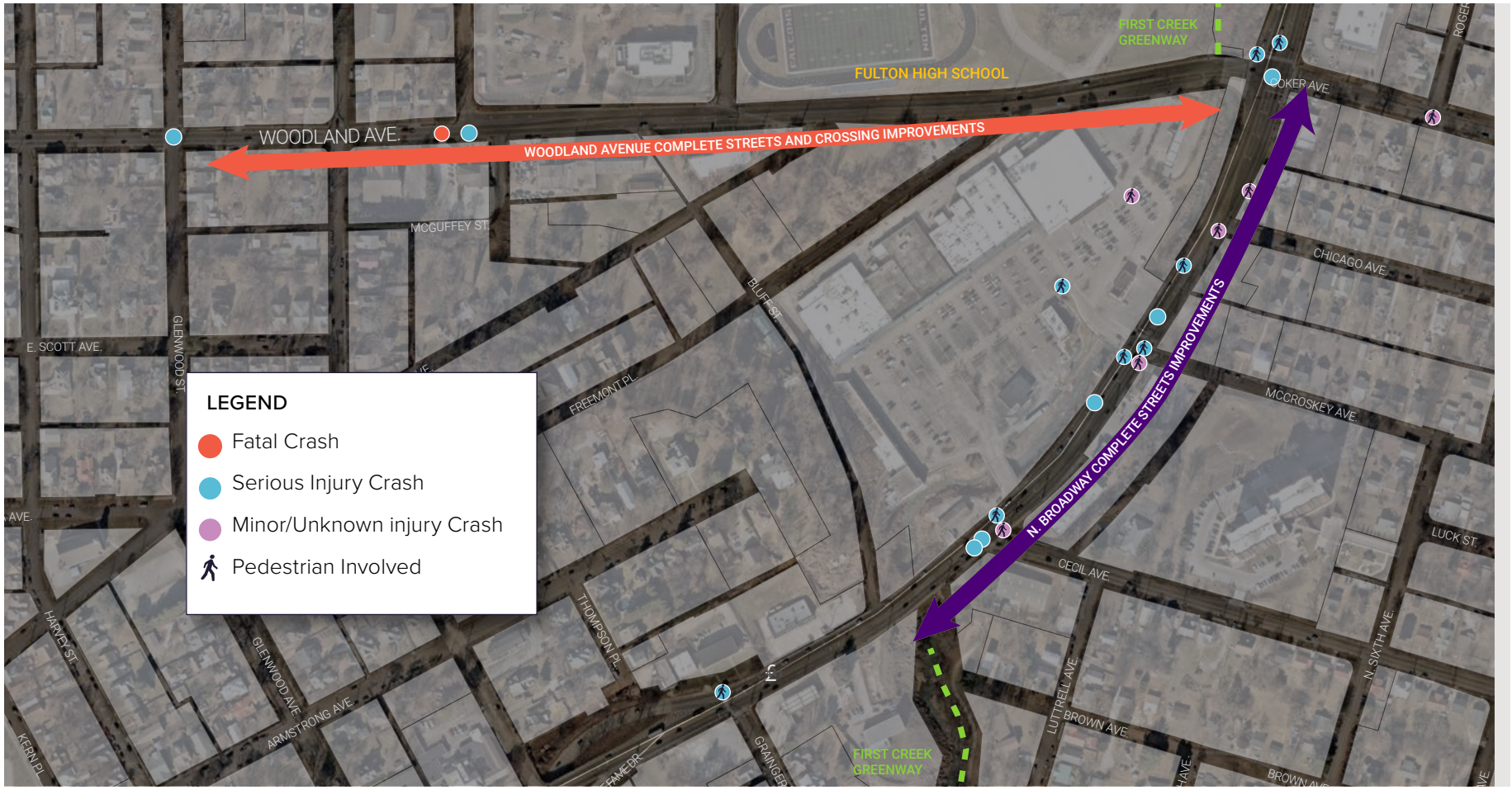
PRIORITY PROJECTS

Priority projects will be identified using the HIN and predictive analysis. These will be detailed with planning-level cost estimates, and implementation will be pursued over time in accordance with the Action Plan Framework and through the various funding sources listed in Table 2.

PRIORITY ACTIONS

- Apply for Safe Streets and Roads for All Implementation Grant for priority projects.
- Support the Knoxville Vision Zero Steering Committee.
- Collaborate with TDOT to prioritize, design, and fund safety projects on the HIN that are state maintained.
- Implement safety improvements along the HIN prioritizing Tier 1 project segments.
- Conduct demonstration projects to test new design ideas, engage the public, and implement safety improvements faster.
- Evaluate success towards the goal of zero traffic deaths and severe injuries.
- Launch a transparent data dashboard.

PRIORITY ACTION: NORTH BROADWAY / WOODLAND AVENUE



PRIORITY ACTIONS

Both Broadway and Woodland Avenue present opportunities for targeted investments in high-crash corridors. Improvements on N Broadway include adding a shared-use path. This would also provide a valuable connection to the First Creek Greenway trail. On E Woodland Avenue, improvements include a shared-use path, reducing travel lanes from four to two, an on-road bike lane, and a refuge island at Fulton High School.

PRIORITY ACTION: E MAGNOLIA AVENUE

PRIORITY ACTIONS

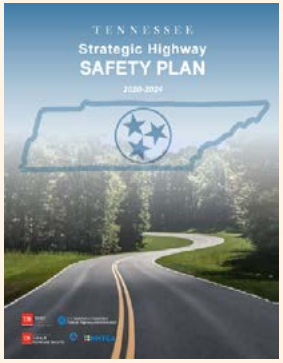
Improvements on E Magnolia Avenue are focused on two key intersections: Cherry Street and Hembree Street, although complete street improvements to benefit all roadway users are also recommended. Magnolia Ave is a 5-lane roadway with a wide outside shoulder. The intersection between Magnolia and Hembree Street was the site of a pedestrian fatality and currently there is no safe way to cross Hembree Street. The roadway here is above 70 feet wide. Crosswalks should be added to all legs of the intersection, with enhanced pedestrian protection through curb extensions, RRFBs or PHBs, and a pedestrian refuge island.

Partnering with TDOT

TDOT is responsible for the construction and maintenance of state roads. State roadways are typically higher speed and higher capacity roadways, and thus see a significant portion of severe crashes. TDOT plays a vital role in efforts to reduce the number of severe roadway crashes in the City of Knoxville and across the state.

Key Departments within TDOT include:

- **The Region 1 Office**
  - » Oversees operations and design of TDOT routes in the region.
- **Traffic Operations**
  - » Responsible for the Traffic Management Center and Traffic Incident Management program, perform traffic engineering studies, prepare traffic signal, roadway lighting, and roadway signage designs.
- **Multimodal Division**
  - » Supports mobility for all through public transportation, bicycle and pedestrian infrastructure, complete streets, and Travel Demand Management. They also manage the Pedestrian Road Safety Initiative (PRSI) and Multimodal Access Grant (MMAG) program.



TDOT's *Strategic Highway Safety Plan* (SHSP) is the statewide road map to identify and mitigate safety concerns. The SHSP commits the state to moving toward zero fatalities and serious injuries on its roadways.

- **Long Range Planning**
  - » Responsible for planning, developing, and managing statewide transportation studies and planning tools that help guide statewide policy for the department. This division collects and maintains eTRIMS, the roadway inventory database, and manages the Congestion Mitigation and Air Quality and TDOT MMAG grant programs. They also oversee the Corridor Management Agreements, focusing on access management.
- **Roadway Design**
  - » Responsible for oversight of roadway design standards and policy updates. They also ensure roadway plans meet state and federal guidance.
  - » Provides geometric designs of state controlled roadways.

Funding Opportunities

The transformative actions needed to achieve zero traffic deaths will require a significant financial commitment. Fortunately, this does not fall entirely on the City of Knoxville to fund. The USDOT established historic discretionary grant awards for safety planning and implementation through the Safe Streets and Roads for All (SS4A) program, which is set to fund $1 billion in projects each year through 2026 (five years total). In addition to this huge federal investment in safety, other federal grant programs and state programs can be used to leverage existing funds from the City of Knoxville.

Table 2. State Funding Programs

Funding Program	Administering Agency	Description and Eligible Recipients	Local Match
Federal Highway Safety Improvement Program (HSIP)	TDOT	"Umbrella" safety program that funds different programs like a Road Safety Audit and PRSI. Communities across TN. This is not a grant program, rather TDOT applies funding based on state priorities.	N/A
Pedestrian Road Safety Initiative (PRSI)	TDOT	Safety improvement program for pedestrian-related severe crashes. Cities and counties are eligible but not a grant application progress. This program is funded through the larger HSIP program.	N/A
Tennessee Highway Safety Office (THSO)	THSO	Grant program focusing on changing driver behavior. Cities, counties are eligible.	Varies
Transportation Planning Grant (TPG)	TDOT	Competitive grant program used to fund safety, congestion and access management for cities and counties. Available to communities within Metropolitan Planning Organization (MPO) areas across the state. The max award in 2023 is $200K.	20%
Transportation Alternatives Program (TAP)	TDOT/TPO	Local community enhancement grant. Cities and counties are eligible. The average award is $350,000.	20%

Funding Program	Administering Agency	Description and Eligible Recipients	Local Match
Congestion Mitigation and Air Quality Improvement (CMAQ)	TDOT	Provides funding for air quality improvement and congestion reduction projects. Air quality nonattainment or maintenance communities.	0-20%
Surface Transportation Block Grant (STBG)	TDOT/TPO	Flexible transportation program used to fund a variety of programs. Cities, counties, and state are eligible.	20%
Safe Streets and Roads for All (SS4A)	FHWA (state or local entity may administer project, working with FHWA if awarded)	Competitive grant; $1.2B available in FY23 for planning and implementation.	20%
RAISE (Rebuilding American Infrastructure with Sustainability and Equity)	FHWA (state or local entity may administer project, working with FHWA if awarded)	$7.5B over 5 years ($1.5B/year); funding for transportation projects (multimodal projects that address equity and safety will be favored under current administration). The maximum funding award is approximately $30M.	20% but projects with a higher local match are typically more competitive. Disadvantage communities may be eligible for local match waiver.
Active Transportation Infrastructure Investment (ATIIP)	FHWA (state or local entity may administer project, working with FHWA if awarded)	$1B over 5 years ($200M/year); funding for active transportation projects (mobility options powered primarily by human energy, including bicycling and walking) at the network scale, rather than on a project-by-project basis.	20% but disadvantaged communities may be eligible for local match waiver.
Reconnecting Communities and Neighborhoods (RCN) Program *Combines Reconnecting Communities Pilot (RCP) and Neighborhood Access and Equity (NAE) programs*	FHWA (state or local entity may administer project, working with FHWA if awarded)	Capital Construction: Funds both reconnecting-focused projects and smaller projects focused on reducing environmental harm and improving access in disadvantaged communities. $1.15 billion available ($148M RCP Construction / $1B NAE). Community Planning: Funds for planning activities to support future construction projects and allow for innovative community planning to address localized transportation challenges. $185 million available ($50M RCP Planning / $135M NAE). Regional Partnerships Challenge: Incentivizes stronger partnerships between local governments, MPOs/RPOs, State DOTs, and non-profit, private, and community partners to tackle persistent equitable access and mobility challenges, as well as greenhouse gas emissions reductions. Applicants must consist of a partnership between two or more eligible agencies. $450 million available (NAE).	RCP Construction: Max 50% grant cost share, Max 80% Federal RCP Planning: Max 80% grant cost share NAE Planning and Construction: Max 80% grant cost share, except disadvantaged communities

Funding Program	Administering Agency	Description and Eligible Recipients	Local Match
Healthy Streets	FHWA (state or local entity may administer project, working with FHWA if awarded)	$500 million over five years, $15 million maximum award for projects that mitigate urban heat islands, improve air quality, reduce the extent of impervious surfaces, reduce stormwater run-off and flood risks, and reduce heat impacts to infrastructure and road users.	20%
Carbon Reduction Program (CRP)	TDOT/TPO	$139M over 5 years for the State of Tennessee; will be distributed through MPOs and the state.	20%
Multimodal Access Grant (MMAG)	TDOT	TDOT's MMAG is a state-funded program created to support the transportation needs of pedestrians, bicyclists, and transit users through infrastructure projects that address existing gaps along state routes. Projects in Distressed/At-Risk Counties: 95% of total project budget, up to a maximum award of $1,187,500 Project in All Other Counties: 90% of total project budget, up to a maximum award of $1,125,000	5%-10%

Appendix

CITY OF KNOXVILLE HIGH INJURY NETWORK BY CORRIDOR

Corridor Length (miles)	Street Name	From	To	Full/ Partial Lighting	Max Number of Lanes	Max Speed Limit (mph)	Max HIN Index	Max HIN Tier
0.47	CLINTON HWY.	Callahan Dr NW	Old Callahan Dr	YES	5	55	246.46	Tier 1
0.48	N. BROADWAY	Highland Dr NE	Old Broadway NE	YES	6	55	201.99	Tier 1
0.59	CHAPMAN HWY.	Norton Rd	Nixon Rd SE	YES	6	55	200.04	Tier 1
0.28	WESTERN AVE.	Interstate 40	17th St NW	YES	7	55	182.81	Tier 1
0.70	E. MAGNOLIA AVE.	N Beaman St NE	N Harrison St	YES	4	45	171.93	Tier 1
0.72	WESTERN AVE.	Morningstar Storage driveway	Sullivan Rd NW	YES	7	55	167.57	Tier 1
0.25	N. BROADWAY	Interstate 640 ramp	Old Broadway NE	YES	6	55	155.38	Tier 1
0.31	N. BROADWAY	Cecil Ave NE	Lawson Ave NE	YES	6	55	155.22	Tier 1
0.55	RUTLEDGE PK.	Cement Plant Rd	N Chilhowee Dr NE	YES	4	55	154.44	Tier 1
0.49	CLINTON HWY.	Allen Dr	Marchants Dr NW	YES	5	55	154.04	Tier 1
0.51	CEDAR BLUFF RD.	Kingston Pike	Interstate 40	YES	6	40	141.65	Tier 1
0.22	N. BROADWAY	Ridgewood Rd	Jane Allen Dr	YES	6	55	139.84	Tier 1
0.29	MIDDLEBROOK PK.	21st St NW	Sutherland Ave NW	YES	4	35	134.38	Tier 1
0.27	CALLAHAN DR.	Crown Pointe Plaza driveway	Clinton Hwy	YES	4	45	133.44	Tier 1
0.22	AILOR AVE.	Western Ave	Interstate 40 ramp	YES	4	35	133.43	Tier 1
0.26	HENLEY ST.	W Hill Ave	W Clinch Ave SW	YES	8	45	131.55	Tier 1
0.23	GALLAHER VIEW RD	Ivy Falls Way	Interstate 40 ramp	YES	4	40	128.13	Tier 1
0.46	MERCHANT DR.	Central Ave Pike	Schubert Rd NW	YES	4	40	123.87	Tier 1
0.68	RUTLEDGE PK.	Transport Ln	Cement Plant Rd	YES	4	55	123.55	Tier 1
0.22	CLINTON HWY.	Metler Dr	Murray Dr NW	YES	5	55	123.20	Tier 1
0.54	CHAPMAN HWY.	E Ford Valley Rd SE	E Lake Forest Dr SE	YES	6	55	123.10	Tier 1
0.25	WESTERN AVE.	Shoppers Lane NW	Morningstar Storage driveway	YES	7	55	121.87	Tier 1
0.27	SUTHERLAND AVE.	Hollywood Rd NW	Forest Park Blvd NW	YES	3	35	120.35	Tier 1
0.20	GAP RD.	Ohio Ave NW	Larch St	YES	2	35	114.66	Tier 1
0.28	N. CHESTNUT ST.	Martin Luther King Jr Ave	E 5th Ave NE	YES	2	30	111.19	Tier 1
0.48	E. MAGNOLIA AVE.	N Harrison St	Spruce St	YES	4	45	109.41	Tier 1
0.28	N. BROADWAY	Emoriland Blvd NE	Atlantic Ave NE	YES	6	55	108.77	Tier 1
0.13	S. BROADWAY	W Jackson Ave SW	W Summit Hill Dr SW	YES	4	35	108.74	Tier 1
0.30	E. EMORY RD.	Knoxville City limit	Dannaher Dr	YES	4	40	108.40	Tier 1
0.36	MERCHANT DR.	Harriet Pl	Tillery Rd NW	YES	4	40	108.38	Tier 1
1.29	CHAPMAN HWY.	Nixon Rd SE	E Ford Valley Rd SE	YES	6	55	107.71	Tier 2
0.51	CHAPMAN HWY.	Larry Dr SW	Gwinfield Dr SE	YES	6	55	107.71	Tier 2
0.82	CHAPMAN HWY.	Woodlawn Pike SE	Maryville Pike	YES	6	55	107.67	Tier 1
1.02	ASHEVILLE HWY.	Holtson Ferry Rd NE	Interstate 40	YES	4	55	107.47	Tier 1
0.24	WALKER SPRINGS RD. NW.	Kingston Pike	Knoxville City Limit	YES	4	40	106.93	Tier 1
0.36	WESTERN AVE.	Chillicothe St	Interstate 640	YES	7	55	106.64	Tier 1
0.25	WESTERN AVE.	Henley St SW	Grand Ave SW	YES	7	55	106.64	Tier 1
0.42	SCHAAD RD.	Clinton Hwy	Pleasant Ridge Rd NW	YES	4	45	104.98	Tier 1
0.26	MERCHANTS CENTER BLVD.	Merchants Dr NW	Merchants Center Blvd NW terminus	YES	4	25	104.71	Tier 1

CITY OF KNOXVILLE HIGH INJURY NETWORK BY CORRIDOR

Corridor Length (miles)	Street Name	From	To	Full/ Partial Lighting	Max Number of Lanes	Max Speed Limit (mph)	Max HIN Index	Max HIN Tier
0.05	FAMILY INN DR.	Parking Lot	Merchants Dr NW	--	4	25	100.00	Tier 1
0.06	WILD GEESE RD.	Parkside Dr NW	Turkey Dr NW	--	2	25	100.00	Tier 1
0.24	HIGHLAND DR.	Jenkins Rd	Woodfern Rd	YES	2	30	94.08	Tier 1
0.54	N. BROADWAY	Jane Allen Dr	Gibbs Dr NE	YES	6	55	93.23	Tier 1
0.14	MERCHANT DR.	Tillery Rd NW	Fredonia Rd	YES	4	40	92.90	Tier 1
0.81	KINGSTON PK.	Wesley Rd	Morrell Rd SW	YES	6	45	92.46	Tier 1
0.26	CLINTON HWY.	Cherrybrook Dr NW	Callahan Dr NW	YES	5	55	92.42	Tier 2
0.25	WESTERN AVE.	Grand Ave SW	Interstate 40	YES	7	55	91.40	Tier 2
0.27	WOODLAND AVE.	W Glendwood Ave NE	Shepherd St NE	YES	4	40	89.52	Tier 2
0.26	WOODLAND AVE.	St Mary St NE	W Glenwood Ave NE	YES	4	40	89.52	Tier 2
0.39	E. SUMMIT HILL DR.	Lula Powell Dr	James White Pkwy	YES	4	35	87.04	Tier 2
0.82	LOVES CREEK RD.	Rutledge Pike NE	Buffat Mill Rd	YES	2	30	85.56	Tier 2
0.45	W. OLDHAM AVE.	Interstate 275	Reed St NW	YES	4	30	80.42	Tier 2
0.24	NORTHSHORE DR.	Woodburn Dr	Kingston Pike	YES	4	40	79.28	Tier 2
0.25	PAPERMILL DR.	Westfield Rd NW	Kingston Pike	YES	5	40	78.92	Tier 2
0.26	N. CENTRAL ST.	Metroplex Ct	Atlantic Ave NE	YES	3	35	78.51	Tier 2
0.28	N. CENTRAL ST.	Atlantic Ave NE	Fox St	YES	3	35	78.51	Tier 2
0.53	PLEASANT RIDGE RD.	Western Ave	Meadowood Apartments	YES	2	45	77.73	Tier 2
0.17	PLEASANT RIDGE RD.	Murray Dr NW	Virginia Walker Apartments	YES	2	45	77.73	Tier 2
0.25	N. BROADWAY	Kenyon St NE	Cecil Ave NE	YES	6	55	77.69	Tier 2
0.29	N. BROADWAY	Old Magnolia Ave NW	Emory Pl	YES	6	55	77.63	Tier 2
0.32	OAK RIDGE HWY.	Beaver Ridge Rd	Knoxville City Limit	YES	4	55	77.37	Tier 2
0.86	KINGSTON PK.	S Cedar Bluff Rd	N Seven Oaks Dr NW	YES	6	45	77.11	Tier 2
0.33	CHAPMAN HWY.	E Martin Mill Pike SW	E Martin Mill Pike SE	YES	6	55	76.94	Tier 2
0.12	CHAPMAN HWY.	Mountain Grove Dr	Michaels Ln	YES	6	55	76.93	Tier 2
0.28	WASHINGTON PK.	Murphy Rd NE	Edmondson Ln	YES	4	45	76.60	Tier 2
0.26	CENTRAL AVE. PK.	Steeplechase Blvd	Murray Dr NW	YES	2	40	76.58	Tier 2
0.72	CENTRAL AVE. PK.	Bookwalter Dr	Merchants Dr NW	YES	2	40	76.58	Tier 2
0.71	TAZEWELL PK.	Villa Rd	Beverly Pl	YES	3	50	76.56	Tier 2
0.37	CENTRAL AVE. PK.	Barberry Dr NW	Callahan Dr NW ramp	YES	2	40	76.49	Tier 2
0.21	WESTERN AVE.	Nickle Rd	Ridgedale Rd	YES	7	55	76.17	Tier 2
0.33	WESTERN AVE.	University Ave	Eubanks Ave	YES	7	55	76.17	Tier 2
0.53	WOODLAND AVE.	Shepherd St	Interstate 275	YES	4	40	74.58	Tier 2
0.45	DANDRIDGE AVE.	Surrey Rd	Hazen St	YES	4	35	73.10	Tier 2
0.34	RAY MEARS BLVD.	Winston Rd SW	Downtown West Blvd SW	YES	4	40	72.69	Tier 2
0.25	PARKDALE RD.	Bonita Dr NE	Pilleaux Rd NE	YES	2	30	71.69	Tier 2
0.17	LULA POWELL DR.	Green Magnet Academy Driveway	Summit Hill Dr	YES	2	35	69.45	Tier 2
0.23	BLACKSTOCK AVE.	McGhee Ave	Hannah Ave	YES	2	30	67.13	Tier 2
0.22	GLEASON DR.	Gleason Dr SW roundabout	Morrell Rd SW	YES	4	30	66.98	Tier 2
0.23	PROSSER RD.	Buffat Mill Rd	Berean Cristian School Driveway	YES	4	40	64.69	Tier 2
0.23	INSKIP DR.	Fennel Rd	Central Ave Pike	YES	2	30	63.16	Tier 2

CITY OF KNOXVILLE HIGH INJURY NETWORK BY CORRIDOR

Corridor Length (miles)	Street Name	From	To	Full/ Partial Lighting	Max Number of Lanes	Max Speed Limit (mph)	Max HIN Index	Max HIN Tier
0.29	S. GAY ST.	E Blount Ave	Neyland Dr	YES	4	30	62.83	Tier 2
0.53	N. CENTRAL ST.	Fox St	Nerva Rd NE	YES	3	35	62.81	Tier 2
0.23	REED ST.	W Baxter Ave NW	Jourolman Ave	YES	2	30	62.69	Tier 2
0.24	BRIDGEWATER RD.	Walbrook Dr NW	Cross Park Dr NW	YES	4	35	62.67	Tier 2
0.24	WASHINGTON PK.	Glenview Dr	N Broadway	YES	4	40	62.43	Tier 2
0.26	WASHINGTON PK.	Newman St	Glenview Dr	YES	4	40	62.43	Tier 2
0.29	PARKSIDE DR.	Goodys Ln	Lovell Rd	YES	4	40	62.16	Tier 2
0.27	HOLSTON DR.	Holston Ct	Burns Rd SE	YES	2	30	62.09	Tier 2
0.59	MIDDLEBROOK PK.	Ed Shouse Rd NW	Third Creek Rd NW	YES	4	50	61.93	Tier 2
0.45	MIDDLEBROOK PK.	Woodview Ln	Millington Pkwy	YES	4	50	61.93	Tier 2
0.26	OAK RIDGE HWY.	Summerfield Dr NW	Beaver Ridge Rd	YES	4	55	61.90	Tier 2
0.50	MORRELL RD.	Devonshire Dr	Deane Hill Dr	YES	4	40	61.78	Tier 2
1.12	RUTLEDGE PK.	N Chilhowee Dr NE	Interstate 40	YES	4	55	61.78	Tier 2
0.43	W. GOV. JOHN SEVIER HWY.	Calvary Knoxville Church driveway	Alcoa Hwy	YES	4	50	61.72	Tier 2
0.26	KINGSTON PK.	Noelton Dr SW	Railroad tracks	YES	6	45	61.69	Tier 2
0.52	CLINTON HWY.	Kensi Dr	Allen Dr	YES	5	55	61.62	Tier 2
0.27	S. NORTHSHORE DR.	Park Glen Rd SW	Enclave Way	YES	4	45	61.46	Tier 2
0.20	CENTRAL AVE. PK.	Bruhin Rd NW	Railroad tracks	YES	2	40	61.25	Tier 2
0.40	RUGGLES FERRY PK.	Asheville Hwy	Drummer Ln	--	2	40	61.23	Tier 2
0.27	TAZEWELL PK.	Kesterbrooke Blvd NE	Luttrell Rd	YES	3	50	61.22	Tier 2
0.38	CEDAR LN.	Montrose Rd NE	Lyndell Rd NE	YES	4	40	60.99	Tier 2
0.29	NEYLAND DR.	Railroad tracks	Leinhard Ln SW	YES	5	45	60.96	Tier 2
0.20	WESTERN AVE.	Waverly St NW	Chillicothe St	YES	7	55	60.94	Tier 2
0.61	MARTIN MILL PK.	Brown Rd	Lester Rd SW	YES	2	40	60.90	Tier 2
0.25	WESTERN AVE.	Ed Shouse Rd NW	Shoppers Ln NW	YES	7	55	60.87	Tier 2
0.51	STRAWBERRY PLAINS PK.	Huckleberry Ln	Interstate 40	YES	4	45	60.64	Tier 2
0.20	WESTERN AVE.	Richmond Ave NW	Western Ave NW	YES	7	55	60.55	Tier 2
0.31	DEANE HILL DR.	Golf Club Rd	Cheshire Dr	YES	2	40	60.49	Tier 2
0.36	BUFFAT MILL RD.	Spring Hill Rd	Pulaski Rd	YES	2	35	60.28	Tier 2
0.30	SUTHERLAND AVE.	Liberty St NW	Bellemead Ave NW	YES	3	35	60.18	Tier 2
0.26	PINEY GROVE CHURCH RD.	W Forest Blvd NW	Creekhead Dr NW	YES	2	30	58.99	Tier 2
0.28	MARKET PLACE BLVD.	Kingston Pike	N Peters Rd NW	YES	4	25	57.88	Tier 2
0.36	EMERALD AVE.	Harvey St NE	N Central St	YES	2	25	57.02	Tier 2
0.18	N. GALLAHER VIEW RD.	Kingston Pike	Walbrook Dr NW	YES	4	40	55.54	Tier 2
0.39	CHEROKEE TR.	Cherokee Ridge Way	Medical Center Way	YES	2	40	49.07	Tier 2
0.25	INSKIP DR.	Dewey Way	Fennell Rd	YES	2	30	47.37	Tier 2
0.25	E. HILL AVE.	Hall of Fame Dr SW	S Gay St SW	YES	4	35	47.20	Tier 2
0.28	S. GAY ST.	Union Ave	W Jackson Ave SW	YES	4	30	47.12	Tier 2
0.38	STRAWBERRY PLAINS PK.	Interstate 40	Philips Dr	YES	4	45	46.85	Tier 2
0.16	LOVELL RD.	Interstate 40 Ramp	Dutchtown Rd	YES	4	45	46.81	Tier 2
0.39	GLEASON DR.	Morrell Rd SW	Forest Oak Dr	YES	4	40	46.68	Tier 2
0.23	N. BROADWAY	Greenway Dr	Hwy 640 ramp	YES	6	55	46.61	Tier 2

CITY OF KNOXVILLE HIGH INJURY NETWORK BY CORRIDOR

Corridor Length (miles)	Street Name	From	To	Full/ Partial Lighting	Max Number of Lanes	Max Speed Limit (mph)	Max HIN Index	Max HIN Tier
0.24	N. BROADWAY	Old Broadway NE	Greenway Dr	YES	6	55	46.60	Tier 2
0.40	MAYNARDVILLE PK.	Brown Gap Rd NE	Shotsman Ln	YES	4	55	46.49	Tier 2
0.30	MERCHANT DR.	Schubert Rd NW	Harriet Pl	YES	4	40	46.45	Tier 2
0.31	MIDDLEBROOK PK.	W Hills Rd	Woodview Ln	YES	4	50	46.45	Tier 2
0.41	MIDDLEBROOK PK.	Midpark Rd	Amherst Rd NW	YES	4	50	46.45	Tier 2
0.27	MIDDLEBROOK PK.	Old Weisgarber Rd	Dowell Springs Blvd	YES	4	50	46.44	Tier 2
0.44	MORRELL RD.	Gleason Dr	Kingston Pike	YES	4	40	46.34	Tier 2
0.31	MORRELL RD.	Deane Hill Dr SW	Gleason Dr	YES	4	40	46.33	Tier 2
0.60	MARYVILLE PK.	Ogle Ave SW	Eastend Rd SW	YES	2	45	46.28	Tier 2
0.35	KINGSTON PK.	S Gallaher View Rd SW	Walker Springs Rd NW	YES	6	45	46.26	Tier 2
0.98	KINGSTON PK.	Montvue Rd	N Gallager View Rd NW	YES	6	45	46.26	Tier 2
0.15	KINGSTON PK.	Homberg Dr SW	S Mohican St SW	YES	6	45	46.26	Tier 2
0.33	KINGSTON PK.	Gore Rd	Homber Dr SW	YES	6	45	46.26	Tier 2
0.46	CLINTON HWY.	Merchants Dr NW	Victor Dr	YES	5	55	46.21	Tier 2
0.67	CHAPMAN HWY.	W Hill Ave	Hawthorne Ave SW	YES	6	55	46.16	Tier 2
0.23	CHAPMAN HWY.	Maryville Pike	E Martin Mill Pike	YES	6	55	46.16	Tier 2
0.42	CHAPMAN HWY.	Michaels Ln	Norton Rd	YES	6	55	46.16	Tier 2
0.40	S. NORTHSHORE DR.	Westland Dr SW	Erin Dr SW	YES	4	45	46.09	Tier 2
0.37	TAZEWELL PK.	Tazewell Pointe Way	Comice Way	YES	3	50	45.96	Tier 2
0.75	WASHINGTON PK.	New Harvest Ln	Amber Ridge Way	YES	4	45	45.95	Tier 2
0.25	WILSON RD.	Peltier Rd NW	Bouldercrest Apartments	YES	2	30	45.91	Tier 2
0.33	MARTIN LUTHER KING JR. AVE.	S Harrison St	S Chestnut St	YES	2	30	45.81	Tier 2
0.80	WESTERN AVE.	Sullivan Rd NW	Goldenrod Cir	YES	7	55	45.70	Tier 2
0.20	WESTERN AVE.	Interstate 640	Ed Shouse Rd NW	YES	7	55	45.69	Tier 2
0.14	SHERRILL BLVD.	Shepherd of the Hills Church driveway	Knoxville City limit	--	4	40	45.10	Tier 2
0.33	N. PETERS RD.	Harry Lane Blvd	Market Place Blvd NW	YES	4	40	44.97	Tier 2
0.23	MIDDLEBROOK PK.	Western Ave	21st St NW	YES	4	35	44.82	Tier 2
0.27	CALLAHAN DR.	Central Ave Pike	Interstate 75	YES	4	45	44.48	Tier 2
0.77	CALLAHAN DR.	Interstate 75	Keck Rd	YES	4	45	44.48	Tier 2
0.25	JACKSBORO PK.	Grove Cir NE	Acorn Wds	YES	2	40	42.98	Tier 2
0.31	S. SEVENTEENTH ST.	Laurel Ave SW	Dale Ave NW	YES	4	30	34.40	Tier 2
0.56	PAPERMILL RD.	Interstate 40	N Weisgarber Rd	YES	6	40	34.20	Tier 2
0.21	SCHOFIELD ST.	Keith Ave NE	Vermont Ave	YES	2	30	34.08	Tier 2
0.21	WALBROOK DR. NW	N Gallaher View Rd NW	Interstate 40 ramp	NO	3	40	33.83	Tier 2
0.19	WALBROOK DR. NW	Interstate 40 Ramp	Walker Spring Rd	NO	3	40	33.83	Tier 2
0.26	S. CENTRAL ST.	Union Ave	Willow Ave SE	YES	2	30	33.38	Tier 2
0.25	N. WINONA ST.	E 5th Ave NE	McCalla Ave SE	YES	2	25	32.44	Tier 2
0.47	WASHINGTON AVE.	N Cherry St NE	N Olive St NE	YES	2	30	32.40	Tier 2
0.33	WILSON AVE.	S Cherry St	Ben Hur Ave	YES	2	30	32.24	Tier 2
0.29	ATLANTIC AVE.	Metler St	N Central St	YES	2	30	31.95	Tier 2
0.19	PARK WEST BLVD.	N Cedar Bluff Rd NW	Park 40 North Blvd	YES	4	30	31.78	Tier 2
0.24	S. HARRISON ST.	Louise Ave	E Magnolia Ave	YES	2	25	31.58	Tier 2

CITY OF KNOXVILLE HIGH INJURY NETWORK BY CORRIDOR

Corridor Length (miles)	Street Name	From	To	Full/ Partial Lighting	Max Number of Lanes	Max Speed Limit (mph)	Max HIN Index	Max HIN Tier
0.39	CEDAR BLUFF RD.	Interstate 40	Sherrill Blvd	YES	6	40	31.47	Tier 2
0.54	E. HILL AVE.	Howard Baker Jr Ave SE	Hall of Fame Dr SE	YES	4	35	31.43	Tier 2
0.28	E. MAGNOLIA AVE.	N Cruze St	Myrtle St NE	YES	4	45	31.26	Tier 2
0.23	N. CHERRY ST.	Interstate 40	Cherry St Arc	YES	4	40	31.24	Tier 2
0.19	PLEASANT RIDGE RD.	Walpine Ln	Merchants Dr NW	YES	2	45	31.09	Tier 2
0.23	N. BROADWAY	Jacksboro Pike NE	Old Broadway St NE	YES	6	55	31.08	Tier 2
0.24	N. BROADWAY	Wells Ave NE	Kenyon St NE	YES	6	55	31.08	Tier 2
0.25	N. BROADWAY	Ludlow Ave NE	Emoriland Blvd NE	YES	6	55	31.08	Tier 2
0.35	HOLLYWOOD RD.	Sutherland Ave NW	Interstate 40	YES	2	30	31.04	Tier 2
0.58	E. EMORY RD.	Dannaher Dr	Blueberry Rd	YES	4	40	30.97	Tier 2
0.39	MIDDLEBROOK PK.	Lonas Dr NW	Ed Shouse Rd NW	YES	4	50	30.95	Tier 2
0.30	KINGSTON PK.	Fort Sanders West Blvd	David Ln SW	YES	6	45	30.84	Tier 2
0.31	KINGSTON PK.	S Mohican St SW	Homberg Dr SW	YES	6	45	30.84	Tier 2
0.21	KINGSTON PK.	Capital Dr SW	Mabry Hood Rd NW	YES	6	45	30.84	Tier 2
0.28	KINGSTON PK.	Agnes Rd SW	Deane Hill Dr SW	YES	6	45	30.84	Tier 2
0.26	KINGSTON PK.	Gerald Ford St NW	Albunda Dr	YES	6	45	30.84	Tier 2
0.24	KINGSTON PK.	Deane Hill Dr SW	Gerald Ford St NW	YES	6	45	30.84	Tier 2
0.41	KINGSTON PK.	Volunteer Blvd SW	Neyland Dr	YES	6	45	30.84	Tier 2
0.27	KINGSTON PK.	Mabry Hood Rd NW	Fort Sanders West Blvd	YES	6	45	30.83	Tier 2
0.31	RIVERSIDE DR.	James White Pkwy	Lombard Pl	YES	3	35	30.82	Tier 2
0.43	CHAPMAN HWY.	Gwinfield Dr SE	Woodlawn Pike SE	YES	6	55	30.77	Tier 2
0.62	CHAPMAN HWY.	E Lake Forest Dr SE	Larry Dr SW	YES	6	55	30.77	Tier 2
0.76	RIFLE RANGE RD.	Grove Dr NE	Parkdale Rd NE	YES	2	30	30.18	Tier 2
0.39	MARTIN LUTHER KING JR AVE.	S Cruze St SE	Harriet Tubman St	YES	4	35	27.98	Tier 2
0.26	N. BROADWAY	Old Broadway St NE	Ridgewood Rd	YES	6	55	15.54	Tier 2
0.24	N. BROADWAY	Gibbs Dr NE	Highland Dr NE	YES	6	55	15.54	Tier 2
0.51	MIDDLEBROOK PK.	Amherst Rd NW	Old Weisgarber Rd	YES	4	50	15.48	Tier 2
0.38	CLINTON HWY.	Metler Dr	Victor Dr	YES	5	55	15.40	Tier 2
0.89	CLINTON HWY.	Murray Drive NW	Cherrybrook Dr NW	YES	5	55	15.40	Tier 2
0.54	KINGSTON PK.	S Martinwood Rd	Ebenezer Rd SW	YES	6	45	0.00	Tier 2
1.03	PARKSIDE DR.	Pellissippi Pkwy	Goodys Ln	YES	4	40	0.00	Tier 2
0.14	WESTERN AVE.	17th St NW	University Ave	YES	7	55	0.00	Tier 2

vision zero

SAFER STREETS FOR KNOXVILLE