VISION ZERO DENTON ACTION PLAN



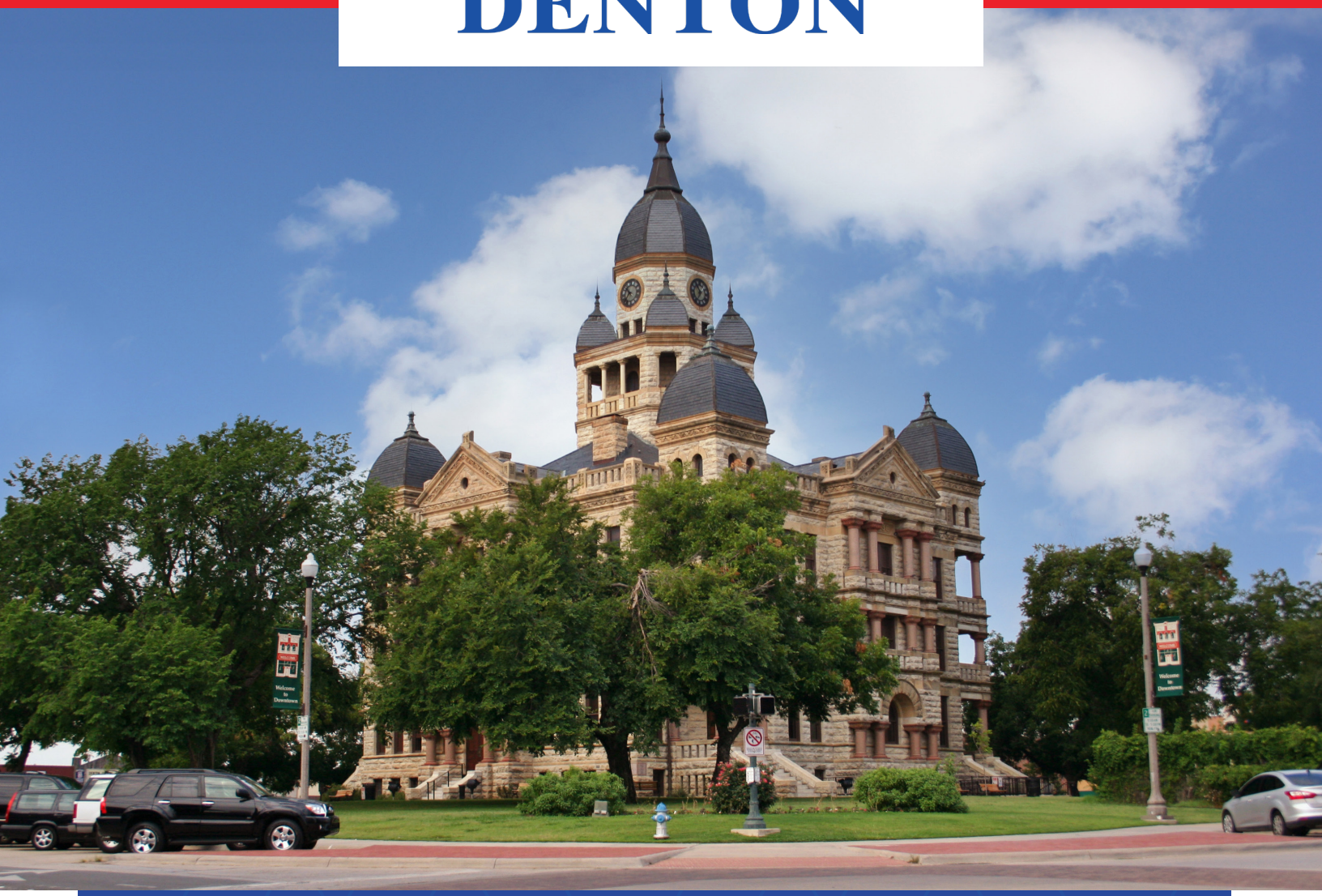
CITY OF DENTON

VISION ZERO ACTION PLAN

April 2026

Prepared for:

CITY OF DENTON



Prepared by:

Kimley»Horn

Expect More. Experience Better.

VISION ZERO DENTON ACTION PLAN

"Our mission is to create a safe, accessible, and sustainable transportation future for all Denton residents. Through data, community engagement, and innovation, we aim to eliminate fatalities and serious injuries, ensuring a network that protects and serves everyone.

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CHAPTER 1

ESTABLISHING VISION ZERO

"The Vision Zero Safety Action Plan provides City staff and local partners with a structured, data-driven approach to identify, prioritize, and implement projects that improve roadway safety.

VISION ZERO

Vision Zero is a safety strategy that aims to eliminate traffic-related fatalities and serious injuries while promoting safe, healthy, and equitable mobility for all roadway users. The approach prioritizes safe roadway design, enforcement, education, and community engagement to reduce the risk and severity of crashes. Pioneered in Europe, Vision Zero reframes traffic deaths and serious injuries as preventable outcomes rather than unavoidable consequences of the transportation system.

Unlike traditional safety approaches that emphasize individual responsibility and perfect user behavior, Vision Zero acknowledges that human error is inevitable and focuses on designing transportation systems that reduce the severity of crashes. Through a comprehensive, system-based approach to safety, **Vision Zero seeks to enhance quality of life, support public health, and improve community mobility.** While the goal of eliminating traffic-related fatalities and serious injuries is ambitious, each reduction represents meaningful progress and delivers lasting benefits to the community.

SAFETY GUIDING PRINCIPLES

The Denton Vision Zero Action Plan is guided by three core principles that support the City's goal of eliminating traffic-related fatalities and serious injuries by 2050. These principles include Vision Zero, the Safe System Approach, and the Six Es of Safety. Together, they establish a comprehensive framework for improving traffic safety across the City.

The Vision Zero Safety Action Plan provides City staff and local partners with a structured, data-driven approach to identify, prioritize, and implement projects that improve roadway safety.

HOW ARE VISION ZERO AND SS4A INTERCONNECTED?

The Safe Streets and Roads for All (SS4A) program is a federal grant program that provides funding to municipalities implementing data-driven strategies to prevent roadway fatalities and serious injuries. The program directly supports the objectives of the Denton Vision Zero Action Plan. Vision Zero defines the policy framework and safety targets, while SS4A provides the financial resources to implement projects and programs that advance the shared goal.

DENTON AND VISION ZERO

The Denton Vision Zero Plan represents a collaborative effort between the City of Denton and the community, developed over a multi-year period from 2022 to 2026. The City organized the planning process into two phases: Assessment and Action Plan. Phase 2 builds on the outcomes of Phase 1 to further the goal of eliminating traffic fatalities and serious injuries by 2050.

1

Phase 1: Vision Zero Assessment

During Phase 1, the City of Denton conducted a comprehensive assessment of existing safety-related programs across municipal departments to identify opportunities for alignment with the Vision Zero framework. The City engaged nearly 80 stakeholders from multiple agencies and organizations through a webinar, a survey, and a facilitated workshop. This assessment established a shared understanding of current conditions, clarified safety priorities, and laid a foundation for coordinated action, enabling the City to advance safety initiatives in subsequent phases efficiently.

2

Phase 2: Vision Zero Action Plan

In Phase 2, the City developed the Vision Zero Action Plan through public engagement and data-driven analysis. The City analyzed crash data and developed a High Injury Network to identify priority locations and contributing factors. The City gathered input from the Vision Zero Task Force and community members through meetings, an open house, surveys, and an interactive map. This input informed the selection of evidence-based countermeasures and the alignment of action items with the Safe System Approach's five pillars. This phase established a framework to support more detailed projects and corridor analysis in the next phase.

SAFE SYSTEM APPROACH

The Safe System Approach, first adopted in Sweden in 1997 as part of the original Vision Zero framework, provides the foundation for implementing the Denton Vision Zero Action Plan. The approach is based on six core principles that guide the development, implementation, and evaluation of safety-focused policies, programs, and projects.

Death or serious injury is unacceptable

The transportation system prioritizes eliminating crashes that result in fatalities and serious injuries over minor incidents. This principle reflects a commitment to protecting roadway users by focusing resources and strategies on preventing the most harmful outcomes and improving overall safety on public roadways.

Humans make mistakes

People inevitably make errors and decisions that can contribute to crashes. The transportation system mitigates these risks by incorporating designs and operational strategies that reduce the likelihood of errors that result in death or serious injury.

Humans are vulnerable

Human bodies have physical limits for tolerating crash forces before serious injury or death occurs. A safe transportation system recognizes these limits and applies human-centered design practices to reduce exposure to high-speed, high-impact conditions.

Responsibility is shared

Preventing traffic crashes requires shared responsibility. Government agencies at all levels, industry partners, advocacy organizations, researchers, and the general public each play a role in improving roadway safety.

Safety is proactive

Emphasizes proactive safety strategies that identify and address risks before crashes occur. Data-driven tools and preventive measures guide investments and interventions to mitigate safety risks across the transportation network.

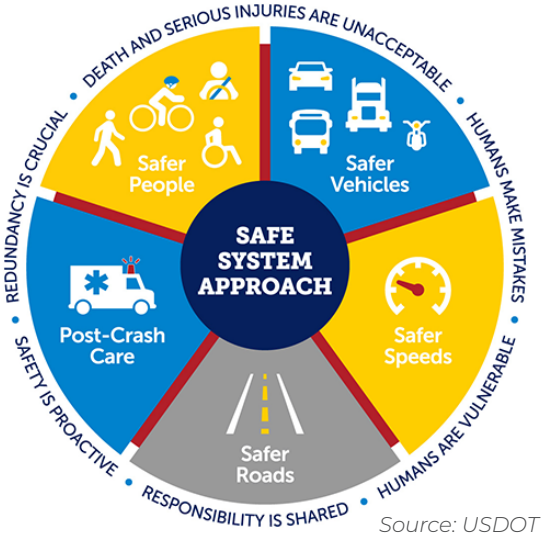
Redundancy is crucial

A resilient transportation system strengthens all elements of safety so that if one element fails, others continue to protect roadway users. Redundancy across system components prevents widespread failure and ensures consistent protection for all users.

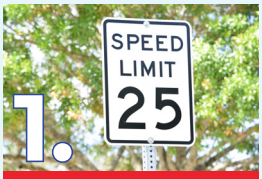
The Safe System Approach is a principles-based approach designed to eliminate fatal and serious injuries. The approach recognizes that human error is inevitable and focuses on safety planning strategies to reduce the likelihood of crashes and limit their severity when they occur. To achieve this, the Safe System Approach establishes multiple complementary layers of protection. The Swiss Cheese Model illustrates this concept by demonstrating how overlapping safety layers create system-wide redundancy. Although gaps or failures may occur within individual components, the system continues to function, preventing isolated errors from resulting in fatal or serious injury outcomes.

Implementation strategies include context-sensitive roadway design, speed management, physical separation between motor vehicles and other roadway users, and the integration of vehicle safety technologies. To support these strategies, the U.S. Department of Transportation identifies five complementary objectives that guide implementation, as detailed below:

Figure 1.1. The Safe System Approach



Source: USDOT



1. Safer Speeds

Focus on reducing vehicle speeds to enhance roadway safety by increasing drivers' reaction times, improving visibility, and boosting survival rates during crashes.



2. Safer Roads

Achieved through a collaborative approach that integrates roadway planning, design, construction, maintenance, operations, and safety countermeasures to improve safety.



3. Safer People

Promote safe and responsible roadway behavior by complying with traffic laws and regulations, helping all users reach their destinations safely.



4. Safer Vehicles

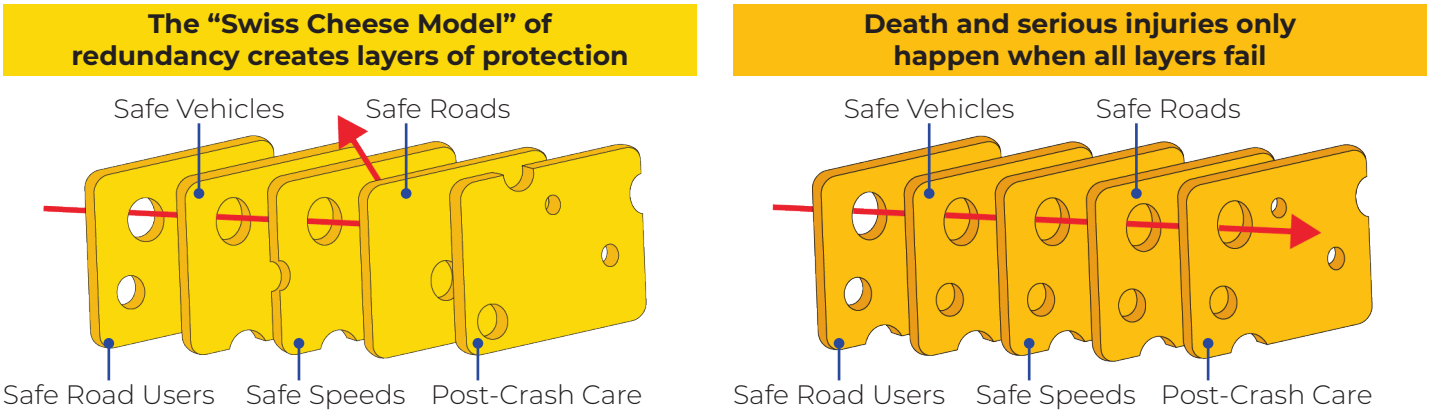
Have active and passive safety features to prevent crashes and reduce injury severity for both occupants and non-occupants.



5. Post-Crash Care

Encompasses the actions of emergency responders, law enforcement personnel, and clean-up following a crash.

Figure 1.2. The Swiss Cheese Model



Source: Federal Highway Administration

SIX "E'S" OF SAFETY

Like the Safe System Approach, the Six Es of Safety function as interconnected element within a holistic framework. Although communities differ in their characteristics and perspectives on safety, the Six Es can be applied across multiple levels to improve the overall user experience and advance safety outcomes.

Engineering

Engineering projects and interventions that support Vision Zero improve safety by shaping the built environment to influence how road users travel. The primary goal is to manage vehicle speeds and improve safety for all users. Proven strategies include implementing safety countermeasures and traffic calming measures to reduce speeding.

Education

Education can improve transportation safety by increasing awareness of travel options, promoting the benefits of multimodal transportation, and reinforcing the proper use of the transportation system.

Evaluation

Evaluation can support both proactive and responsive measures by analyzing the timing, location, and contributing factors of crashes. This understanding enables us to respond to historical trends and adjust to improving future safety. Similarly, careful evaluation can help prevent potential issues from escalating.

Equity

Equity efforts must be made to ensure that underserved, disadvantaged, and diverse populations receive access to roadway infrastructure and safety improvements.

Enforcement

Enforcement can promote compliance with traffic laws and regulations among all roadway users while ensuring that profiling does not occur. A safety-focused enforcement approach prioritizes high-risk behaviors, including speeding and other hazardous actions, over minor infractions.

Encouraging

Encouraging the community to increase their awareness and understanding of safety principles through engaging and interactive activities. Events and programs can support and promote better behavior among all roadway users.

VISION ZERO



DENTON ACTION PLAN

CHAPTER 2

ENGAGING THE COMMUNITY

Input from residents and stakeholders helps the planning process identify safety concerns, understand lived experiences, and ensure the Plan responds to community needs.

INTRODUCTION

Meaningful community feedback is central to developing an effective Vision Zero plan. Input from residents and stakeholders helps the planning process identify safety concerns, understand lived experiences, and ensure the Plan responds to community needs. Providing clear, accessible opportunities for the public to share concerns and perspectives also builds trust and strengthens project support, thereby facilitating the effective and efficient implementation of safety recommendations. Feedback collected through the engagement process forms the foundation for the Vision Zero plan's goals, priorities, and recommended actions. **The Public Engagement for the Denton Vision Zero Action Plan included the following opportunities for participation:**

- **Vision Zero Task Force (VZTF)**
- **Public Pop-ups**
- **Public Workshops**
- **Public Hearings**
- **Online Engagement**

PUBLIC EVENTS

VISION ZERO TASK FORCE MEETINGS

The Vision Zero Task Force served as the primary guiding body throughout the planning process, playing a central role in shaping and advancing the Vision Zero Action Plan. The task force provided strategic direction, reviewed key plan elements, and offered ongoing feedback to support informed decision-making and shared ownership of the plan.

The Vision Zero Task Force comprised City staff from multiple departments, along with local, regional, and state partners, including representatives from Denton County and the Texas Department of Transportation. (TxDOT) Task Force meetings occurred on the following milestones:

January 2025	March 2025	May 2025	August 2025	January 2026
Kick-off & Goal Setting	High-Injury Network & Crash History	Implementation Matrix & Action Plan	Draft Recommendations	Phase II Closeout

The Vision Zero Task Force participated in a range of structured activities that informed the development of the Vision Zero Action Plan. These activities included conducting a SWOT analysis, refining the High Injury Network, developing a vision and the action matrix, and prioritizing recommended actions. The task force also provided a review and refinement of the plan.

VISION

During the first Vision Zero Task Force meeting, members collaboratively developed a draft mission statement informed by the SWOT analysis results. Through discussion and refinement, the task force finalized the mission statement during the subsequent meetings. The adopted mission statement reflects the City of Denton's values and priorities and serves as a foundation for the Vision Zero Action Plan.

"Our mission is to create a safe, accessible, and sustainable multimodal future for all Denton road users. Through data, community engagement, and innovation, we aim to eliminate fatalities and serious injuries, ensuring a network that protects and serves everyone."



The Denton Vision Zero Action Plan target was also developed during this initial meeting. Task force members proposed a draft target aligned with the Texas Department of Transportation's safety goals, calling for a 50 percent reduction in traffic-related fatalities and serious injuries by 2035, with the goal of eliminating such incidents by 2050. This target reflects the City's forward-looking commitment to long-term transportation safety and security.

POP UP EVENT – EXPLORIUM TOUCH A TRUCK

The Explorium Touch A Truck pop-up event, held at the Collins Athletic Complex on May 10, 2025, was a key public engagement opportunity for the Denton Vision Zero Action Plan. Touch A Truck is a community-wide event that brings together public and private organizations to showcase a variety of vehicles, attracting residents from across Denton County. Based on the prior year's attendance of approximately 2,300 visitors, the event provided a highly effective venue for increasing awareness of the Vision Zero initiative. The pop-up gave community members an opportunity to learn about the plan's goals, strategies, and anticipated outcomes in an accessible, informal setting.

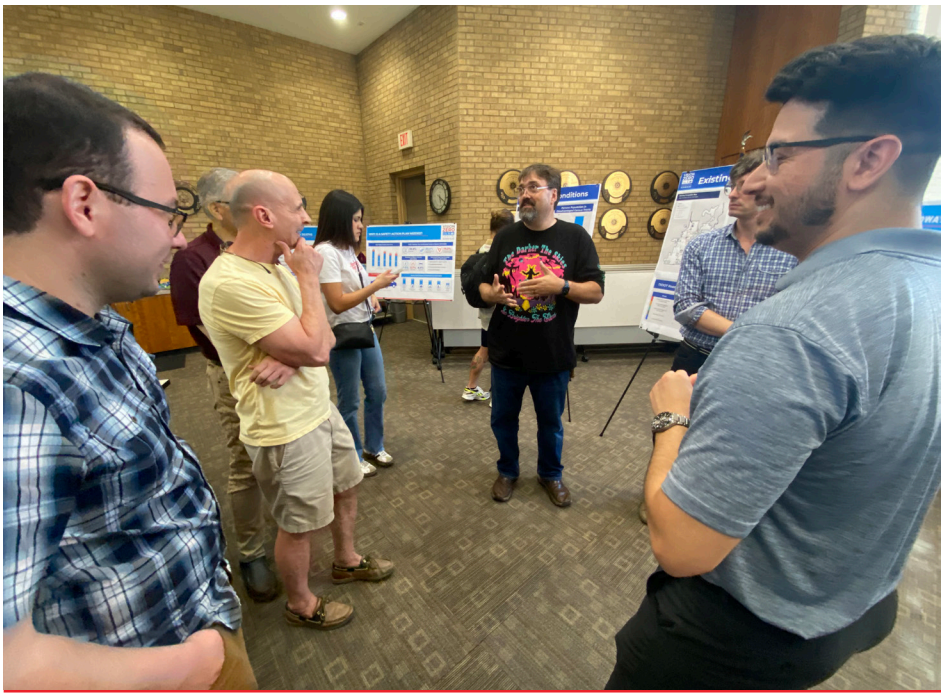


Explorium Touch a Truck Pop Up

COMMUNITY WORKSHOP

The community workshop, held at the Denton Civic Center on July 24, 2025, drew approximately 30 participants. Attendees provided feedback on safety countermeasures and identified emphasis areas that reflected community priorities. Participant input also informed the development of action items aligned with emphasis areas and the Six Es of Safety, some of which were incorporated into the action matrix presented in **Chapter 5**.

In addition to providing feedback, participants had the opportunity to learn more about the project through direct interaction with the project team.



Community Workshop

ONLINE ENGAGEMENT

To expand outreach and provide an additional engagement channel beyond in-person events, the project launched its website. The website provided foundational information on the project's purpose and process, offering opportunities for public input through an interactive map survey and a written survey.

Overall, the responses collected throughout the engagement process reflect the community's strong interest in a safer, more connected, and pedestrian-friendly City. Addressing issues through strategic traffic calming measures, enhanced visibility, and increased enforcement could improve safety and mobility for all.

WRITTEN SURVEY

The written survey was administered via the project website from May 15 to September 18, 2025, to collect information on respondents' demographics, travel behavior, and roadway safety concerns. The survey comprised 36 questions and received 193 responses. Results indicate that most responding households reported either no regular work commute or a commute time of 10 to 20 minutes. The largest age range among respondents was 30-44 years old. Approximately 94% of respondents reported that all household members have access to either a personal vehicle or public transportation. Additionally, participants identified red light running, distracted driving, and disregard for traffic laws as the most significant roadway safety concerns. Key insights from the written survey included:

Pedestrian Safety –

93% of respondents support investing in making walking safer by creating more sidewalks, mid-block crossings, high-visibility crosswalks, and more.

Bicycling Safety –

84% of respondents support investing in making bicycling safer by creating more bike lanes and separation from vehicle traffic.

Multimodal Safety Infrastructure –

76% of respondents support the creation of protected and/or dedicated facilities for multiple modes of travel (pedestrians, bicycles, transit).

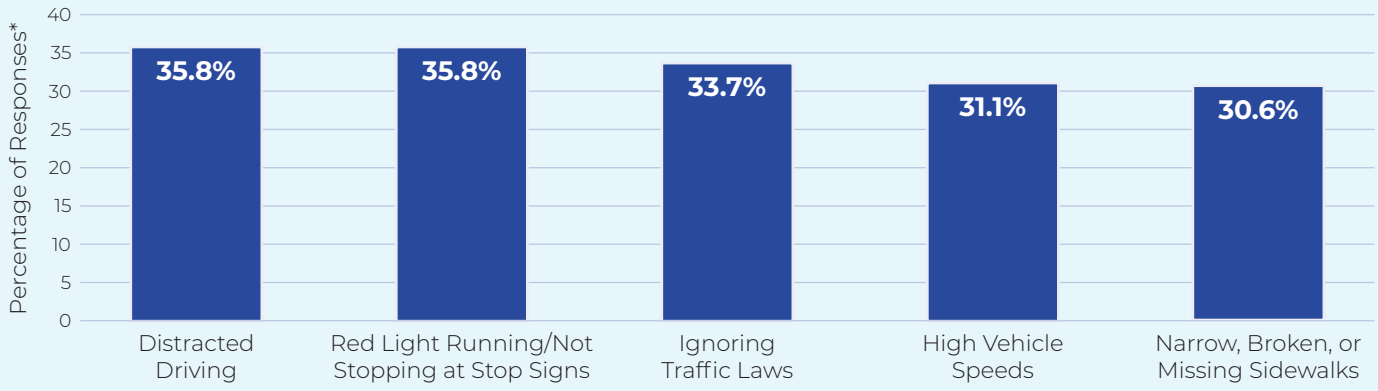
Enforcement & Education –

70% of respondents support funding for educational programs for driver safety and enhanced enforcement.

Infrastructure & Car Dependency –

67% of respondents support reducing speed limits to slow down unsafe drivers. Many respondents rely on personal vehicles for convenience and perceive few viable alternatives.

Figure 2.1. Top Safety Concerns Identified Through Written Survey



Percentages are of people who included these in their top 3 concerns.

INTERACTIVE MAP SURVEY

Residents and stakeholders provided feedback on existing roadway safety conditions through an interactive map survey on the Denton Vision Zero Action Plan engagement page. **Figure 2.3** illustrates the comments submitted through the map interface. This engagement tool enabled website visitors to identify specific locations throughout the City and assign each location to one of nine predefined comment categories, including speeding concerns, visibility limitations, and intersection safety. After selecting a location and topic, respondents could submit detailed comments describing safety concerns, potential solutions, or ideas. This approach enabled participants to provide location-specific feedback that reflects on-the-ground experiences. The map survey results identified several key insights.

Intersection Safety –
26% Dangerous intersections need traffic lights, stop signs, or roundabouts.

Pedestrian Safety –
18% Need for better infrastructure like sidewalks, crosswalks, and pedestrian signals.

Speeding –
17% Excessive speeding in residential and school areas requires stronger enforcement and improved traffic calming measures.

Blocked View –
12% Blocked views from trees, hills, and parked cars require vegetation trimming and the addition of traffic controls, such as traffic lights.

In addition to the key insights identified through the survey responses, several corridors and geographic locations emerged as hotspots due to a high concentration of comments. These locations reflect areas where respondents consistently identified recurring safety concerns, primarily along the following corridors:

- **Teasley Lane:** Unsafe intersections and blocked views.
- **University Drive:** Excessive speeding and frequent red-light running.
- **Sherman Drive:** Excessive speeding and unsafe intersections.
- **Nottingham Drive:** Blocked views and frequent red light running.
- **Wilshire Boulevard:** Poor pedestrian infrastructure and excessive speeding.

Figure 2.2. Top Safety Concerns Identified Through Interactive Map Survey

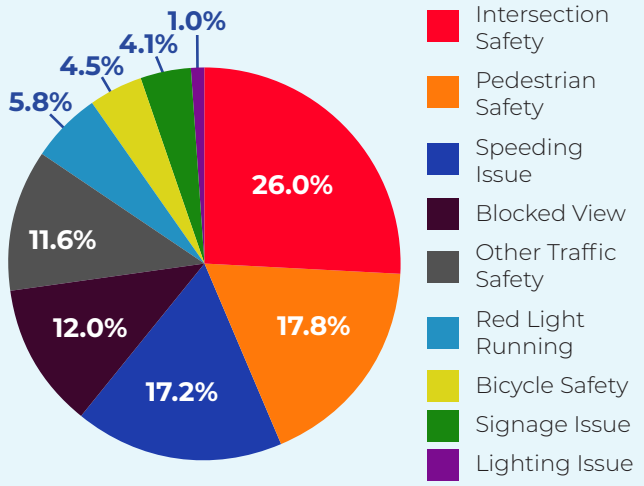
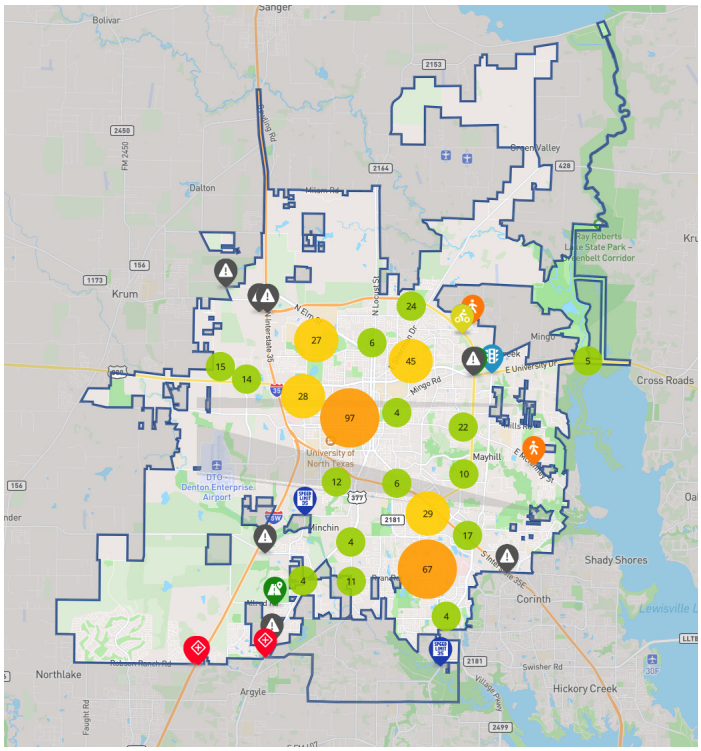


Figure 2.3. Interactive Map Comments



PROMOTIONS

The City of Denton ensured that the Vision Zero Action Plan remained highly visible and accessible throughout the engagement process by promoting the project across multiple platforms. The City posted project information on the official City website and on a dedicated project website hosted by the City. The project website provided centralized access to plan materials and was regularly updated to reflect project milestones and progress.

The City also utilized Discuss Denton, an online engagement forum, to share project updates and invite public participation. Additionally, the City promoted the interactive map, online survey, and engagement events across its social media channels to reach a broad audience. A City-produced promotional video highlighting the community workshop and online survey achieved more than 100,000 views across all platforms, demonstrating strong public interest and effective outreach.

ENGAGEMENT SUMMARY

Overall, public engagement revealed consistent themes across all outreach activities and confirmed community alignment around roadway safety priorities. Feedback highlighted shared concerns regarding existing conditions, recurring safety challenges, and the need for improvements that better support daily travel throughout the City. The results below show a community desire for a safer, more connected, and pedestrian-friendly City. Addressing issues through strategic traffic calming measures, enhanced visibility, and increased enforcement could improve safety and mobility for all.

KEY THEMES OF ENGAGEMENT

PEDESTRIAN SAFETY AND WALKABLE STREET DESIGN

Public engagement demonstrated strong support for streets that prioritize pedestrian safety and comfort. Participants consistently emphasized the importance of continuous sidewalks, high-visibility pedestrian crossings, and improved lighting to increase visibility, reduce conflicts, and create more walkable environments.

SPEED MANAGEMENT, DRIVER BEHAVIOR, AND ENFORCEMENT

Speeding, running red lights, distracted driving, and general noncompliance with traffic laws emerged as the most significant safety concerns across engagement efforts. Participants supported traffic calming measures, lower operating speeds, and enhanced enforcement, particularly in residential neighborhoods and school zones. Respondents also emphasized the need for education and awareness initiatives to address unsafe driving behaviors and reinforce shared responsibility for roadway safety.

INTERSECTION SAFETY, VISIBILITY, AND ACCESS MANAGEMENT

Participants frequently identified intersections with recurring safety issues, including limited visibility, obstructed sightlines, and excessive conflict points. Community members expressed support for treatments such as intersection daylighting, vegetation management, and enhanced signage and pavement markings to improve visibility and make safety improvements more noticeable and effective.

MULTIMODAL ACCESS

Public feedback reflected strong support for expanding transportation options beyond driving, including safer bicycle facilities and improved transit and paratransit services. Many emphasized the importance of evaluating pedestrian and bicycle networks from the perspective of vulnerable users, including children, older adults, people with disabilities, and individuals without access to a vehicle.

CHAPTER 3

CRASH ANALYSIS

"This chapter summarizes five years of reported crashes within the City of Denton (calendar years 2019–2023) using data from the Texas Department of Transportation (TxDOT), reviewed throughout the planning process to inform decision making and prioritize safety investments.

This chapter summarizes five years of reported crashes within the City of Denton (calendar years 2019–2023) using data from the Texas Department of Transportation (TxDOT), reviewed throughout the planning process to inform decision making and prioritize safety investments. Unless otherwise noted, crash severity references use the KAB convention—K (fatal injury), A (suspected serious injury), and B (suspected minor injury)—with observations about broader severity categories included where relevant.

Between 2019 and 2023, the City of Denton experienced 15,575 reported crashes, including 68 fatal crashes. Total crashes peaked in 2019 (3,742) and fell sharply in 2020 (2,683) reflecting reduced travel during the COVID-19 (2,683). Despite this high volume, 2019 recorded one of the lower proportions of fatal, suspected serious injury, and suspected minor injury crashes compared to subsequent years. Activity rebounded in 2021 (3,349) and declined by 2022 (2,911) and 2023 (2,890).

While the overall crash frequency has decreased in recent years, crash severity trends exhibit a different pattern and have increased.

As shown in **Table 3.1**, the proportion of fatal crashes, suspected serious injury crashes, and suspected minor injury crashes increased over time. Although total crash counts declined after 2019, the share of KAB crashes rose each year, indicating a growing concentration of more severe outcomes. Suspected minor injury crashes increased consistently, and suspected serious injury crashes peaked in 2021 before remaining elevated relative to earlier years.

Figure 3.1 illustrates the number of fatalities per 100,000 population, which remained relatively stable over the five years, generally hovering around 10 fatalities per 100,000 residents. An exception to this trend appears in 2022, when nine fatalities resulted in a notably lower fatality rate of 6.0 per 100,000 population. This year represents a temporary deviation from otherwise consistent fatality rate patterns.

Figure 3.1. KAB Crash Summary (2019–2023)

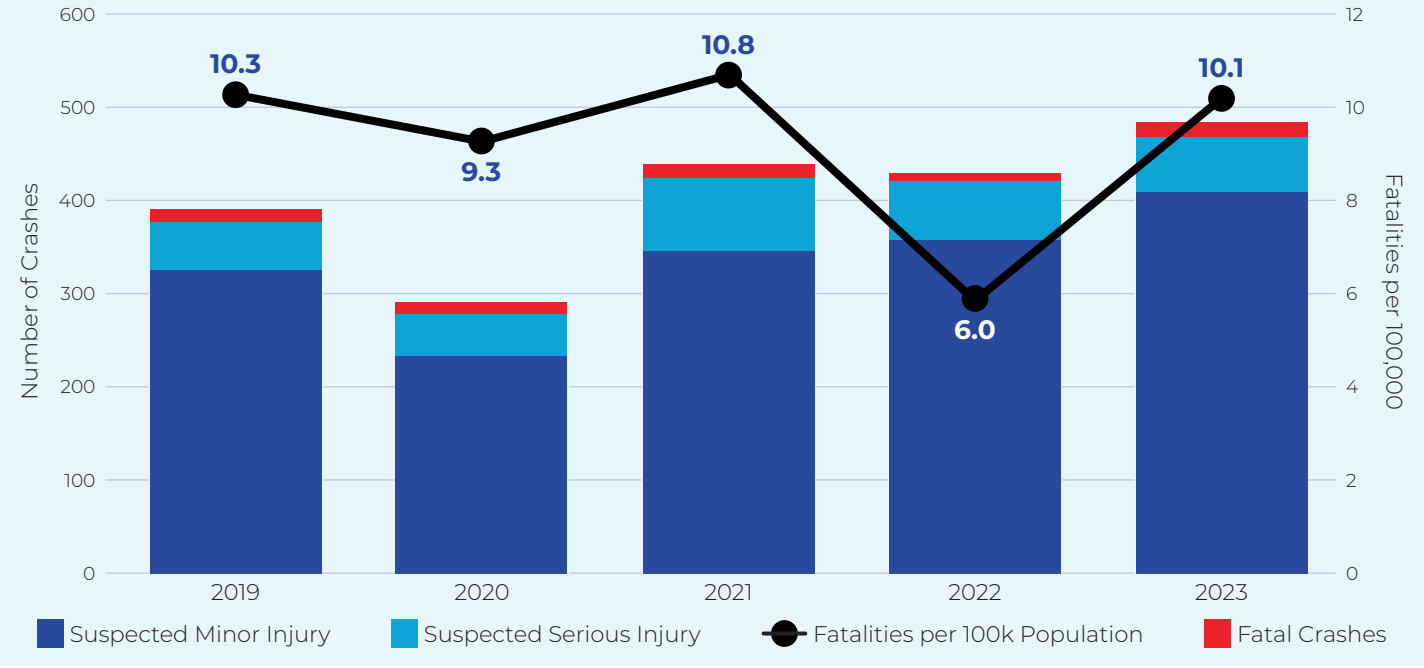


Table 3.1. Total Crashes by Severity (2019–2023)

YEAR	K – FATAL INJURY		A – SUSPECTED SERIOUS INJURY		B – SUSPECTED MINOR INJURY		GRAND TOTAL
2019	14	0.4%	52	1.4%	325	8.7%	3,742
2020	13	0.5%	46	1.7%	233	8.7%	2,683
2021	16	0.5%	78	2.3%	346	10.3%	3,349
2022	9	0.3%	64	2.2%	357	12.3%	2,911
2023	16	0.6%	59	2.0%	409	14.2%	2,890
Total	***68***	***0.4%***	***299***	***1.9%***	***1,670***	***10.7%***	***15,575***

CRASH DENSITY

Crash concentrations are greatest at locations with high traffic volumes and complex movements which align with intersections. Elevated concentrations of crashes are evident along Interstate 35 and major arterial corridors serving the City, including US Highway 380 and 77. **Table 3.2** summarizes the distribution of crash severity for all reported crashes from 2019 to 2023 .

Exhibit 3.1 presents a crash heat map illustrating the spatial distribution of total crashes within the City from 2019 through 2023. The heat map illustrates the density of crash occurrences by location, but does not account for roadway characteristics, such as functional classification or traffic volumes.

Table 3.2. Breakdown of Crash Severity (2019–2023)

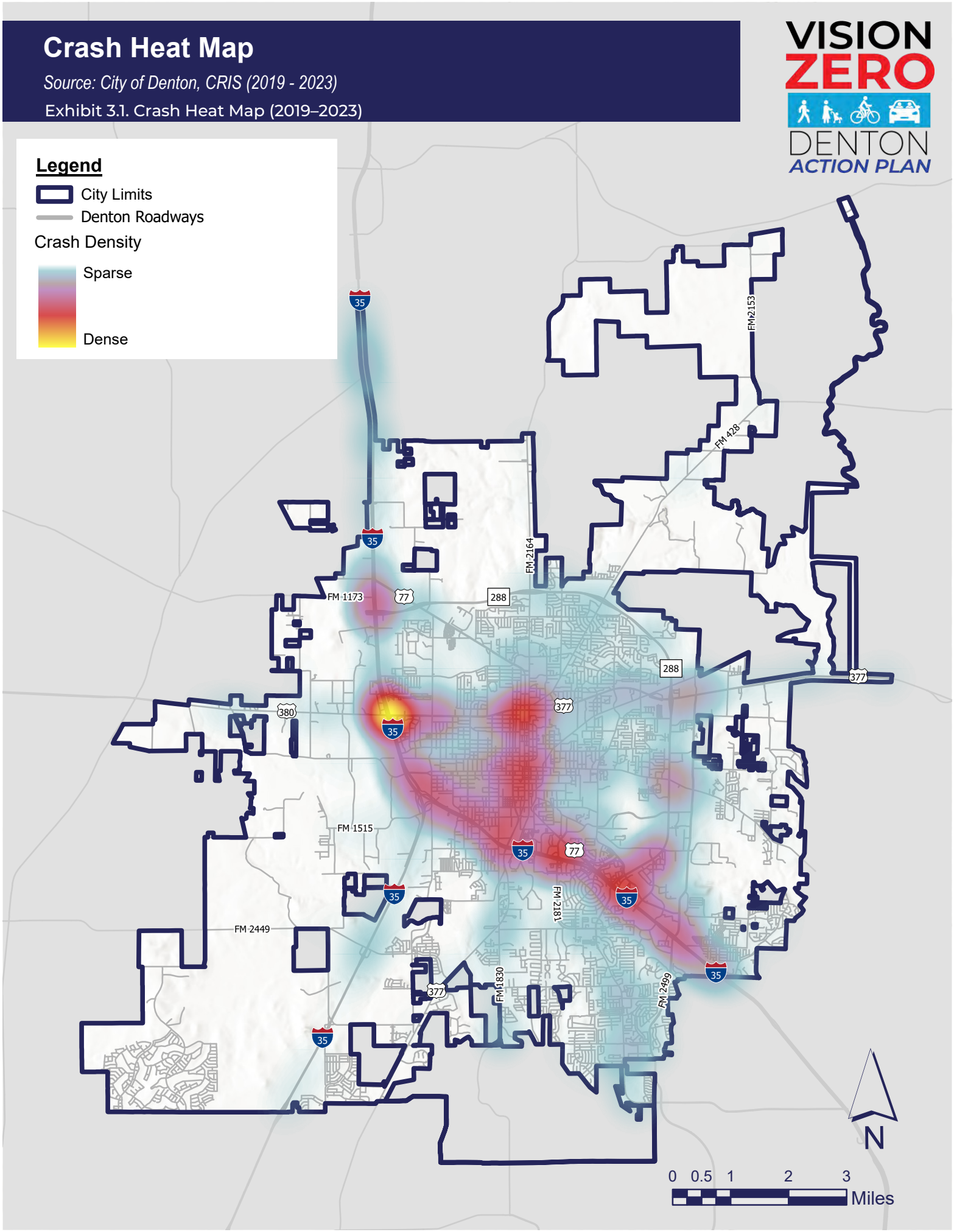
CRASH SEVERITY	CRASH COUNT	PERCENTAGE
K – Fatal Injury	68	0.4%
A – Suspected Serious Injury	299	1.9%
B – Suspected Minor Injury	1,670	10.7%
C – Possible Injury	1,966	12.6%
N – Not Injured	11,009	70.7%
99 - Unknown	563	3.6%
Total	***15,575***	***100%***

Crash Heat Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.1. Crash Heat Map (2019–2023)

VISION ZERO DENTON ACTION PLAN



INTERSECTIONS

Table 3.3 summarizes that approximately 45.2% of all reported crashes citywide occurred at intersections over the five year period. The share averaged ~44% (2019–2021) and rose to ~47% (2022–2023). Intersections inherently present a higher potential for conflicts as vehicles, pedestrians, and bicyclists converge at these locations.

High crash intersections are concentrated along high volume corridors. The highest crash total was recorded at US 380 & IH 35 (271 crashes). Other prominent locations include State Loop (SL) 288 & IH 35 (181) and Brinker Rd & SL 288 (139). Intersections along these corridors collectively account for the majority of the location listed in **Table 3.4**.

As illustrated in **Exhibit 3.2**, the major corridors account for a significant share of the top ten high crash intersections within the City.

Table 3.3. Intersection Crashes by Year (2019–2023)

CRASH YEAR	CRASH COUNT
2019	44.2%
2020	43.8%
2021	44.1%
2022	46.8%
2023	47.1%
Average	***45.2%***

Table 3.4. High Crash Intersections (2019–2023)

RANK	INTERSECTION	FATAL CRASHES (K)	SUSPECTED SERIOUS INJURY CRASHES (A)	SUSPECTED MINOR INJURY CRASHES (B)	NUMBER OF CRASHES
1	US 380 & IH 35	2	0	9	271
2	SL 288 & IH 35	0	0	9	181
3	Brinker Rd & SL 288	0	2	19	139
4	SL 288 & IH 35 East	0	1	5	114
5	US 77 & US 380	0	3	10	111
6	IH 35 East & US 377	0	2	8	102
7	FM 428 & US 77	0	3	14	99
8	N Carroll Blvd & US 380	0	0	16	89
9	Colorado Blvd & SL 288	0	4	10	77
10	N Mayhill Rd & US 377	0	1	12	72
Total		***2***	***16***	***112***	***1,255***

High Crash Intersections

Source: City of Denton, CRIS (2019 - 2023)

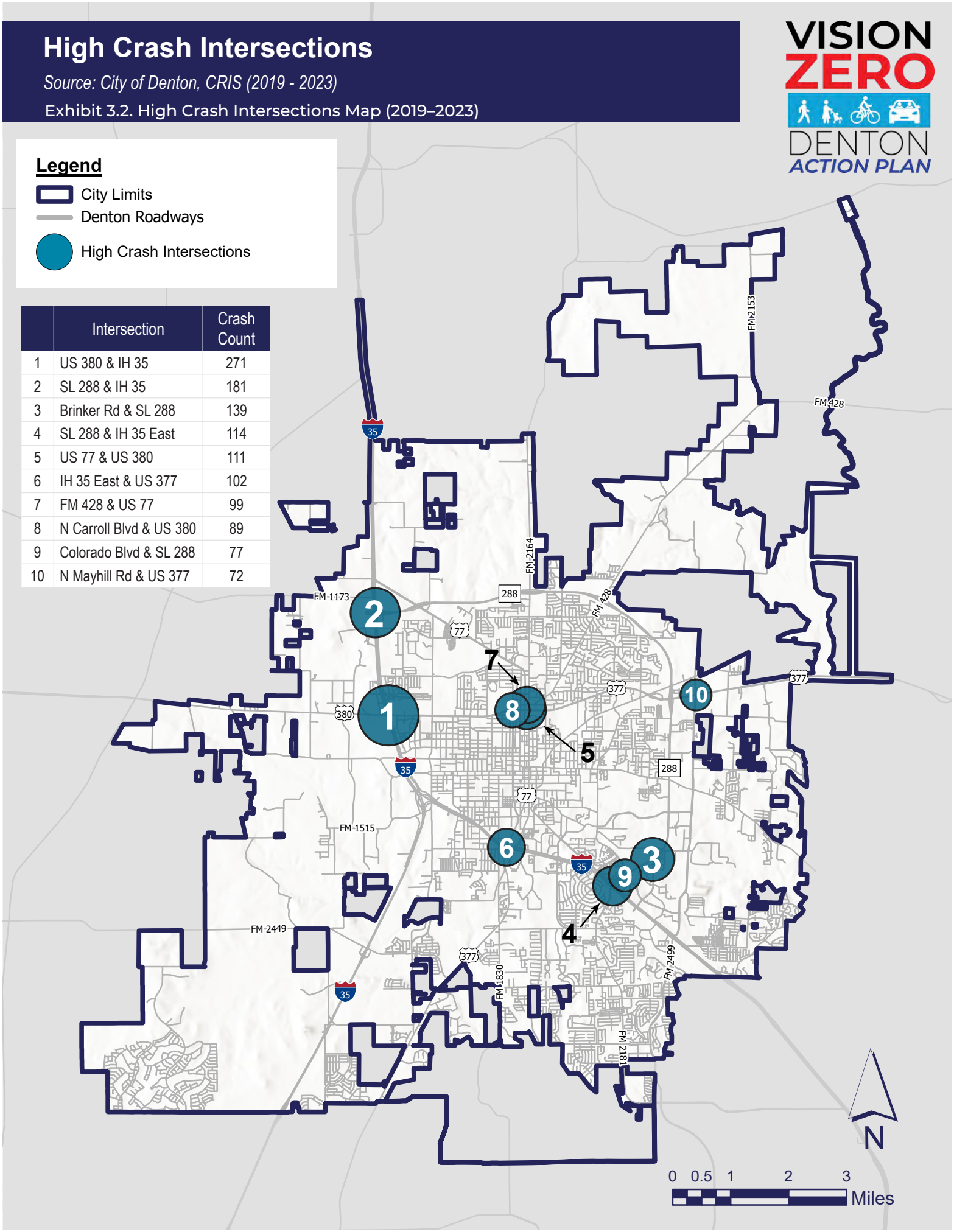
Exhibit 3.2. High Crash Intersections Map (2019–2023)

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Legend

- City Limits
- Denton Roadways
- High Crash Intersections

	Intersection	Crash Count
1	US 380 & IH 35	271
2	SL 288 & IH 35	181
3	Brinker Rd & SL 288	139
4	SL 288 & IH 35 East	114
5	US 77 & US 380	111
6	IH 35 East & US 377	102
7	FM 428 & US 77	99
8	N Carroll Blvd & US 380	89
9	Colorado Blvd & SL 288	77
10	N Mayhill Rd & US 377	72



VULNERABLE ROAD USERS

Vulnerable Road Users (VRU) are individuals who lack the physical protection of an enclosed vehicle and therefore face a higher risk of injury when involved in a crash with a motor vehicle. This group includes pedestrians, roadway workers, individuals using wheelchairs or other personal mobility devices, as well as bicyclists and users of micromobility devices. Because of their increased exposure, Vulnerable Road Users require additional layers of protection within the transportation system.

Table 3.5 and **Table 3.6** outline that bicyclists and pedestrians remain disproportionately impacted by severe outcomes due to their exposure and vulnerability.

Bicyclists

There were **113 crashes,** with 65 resulting in KAB outcomes (~58%). In 2023, approximately 74% of bicyclist crashes led to KAB injuries.

Pedestrians

153 crashes (2019–2023), with 110 KAB outcomes (~72% of pedestrian crashes). In 2023, ~78% of pedestrian crashes resulted in KAB injuries; total pedestrian crashes increased from 20 (2020) to 37 (2023).

These trends reinforce the need for targeted VRU safety strategies on higher risk corridors and at complex intersections.

As illustrated in **Exhibit 3.3**, most VRU crashes occur within Denton's urban core between IH 35E and US 380, while fatal and suspected serious injury crashes are primarily concentrated along highway corridors.

Table 3.5. Bicyclist Crashes (2019–2023)

YEAR	TOTAL	K	A	B	KAB	% KAB
2019	29	2	3	9	14	48%
2020	17	0	2	6	8	47%
2021	30	0	4	15	19	63%
2022	14	0	2	5	7	50%
2023	23	1	1	15	17	74%
Total	***113***	***3***	***12***	***50***	***65***	***58%***

Table 3.6. Pedestrian Crashes (2019–2023)

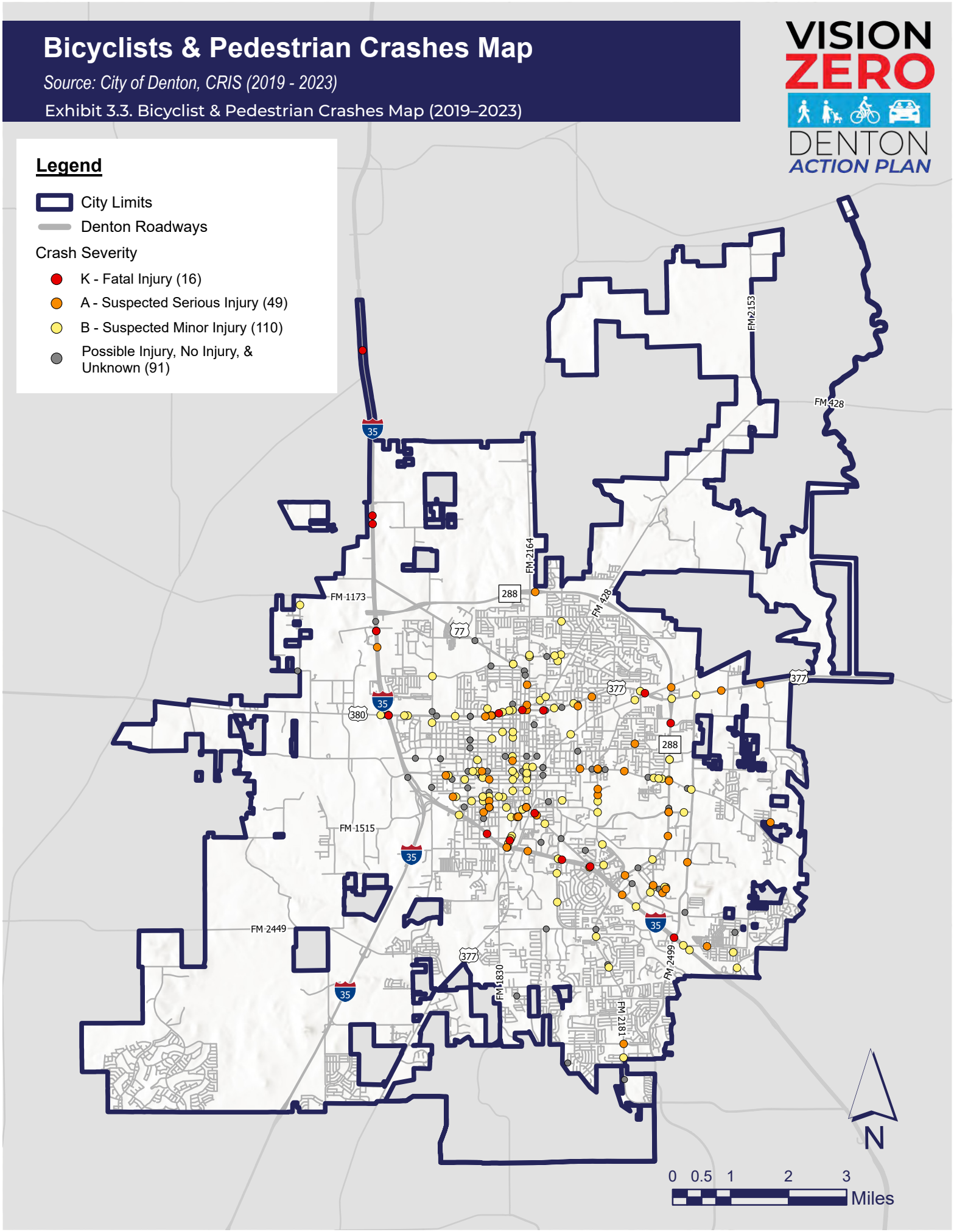
YEAR	TOTAL	K	A	B	KAB	% KAB
2019	34	2	7	13	22	65%
2020	20	5	5	3	13	65%
2021	28	2	6	14	22	79%
2022	34	2	10	12	24	71%
2023	37	2	9	18	29	78%
Total	***153***	***13***	***37***	***60***	***110***	***72%***

Bicyclists & Pedestrian Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.3. Bicyclist & Pedestrian Crashes Map (2019–2023)

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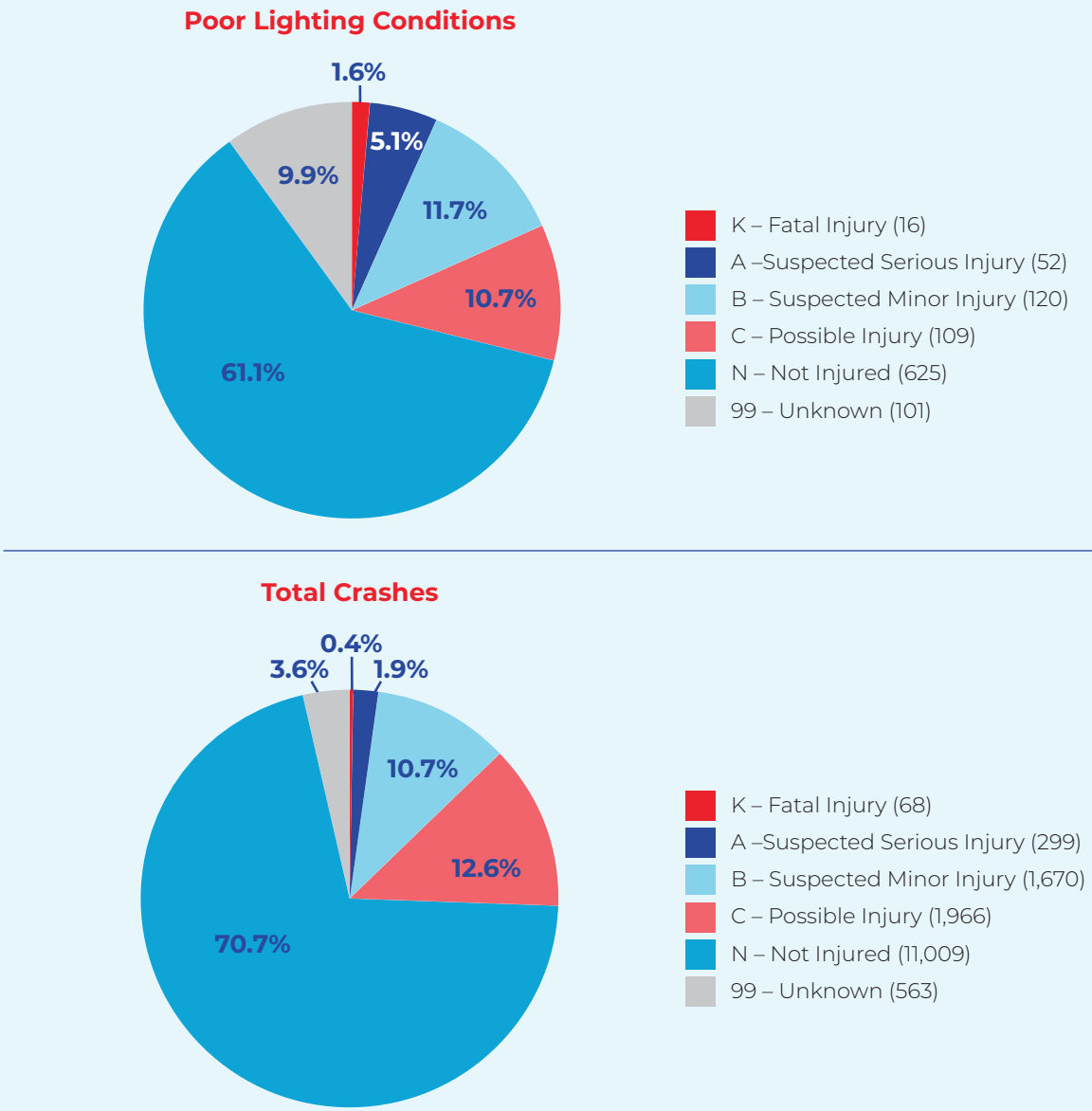
POOR LIGHTING CONDITIONS

Crashes occurring under poor lighting conditions (dark/unlit) carry substantially higher severity risk. **Figure 3.2** shows that Fatal crashes occur at ~4× the overall average rate (~1.6% under dark conditions), and suspected serious injuries are ~2× the overall rate (~5.1%). These crashes represent ~6.6% of all reported crashes (2019–2023).

As illustrated in **Exhibit 3.4**, the crashes are primarily concentrated along IH 35, IH 35E, and IH 35W, which together account for approximately 41% of total crashes.

To mitigate crashes under poor lighting conditions, the City can install additional roadway lighting, upgrade pavement markings to high-contrast and retroreflective materials, install retroreflective backplates on traffic signals, and improve signing and signal visibility. These treatments should be prioritized on corridors that exhibit high KAB counts underscored in this analysis. A further exploration of lighting conditions is conducted in Crash Profiles.

Figure 3.2. Poor Lighting Conditions Crashes V. Total Crashes Severity Comparison

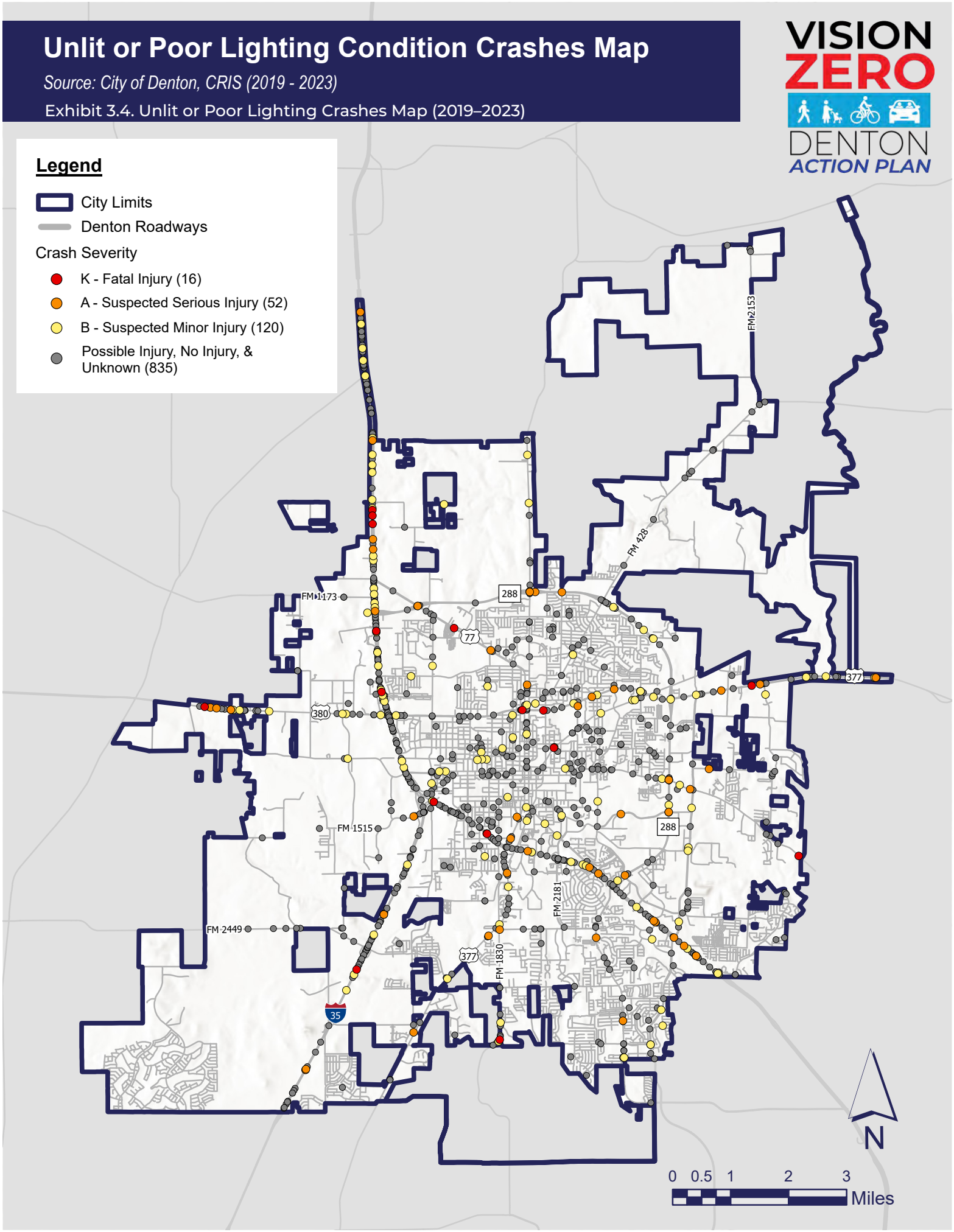


Unlit or Poor Lighting Condition Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.4. Unlit or Poor Lighting Crashes Map (2019–2023)

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DISTRACTED DRIVING

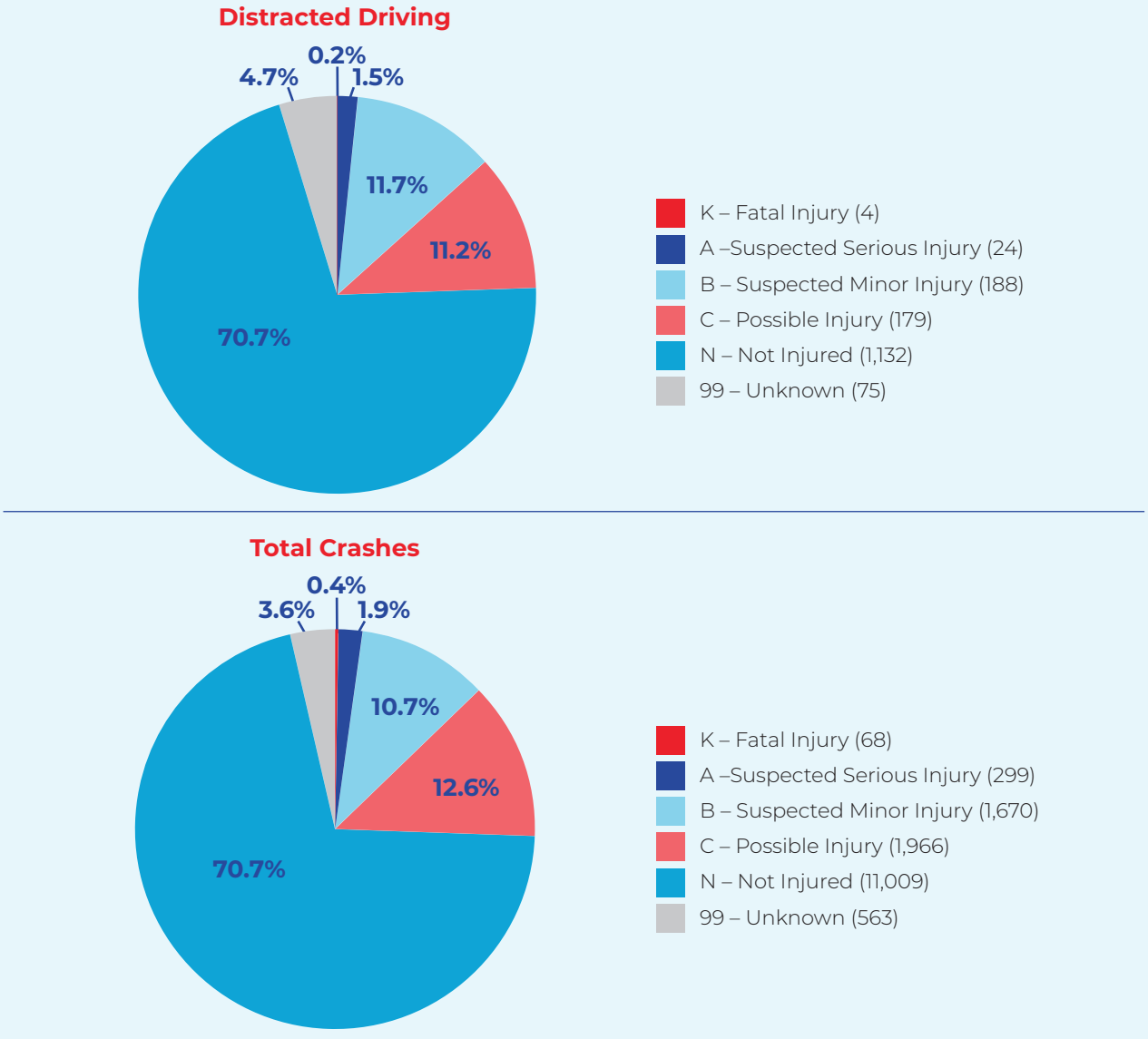
Distracted driving crashes occur when a driver diverts attention away from the primary task of operating a vehicle. Common sources of distraction include the use of mobile devices, eating or drinking, and interactions with passengers or pets. These behaviors reduce driver awareness and increase the likelihood of a crash.

Roughly 10% of reported crashes involved distraction. **Figure 3.3** shows the distracted driving compared to the citywide profile, distracted driving crashes exhibit lower fatal and serious injury rates, but a slightly higher suspected minor injury share (~11.7%).

As illustrated in **Exhibit 3.5** these crashes are most common on major arterials and local streets with frequent turning and access movements.

To reduce crashes associated with distracted driving, the City can implement countermeasures that create visual emphasis and reinforce driver attention at key conflict points. These strategies include rectangular rapid flashing beacons (RRFB), lane designation markings and signs, improving signing and visibility at signals, and dynamic speed feedback signs. Additionally, the Safe System Approach recommends embarking on educational campaigns and promotional materials that alert the public on the severities of distractions.

Figure 3.3. Distracted Driving Crashes V. Total Crashes Severity Comparison

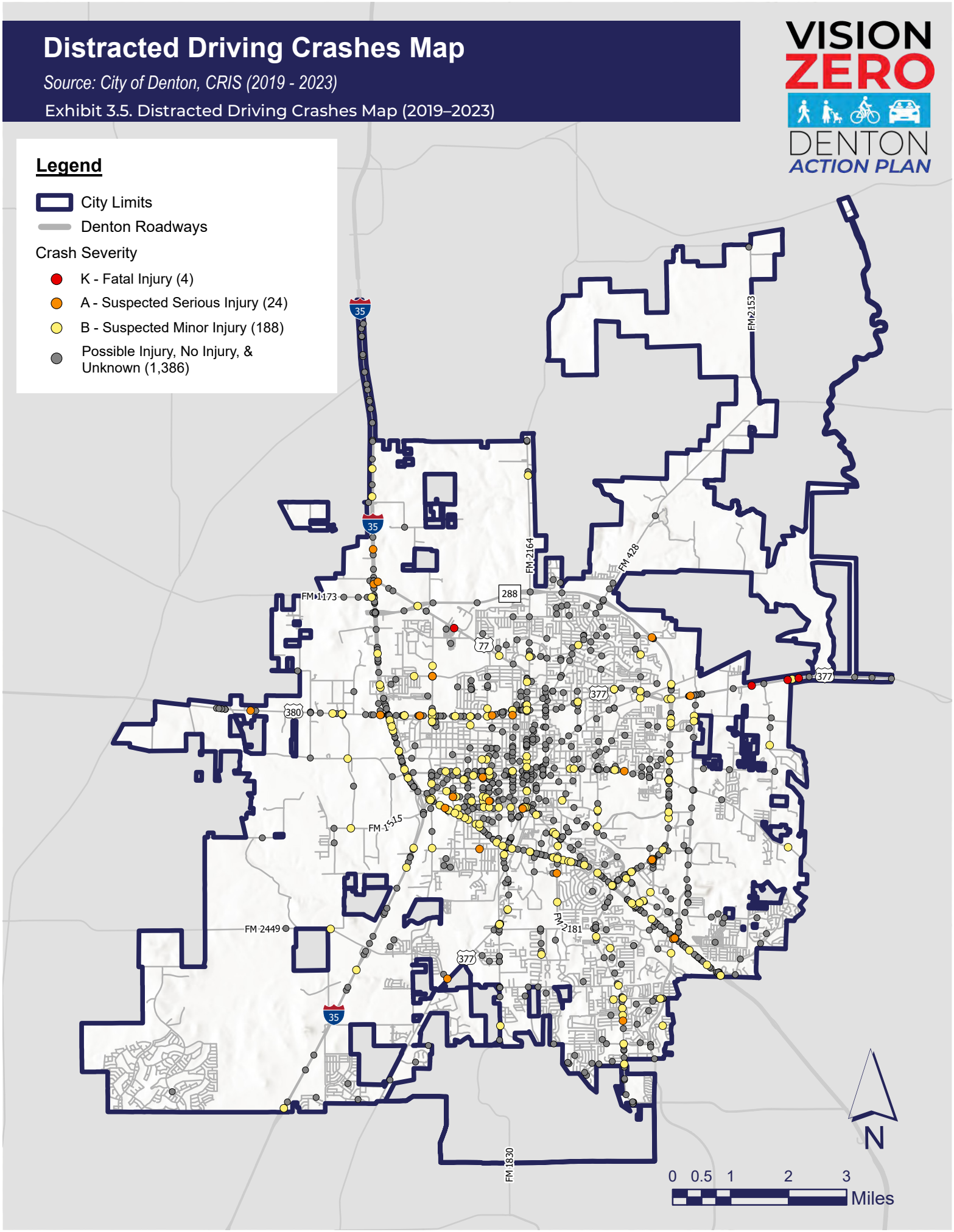


Distracted Driving Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.5. Distracted Driving Crashes Map (2019–2023)

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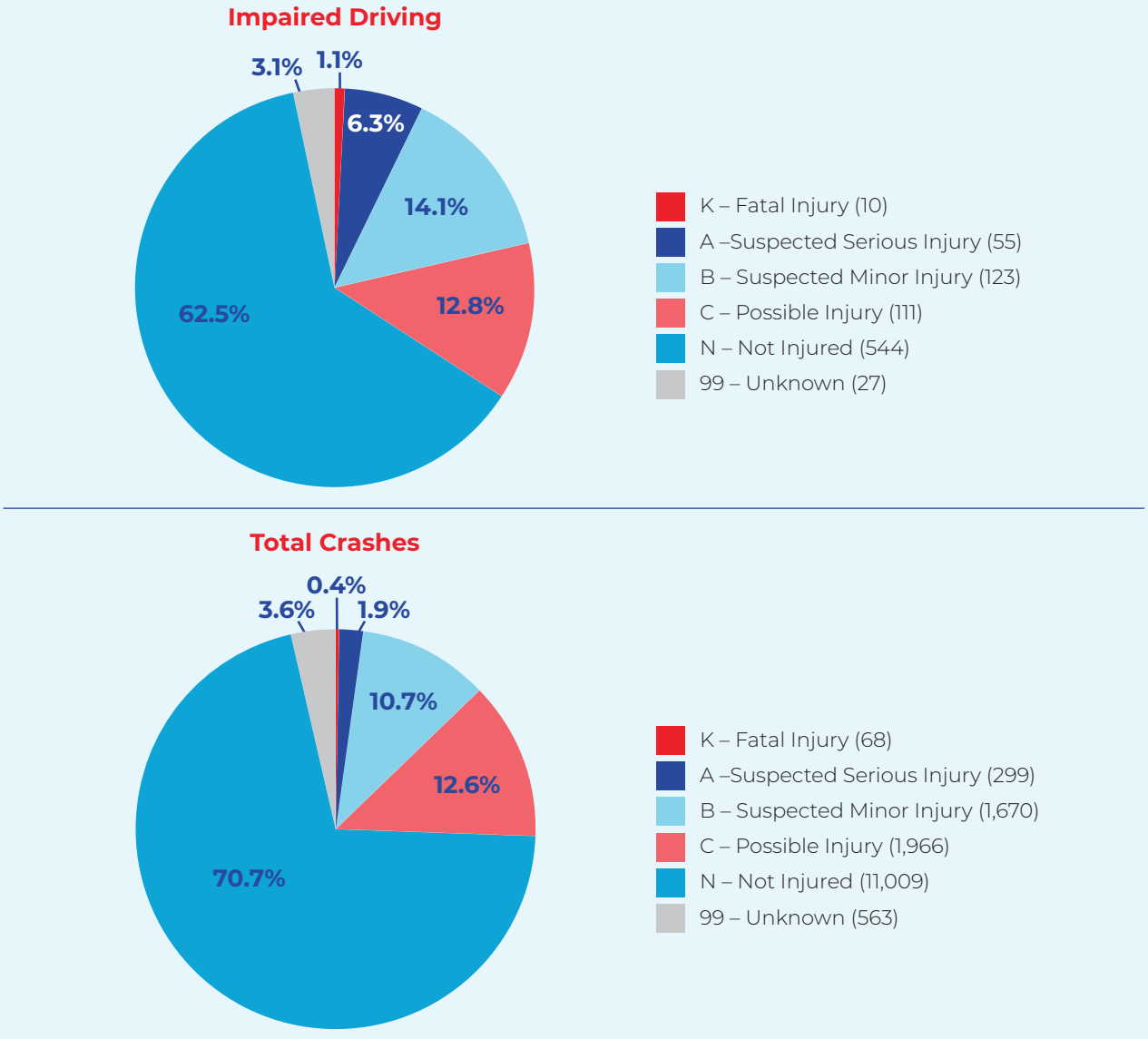
IMPAIRED DRIVING

Impaired driving occurs when a driver operates a vehicle while under the influence of alcohol, drugs, or other substances that creates significant safety risks due to reduce judgment, reaction time, or motor control. Denton recorded 870+ impaired driving crashes (~5.6% of all crashes). The KAB share for impaired driving crashes is ~21.5%, markedly higher than the ~13% KAB share across all crashes, underscoring their elevated severity risk.

As illustrated in **Exhibit 3.6**, impaired driving crashes are distributed throughout the City, with a high concentration in Denton's Urban Core. KAB Crashes are primarily concentrated along major arterial corridors.

To mitigate impaired-driving crashes, the City can implement countermeasures that reduce conflict severity and provide greater separation between roadway users. These measures include installing RRFBs, raised medians and pedestrian refuge islands, and improving signing and visibility at signals. Complementing these infrastructure improvements with targeted, high-visibility enforcement can further discourage impaired driving behavior. With the two major universities sitting in the City of Denton, it is important to also partner with University officials to discourage impaired driving and promote alternative transportation during late hours of the day, especially on weekends. The City can look to partner with the universities to develop these programs.

Figure 3.4. Impaired Crashes V. Total Crashes Severity Comparison

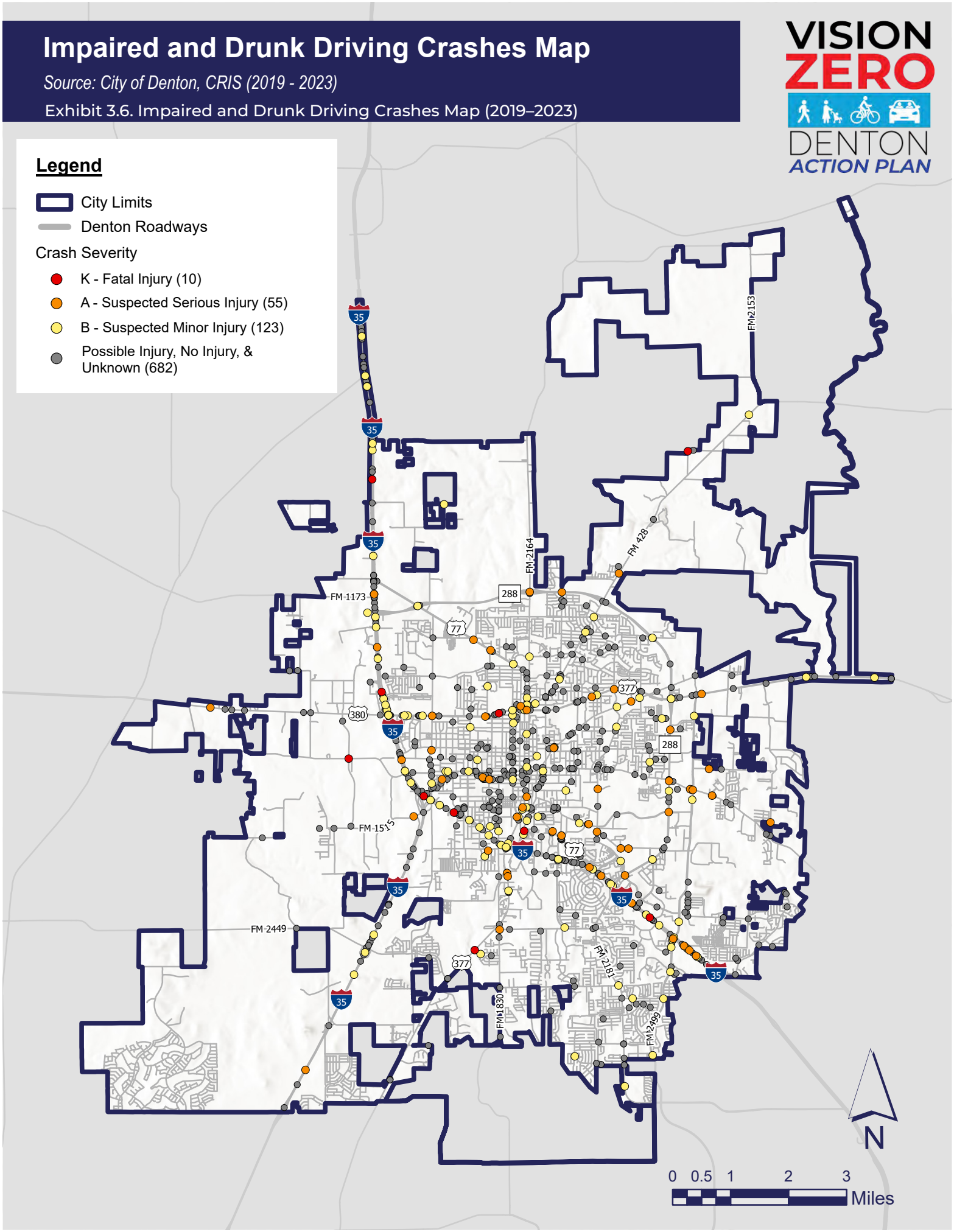


Impaired and Drunk Driving Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.6. Impaired and Drunk Driving Crashes Map (2019–2023)

VISION ZERO DENTON ACTION PLAN



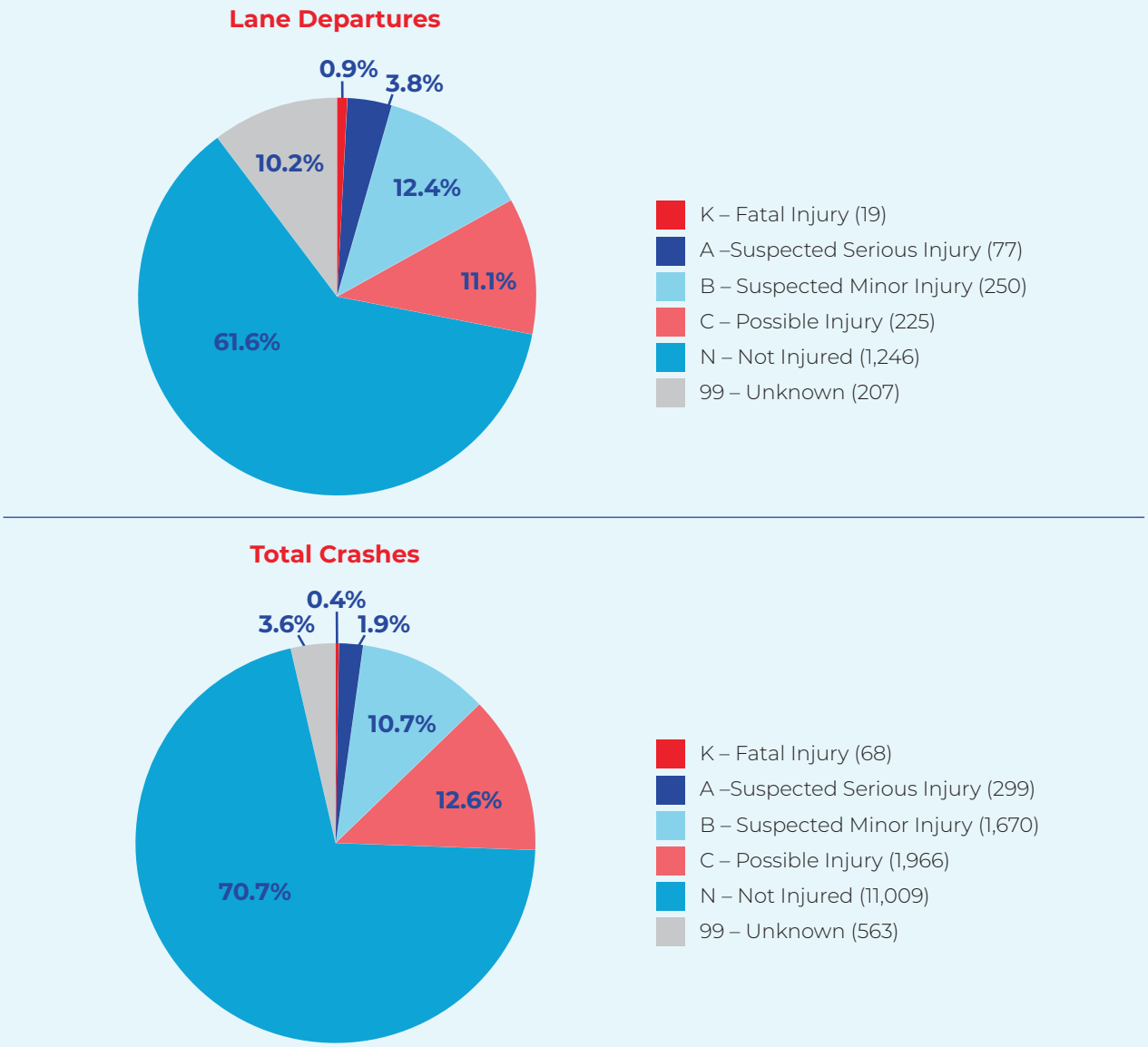
LANE DEPARTURES

Lane departure crashes occur when a vehicle unintentionally leaves its travel lane, resulting in collisions with opposing traffic, adjacent vehicles, or roadside objects. From 2019 to 2023, the City of Denton recorded 2,024 lane departure crashes, representing approximately 13% of all reported crashes. These crashes exhibit higher injury severity than overall crash trends. Fatal crashes accounted for 0.9% of lane departure crashes, nearly double the citywide average. Suspected serious and minor injury crashes accounted for 3.8% and 12.4% of lane departure crashes, both exceeding the overall crash rate.

As illustrated in **Exhibit 3.7**, lane departure crashes occur throughout the City, with the highest concentration of KAB crashes occurring along IH 35 and IH 35E, accounting for 47% of KAB lane departure crashes.

To reduce lane departure crashes, the City can enhance roadway delineation to help drivers maintain proper lane position. Effective countermeasures include wider edge lines and high-contrast lane markings, thereby improving overall lane visibility, particularly under low-light and adverse weather conditions.

Figure 3.5. Lane Departure Crashes V. Total Crashes Severity Comparison

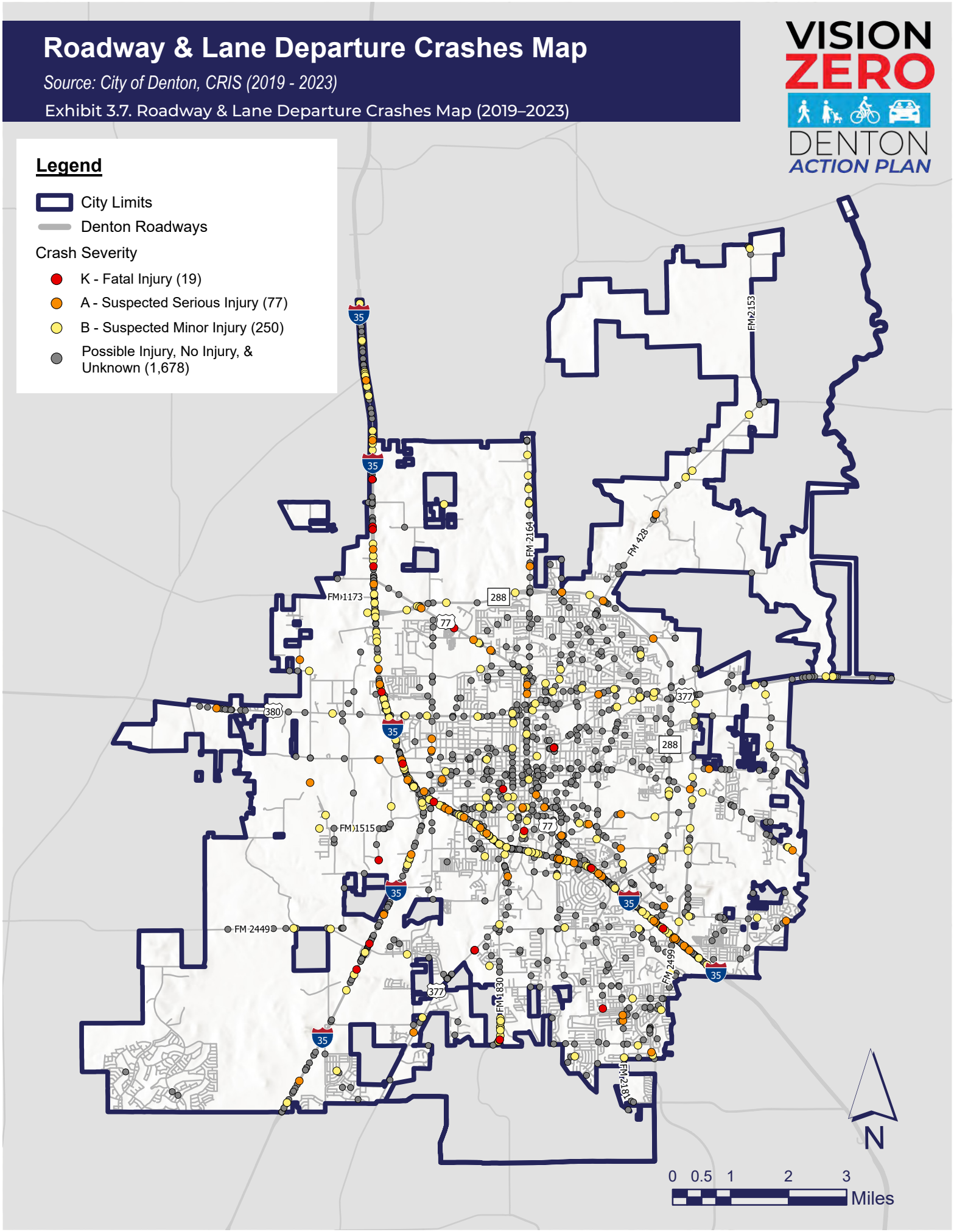


Roadway & Lane Departure Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.7. Roadway & Lane Departure Crashes Map (2019–2023)

VISION ZERO DENTON ACTION PLAN



SPEED RELATED

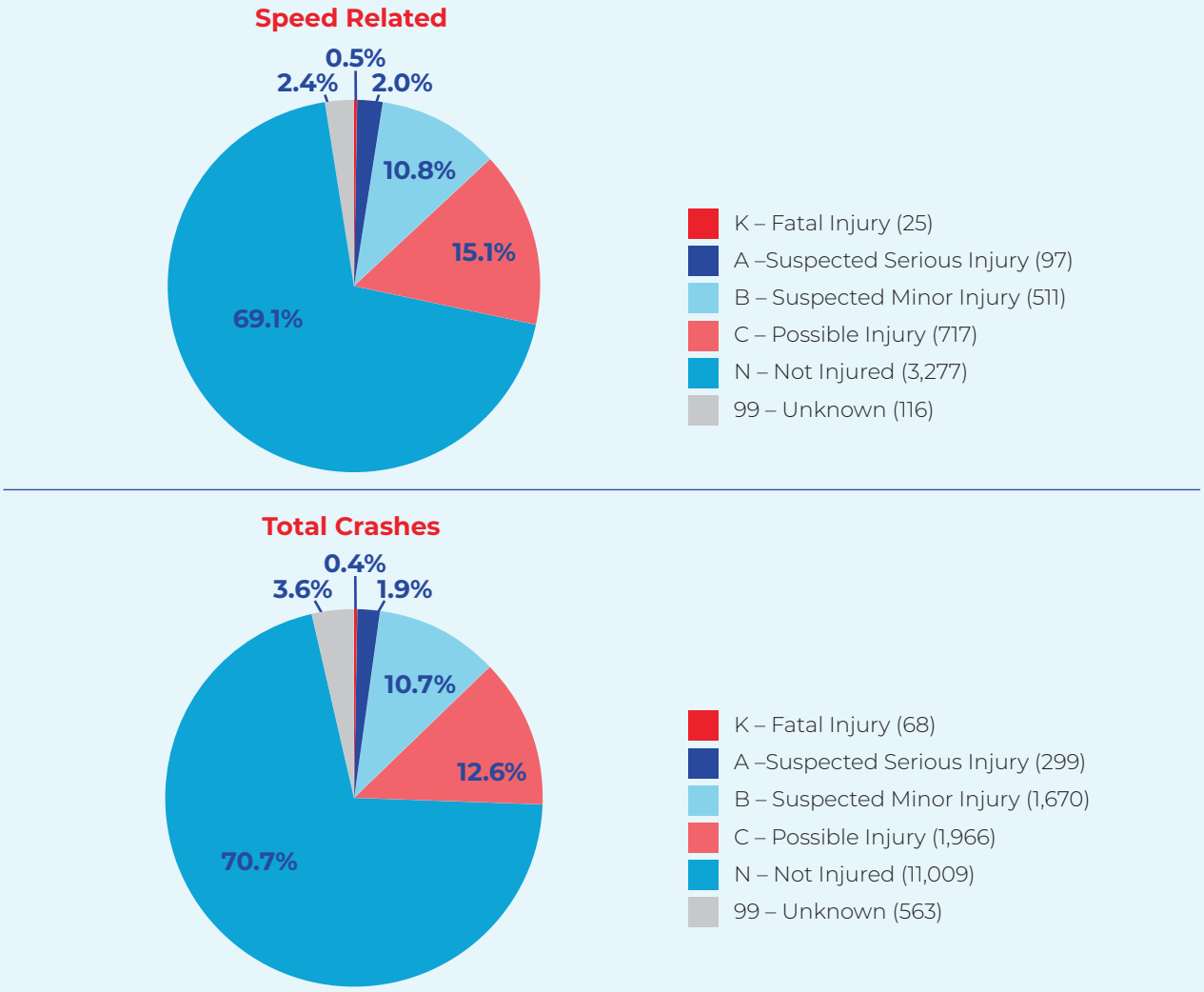
Speed related crashes encompass incidents in which drivers failed to maintain control of their speed, exceeded posted speed limits, or traveled at unsafe speeds. Excessive speed reduces reaction time and increases the likelihood and severity of crashes.

Speed related factors were cited in 4,743 crashes (~30.5%)—the most common contributing factor. Fatal, serious, and minor injury shares are comparable to citywide averages, but possible injury is notably higher (~15.1% vs. ~12.6% overall), indicating a broad burden of lower severity harms associated with speed.

As illustrated in **Exhibit 3.8**, the Highways and arterials account for a significant share of speed related crashes within the City, representing approximately 75% of these incidents.

To manage speeds and reduce crashes, the City can implement traffic calming and speed management countermeasures that encourage consistent, lower operating speeds. These measures include installing dynamic speed feedback signs, constructing raised medians and pedestrian refuge islands, and modifying roadway configurations. Targeted, high-visibility law enforcement can complement these measures and support sustained speed compliance. Given the younger age of drivers and prevalence of high-speed roadways that connect Denton to the greater DFW Region, it is imperative to evaluate posted speeds and designs that encourage lower operating speeds. These treatments should be a high priority for the City, as Speed-Related crashes represent a large share of high-injury crashes in Denton.

Figure 3.6. Speed Related Crashes V. Total Crashes Severity Comparison

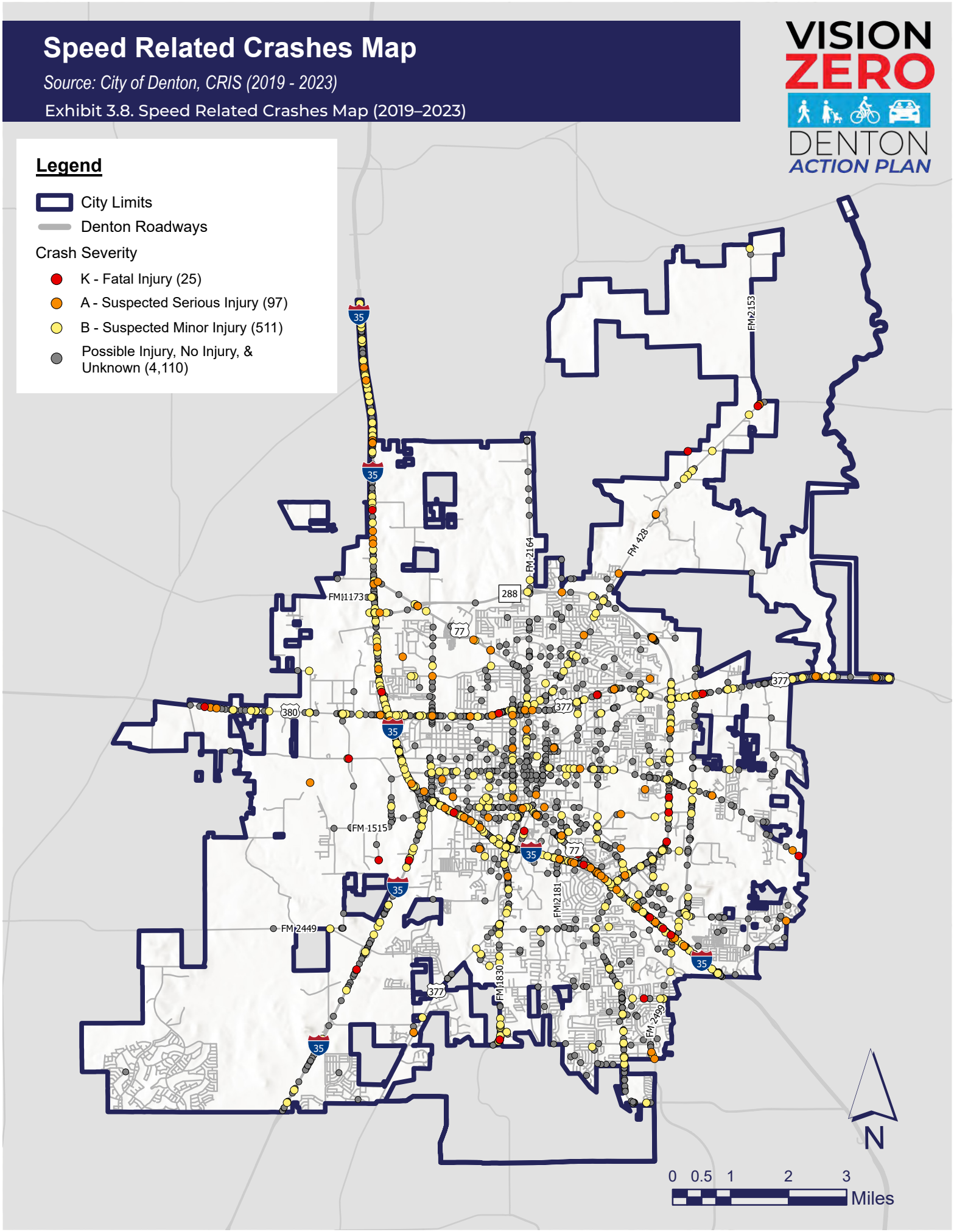


Speed Related Crashes Map

Source: City of Denton, CRIS (2019 - 2023)

Exhibit 3.8. Speed Related Crashes Map (2019–2023)

VISION ZERO DENTON ACTION PLAN



CRITICAL CRASH RATE METHOD

To identify locations with higher than expected severe crash burdens, the analysis applied the Critical Crash Rate methodology described in the Federal Highway Administration (FHWA) Highway Safety Manual (HSM). This approach compares location specific experience to expected performance among functionally similar roadways, controlling for traffic exposure.

This method is aimed at identifying locations that have a higher likelihood of crashes of higher severities and establishing them as priorities for future safety improvements. Overall, critical crash rate analysis is an effective tool for identifying and addressing safety concerns across the nation's roadway network. This approach supports improvements to transportation safety by highlighting roadway segments that experience a higher-than-expected frequency of crashes.

The methodology for calculating critical crash rates is based on comparisons among roadway segments with similar functional classifications and contextual characteristics. The analysis incorporates crash history and traffic volume data for specific roadway segments or intersections over a defined time. By evaluating and comparing critical crash rates across locations, transportation agencies can more effectively identify high-crash areas and prioritize them for further investigation and safety improvements.

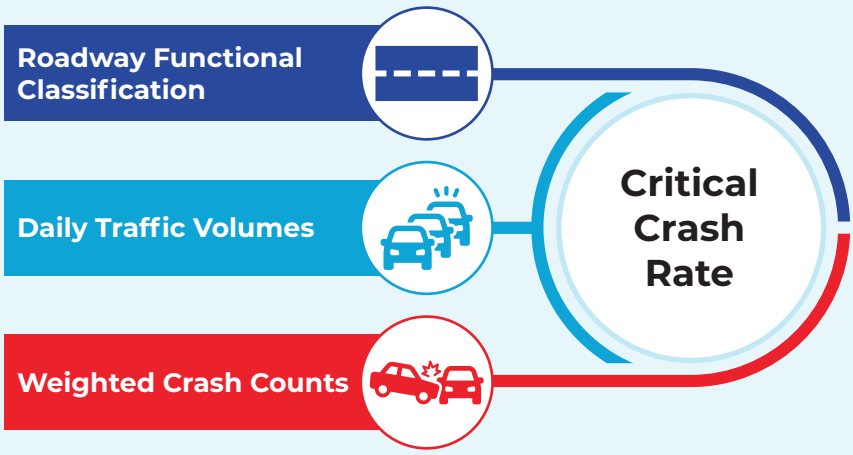
The critical crash rate was calculated for all Denton roadway segments through the development of an ArcGIS Pro model. The model assigns crashes, weighted by the severity of the crash, to an adjacent segment and performs the calculations in the order outlined by the FHWA. The following section describes the process that was used to calculate the critical crash rate, focusing on minor injury, severe injury and fatal crashes from 2019–2023.

CRITICAL CRASH RATE CALCULATION

The critical crash rate is calculated by dividing the number of severe crashes (fatalities and serious injuries) by the average daily traffic volume. This critical rate is then used to highlight areas where these high-injury crashes are occurring at higher frequencies when compared to traffic volumes of roadway segments with the same functional classifications. This calculation results in a rate of crashes per hundred million vehicle miles traveled (HMVMT).

INPUTS

Three primary data inputs are utilized to calculate the critical crash rate for each segment:



WEIGHTING

City of Denton Staff and the Vision Zero Task Force established the importance of focusing on eliminating crashes with the highest severities. To accomplish this, crashes were assigned a specific weighting factor based on their severity. Fatal injury crashes were assigned a factor of 15, severe injury crashes were given a factor of 3, and minor injury crashes were given a base factor of 1. These numbers are roughly influenced by the US Department of Transportation's Value of a Statistical Life (VSL), which assigns a value of how much society pays to reduce mortality risk. This study identified the average societal cost associated with each severity of crashes. Ultimately, City Staff and the VZTF refined these figures based on their assessment of crash severities specific to Denton. In employing this methodology, roadway segments that featured a fatal crash generally exhibited higher crash rates, allowing for those locations to be prioritized in the analysis.

CALCULATE VARIABLES

The parameters used in the critical crash rate analysis were derived using formulas outlined in the FHWA Highway Safety Manual. This metric evaluates roadway safety by measuring the variance between the crash rate observed in the field and the crash rate that would reasonably be anticipated under typical conditions. The observed crash rate reflects the actual number of crashes occurring along each roadway segment, expressed per hundred million vehicle miles traveled (HMVMT).

The expected crash rate, also calculated on an HMVMT basis, adjusts for differences in average daily traffic by functional classification. When applied, the analysis identifies roadway segments where crash occurrences exceed expected levels for facilities with comparable classification, surrounding context, traffic demand, and severity-weighted crash totals.

CALCULATE CRITICAL CRASH RATE RATIO

After all inputs are applied, a comparative ratio is generated to determine whether a roadway segment is experiencing a higher-than-anticipated rate of fatal and serious injury crashes. A ratio exceeding 1.0 indicates that the observed crash frequency surpasses the critical crash threshold, signaling that the segment performs worse than comparable roadways with similar functional classifications and contextual characteristics.

Summary

Observed Rate: severity weighted crashes normalized to exposure (per hundred million vehicle miles traveled—HMVMT).

Expected Rate: rate adjusted for functional class and ADT across comparable facilities.

Critical Crash Rate Ratio (CCRR): Observed ÷ Critical Threshold. Segments with CCRR ≥ 1.0 exceed the threshold and warrant priority review.

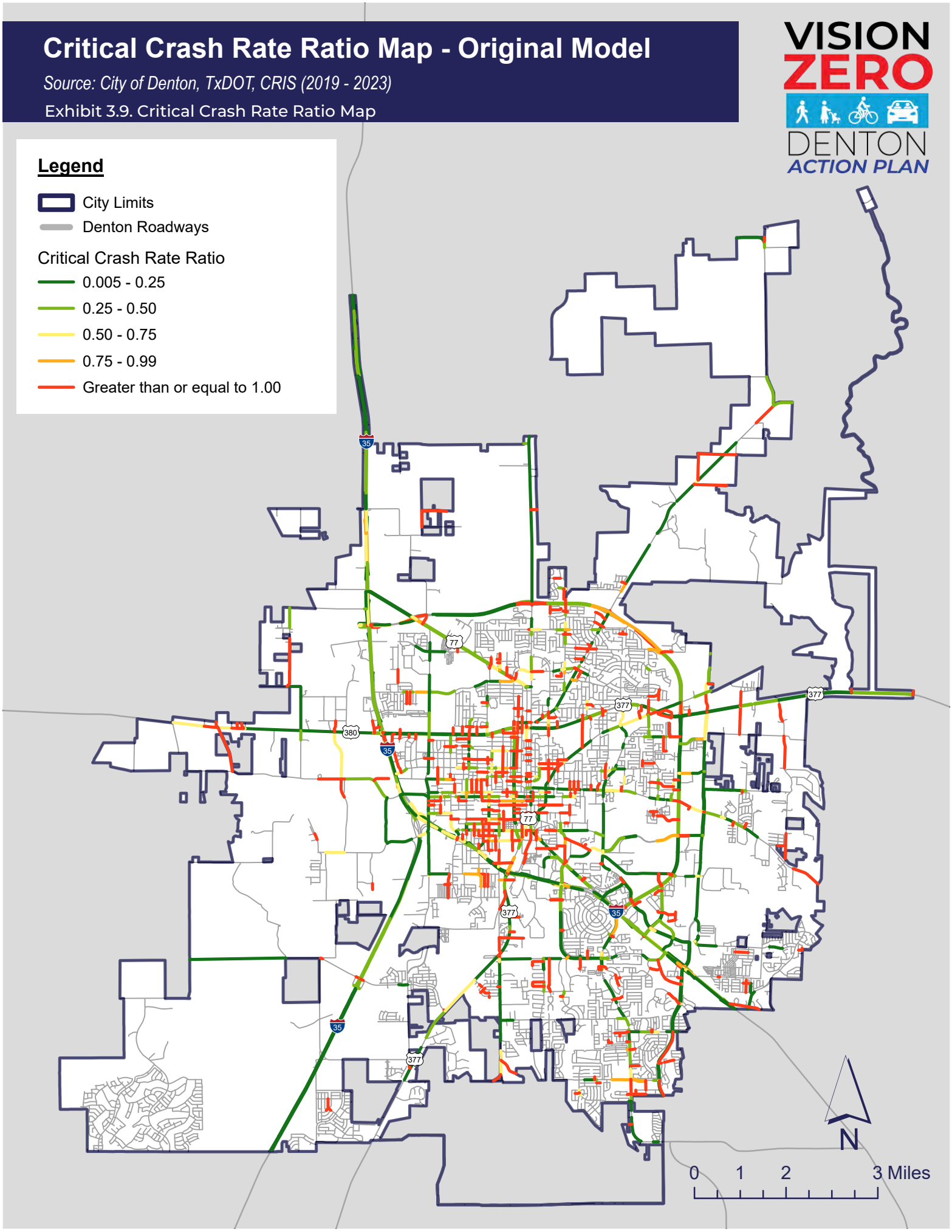
Segments with CCRR ≥ 1.0 (**Exhibit 3.9**) were screened as candidates for the High Injury Network (HIN), then evaluated alongside qualitative context (e.g., speed environment, sight distance, signing/marking quality, intersection design). To avoid false positives, segments showing CCRR ≥ 1.0 with only one crash were excluded unless that crash was a fatality.

Critical Crash Rate Ratio Map - Original Model

Source: City of Denton, TxDOT, CRIS (2019 - 2023)

Exhibit 3.9. Critical Crash Rate Ratio Map

VISION ZERO DENTON ACTION PLAN



HIN DEVELOPMENT & RESULTS

The High-Injury Network (HIN) is characterized by the identification of specific segments or intersections within the City of Denton with a disproportionally high number of traffic fatalities, serious injuries, or minor injuries. Combining the quantitative CCRR screening with structured qualitative review, the City and the Vision Zero Task Force delineated a High Injury Network that captures a disproportionate share of severe harm in a relatively small share of roadway mileage. The intent of the network is to prioritize targeted transportation safety improvements.

The final HIN for the Denton VZAP encompassed just 9.4% of the City's total roadway network, but accounted for 66.9% of all fatal, serious injury, and minor injury crashes and nearly 67% of all fatal crashes. The HIN is illustrated in Exhibit 3.10.

The following steps can be taken to monitor and implement improvements upon the establishment of the HIN:

Prioritize Safety Improvements

Based on the results of the analysis, crash patterns, and established prioritization of safety countermeasures. This could involve implementing engineering measures such as roadway redesign, installing traffic control devices, improving lighting, or enhancing pedestrian and cyclist safety.

Resource Allocation

Use the HIN to allocate resources appropriately based on need and concentration of crash severities. Resources could include funding, staffing, and coordination with key partners and stakeholders.

Implementing and Monitoring Improvements

Deploy and closely monitor the effectiveness of planned safety improvements. It is essential to track crash trends for specified periods after a safety improvement has been implemented. This could localize the effectiveness of specific countermeasures for Denton.

Continuous Review

As new data becomes available via CRIS, continue to evaluate critical crash rates and run the ArcGIS Model on a regular basis. This will ensure the effective allocation of resources and the identification of new high-crash locations for future countermeasure deployments.

To ensure the cleanliness of the model results, any roadway segments that exhibited a ratio greater than 1.0 but only experienced a single crash were removed from consideration to prioritize segments with a greater concentration of crashes. However, if the single crash was a fatality, this rule was omitted, and the segment remained in consideration. The remaining segments with ratios greater than 1.0 were flagged as HIN segment candidates. Gaps between flagged segments were then filled to create more contiguous corridors for targeted recommendations.

Final High Injury Network (HIN)

Source: City of Denton, TxDOT

Exhibit 3.10. Final High Injury Network (HIN)

VISION ZERO DENTON ACTION PLAN

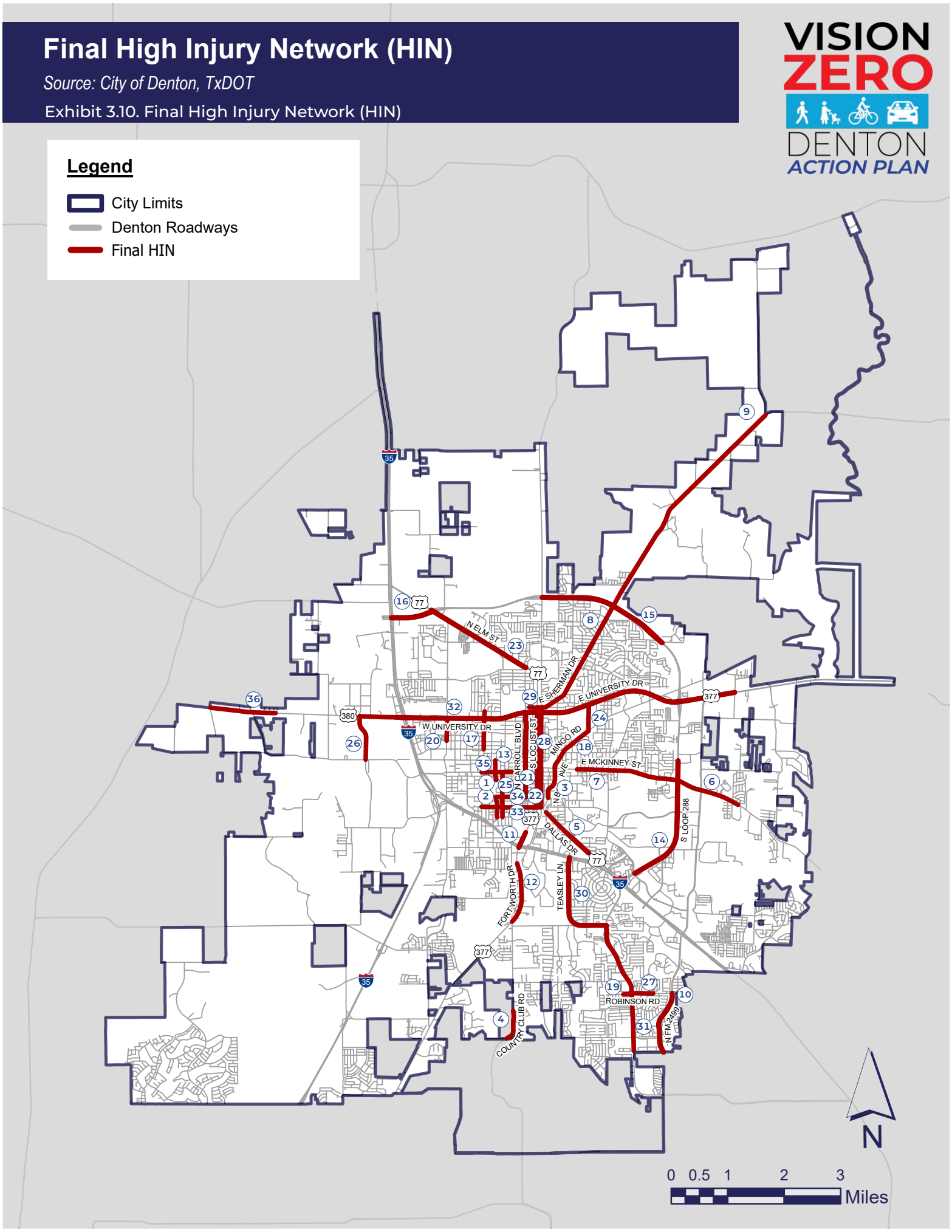


Table 3.7 provides a detailed breakdown of the HIN, consisting of 36 distinct road segments totaling 42.7 miles. Each segment is numerically labeled to correspond directly with the identifiers shown on **Exhibit 3.10** for cross-reference.

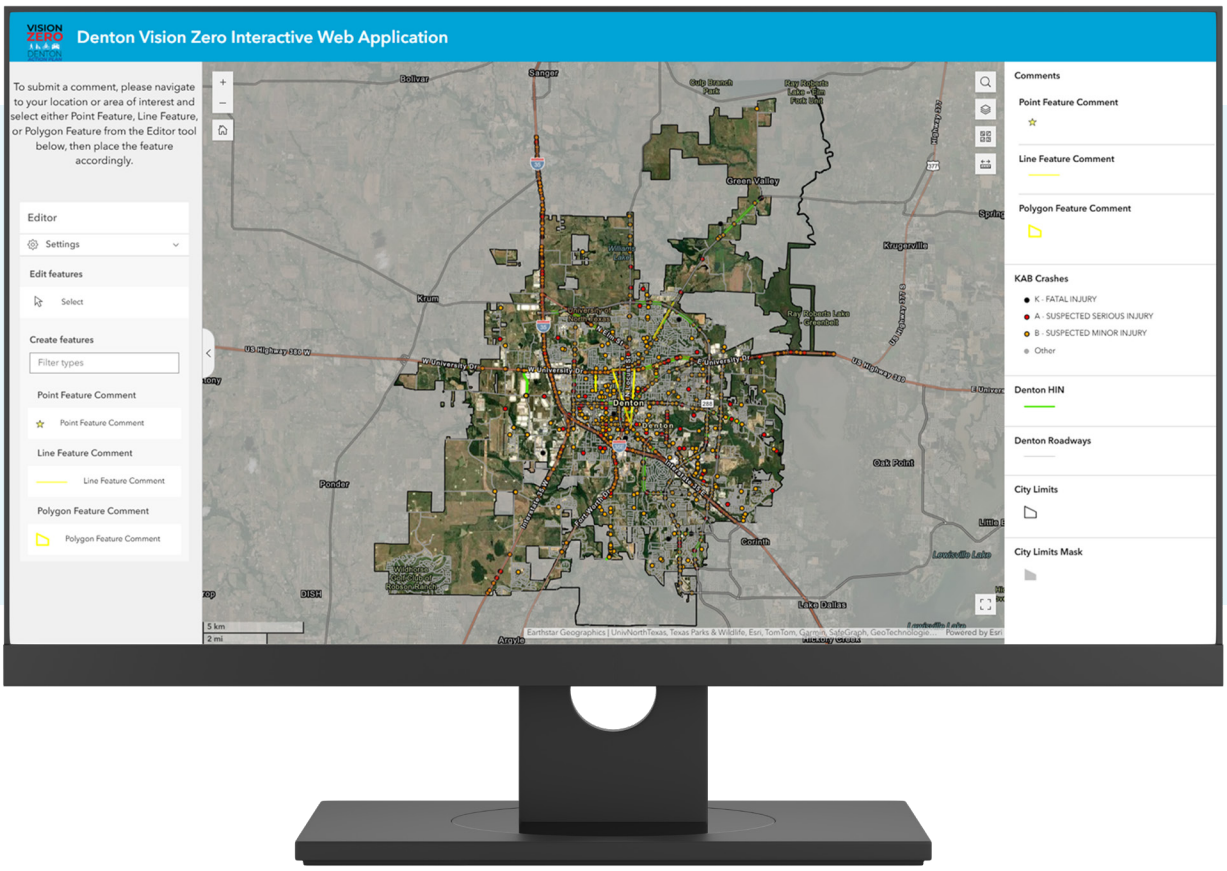
Table 3.7. Denton Vision Zero High Injury Network Segments

#	CORRIDOR NAME	START	END	LENGTH (MI.)
1	Ave A	W Hickory St	Mulberry St	0.1
2	Ave A	W Collins St	W Highland St	0.4
3	Bell Ave	Robertson St	Mingo Rd	0.7
4	Country Club Rd	Brush Creek Rd	Bighorn Pass	0.5
5	Dallas Dr	Rio Grande Blvd	Johnson St	1.6
6	E Mckinney St	Cardinal Dr	S Fork	1.3
7	E Mckinney St	N Bradshaw St	Mack Dr	0.8
8	E Sherman Dr (Inside Loop)	E Windsor Dr	N Loop 288	1.1
9	E. Sherman Dr (Northwest)	Elm Bottom Cir	FM 2153	1.8
10	FM 2499	City Boundary	Robinson Rd	1.1
11	Fort Worth Dr (North)	IH 35 E Interchange	530 ft North of Lindsey St	0.6
12	Fort Worth Dr (South)	Country Club Rd	Roselawn Dr	1.1
13	Fry St	Scripture St	W Hickory St	0.3
14	Loop 288 (East)	Colorado Blvd	Oriole Ln	2.4
15	Loop 288 (North East)	Kings Row	N Locust St	2.4
16	Loop 288 (North West)	IH 35 Interchange	N Elm St	0.8
17	Malone St	Panhandle St	Amherst Dr	0.7
18	Mingo Rd	N Bell Ave	Texas St	0.5
19	Miranda Pl	Colina Ave	Teasley Ave	0.2
20	N Bonnie Brae St	Linden Dr	W University Dr	0.4
21	N Carroll Blvd	W Highland St	W University Dr	1.5
22	N Elm St	Eagle Dr	E Sherman Dr	1.8
23	N Elm St (Northeast)	N Loop 288	W Windsor Dr	2.0
24	N Ruddell St	Mingo Rd	E University Dr	0.5
25	N Welch St	W Collins St	W Oak St	0.8
26	N Western Blvd	Jim Christal Rd	W University Dr	0.8
27	Robinson Rd	Teasley Ave	Bent Tree Lane	0.4
28	S Locust St	Eagle Dr	E Sherman Dr	1.8
29	Sherman Dr	Denison St	N Bell Ave	0.5
30	Teasley Lane (North)	Lillian B Miller Parkway	IH 35 E Interchange	3.5
31	Teasley Lane (South)	Lighthouse Dr	Robinson Rd	1.0
32	University Dr	N Western Blvd	Geesling Rd	6.1
33	W Eagle Dr	Ave C	S Locust St	1.1
34	W Highland St	Ave A	S Carroll Blvd	0.5
35	W Oak St	Jagoe St	Denton St	0.7
36	W University Dr	Private Drive at City Boundary	Cottonwood Ln	1.2
			Total	***42.7***

INTERACTIVE MAP

The HIN Segments were refined by the VZTF through an in-person tabletop exercise that highlighted crash rate ratios for key segments throughout the City. After the exercise, the VZTF had exclusive access to an interactive web map where they could place their comments to refine the HIN and select Study Corridors for further evaluation. VZTF members were able to place point, line, and polygon comments in areas where they believed HIN segments should be considered or removed. A view of the web map is displayed below:

Figure 3.7. Denton Vision Zero Interactive Map



VISION ZERO



DENTON ACTION PLAN

CHAPTER 4

COUNTERMEASURE APPLICATIONS

"The systemic countermeasure toolbox presents a comprehensive set of strategies designed to address common traffic safety concerns across a range of roadway contexts.

SYSTEMIC COUNTERMEASURES

This section of the Vision Zero Action Plan outlines systemic countermeasures that can be implemented citywide to enhance safety beyond the targeted improvements identified for specific study corridors. Implementation should prioritize roadways and intersections within the High Injury Network, where crash history indicates the most significant potential for safety benefits and where improvements can contribute to a safer, more connected transportation network.

The systemic countermeasure toolbox presents a comprehensive set of strategies designed to address common traffic safety concerns across a range of roadway contexts. The toolbox provides the City with flexible options to improve safety performance and support consistent application of proven safety treatments throughout the transportation system. Each countermeasure included in the toolbox is associated with a Crash Modification Factor (CMF). A CMF represents the expected change in crash frequency resulting from the implementation of a specific countermeasure. These values are sourced from the Crash Modification Factors Clearinghouse, a national resource that compiles and evaluates safety research, supporting the use of reliable data to inform safety decision-making.

Table 4.1. Systemic Countermeasures

COUNTERMEASURES	CMF
Raised Medians and Pedestrian Refuge Island	0.29
Rectangular Rapid Flashing Beacons (RRFB)	0.31
Bike Lanes	0.435
Roadway Reconfiguration	0.53
Curb Extensions	0.58
Roundabout	0.59
Sidewalks	0.598
Lane Designation Markings and Signs	0.8
Improving Signing and Visibility at Signals	0.81
Mid-Block Crosswalk	0.82
High Contrast Lane Markings	0.84
Retro-Reflective Backplates	0.85
Dynamic Speed Feedback Signs	0.95
Wider Edge Lines	0.97

Source: Crash Modification Factors Clearinghouse

RAISED MEDIANS AND PEDESTRIAN REFUGE ISLAND

What is it?

A physical separation between opposing traffic that can include landscaped or hardscaped medians. Refuge islands provide a protected space for pedestrians to cross one direction of traffic at a time.

Where does it work?

- Multilane arterials with high speeds or high volumes
- Long pedestrian crossing distances
- Locations with mid-block crossings or high turning-movement conflicts
- Transit corridors and school zones

Other considerations

- Coordinate median openings with access management
- Maintain clear pedestrian paths and ADA-compliant refuge widths
- Pair with lighting and high-visibility crosswalks
- Can reduce vehicular capacity if not designed with turning needs in mind

Figure 4.1. Raised Medians and Pedestrian Refuge Island Example



Source: Adobe Stock

RECTANGULAR RAPID FLASHING BEACONS (RRFB)

What is it?

A pedestrian-activated warning device that uses high-intensity, rapid flashing lights to alert drivers to people crossing at unsignalized locations.

Where does it work?

- Unsignalized crossings with moderate traffic volumes
- Mid-block or stop-controlled intersections
- Areas with documented yielding challenges
- Transit stops, multi-use trail crossings, schools, and downtown districts

Other considerations

- Requires MUTCD compliance and site warrants
- Works best with advance yield lines and daytime/nighttime lighting
- Avoid installation too close to signals where driver expectation may conflict

Figure 4.2. RRFB Example



Source: Kimley-Horn

BIKE LANES

What is it?

Dedicated roadway space for bicyclists defined by pavement markings and signage, with optional buffers or physical separation.

Where does it work?

- Collectors and arterials with adequate width
- Corridors with existing or planned bicycle demand
- Connections between parks, schools, transit, and activity centers

Other considerations

- Higher-speed roads may require buffers or physical protection
- Maintain continuity through intersections and driveways
- Consider green conflict markings at turn lanes

Figure 4.3. Bike Lane Example



Source: Adobe Stock

ROADWAY CONFIGURATION

What is it?

A reallocation of roadway space that reduces four undivided lanes to two through-lanes plus a center left-turn lane, often freeing space for bike lanes, parking, or pedestrian improvements.

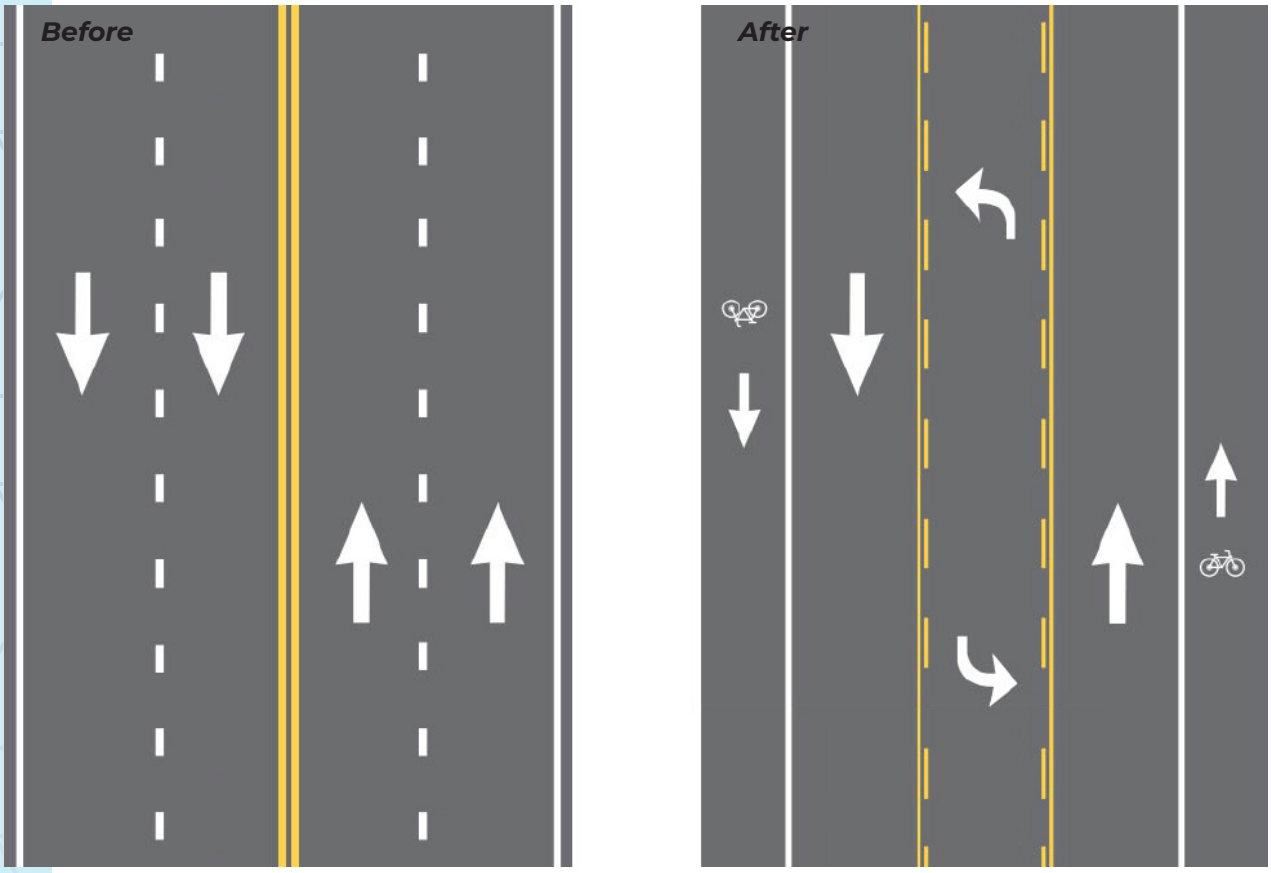
Where does it work?

- Corridors with ADT typically ≤ 12,000 vpd
- Streets with crash patterns tied to left-turn or sideswipe conflicts
- Urban corridors needing speed reduction and multimodal space

Other considerations

- Requires turning-movement and queue analysis at signals
- Evaluate bus stops, access points, and freight needs
- Great candidate for quick-build pilots

Figure 4.4. Roadway Configuration Example



Source: Federal Highway Administration

CURB EXTENSIONS

What is it?

Extensions of the curb into the parking or shoulder space to shorten crossing distance and improve pedestrian visibility.

Where does it work?

- Signalized and unsignalized intersections
- Downtowns, school areas, and commercial corridors
- Streets with on-street parking

Other considerations

- Ensure drainage flow is maintained
- Check turning paths for trucks, buses, and emergency vehicles
- Works best when paired with high-visibility crosswalks.

Figure 4.5. Curb Extensions Example



Source: pedbikeimages.org | Dan Burden

ROUNDABOUTS (RAB)

What is it?

A circular intersection design that reduces conflict points and lowers speeds by requiring entering vehicles to yield to circulating traffic.

Where does it work?

- High-crash intersections
- Areas with angle or left-turn crash patterns
- Locations where queues can be managed without signal timing

Other considerations

- Provide splitter islands and clear pedestrian crossings
- Design truck aprons for large vehicles
- Effective lighting is critical for nighttime safety

Figure 4.6. RAB Example



Source: Adobe Stock

SIDEWALKS

What is it?

Designated pedestrian facilities separated from the roadway, providing continuous and accessible space for walking.

Where does it work?

- Everywhere pedestrians are present or expected
- School zones, transit corridors, civic spaces, and mixed-use areas
- Streets with safety issues tied to walking along the roadway edge

Other considerations

- Maintain ADA compliance and continuous connectivity
- Integrate with curb ramps, lighting, and landscape zones
- Prioritize gaps near schools, transit, and parks

Figure 4.7. Sidewalk Example



Source: Adobe Stock

LANE DESIGNATION MARKINGS AND SIGNS

What is it?

Pavement markings and signage that clarify lane use, reduce driver confusion, and assist with navigation through complex intersections.

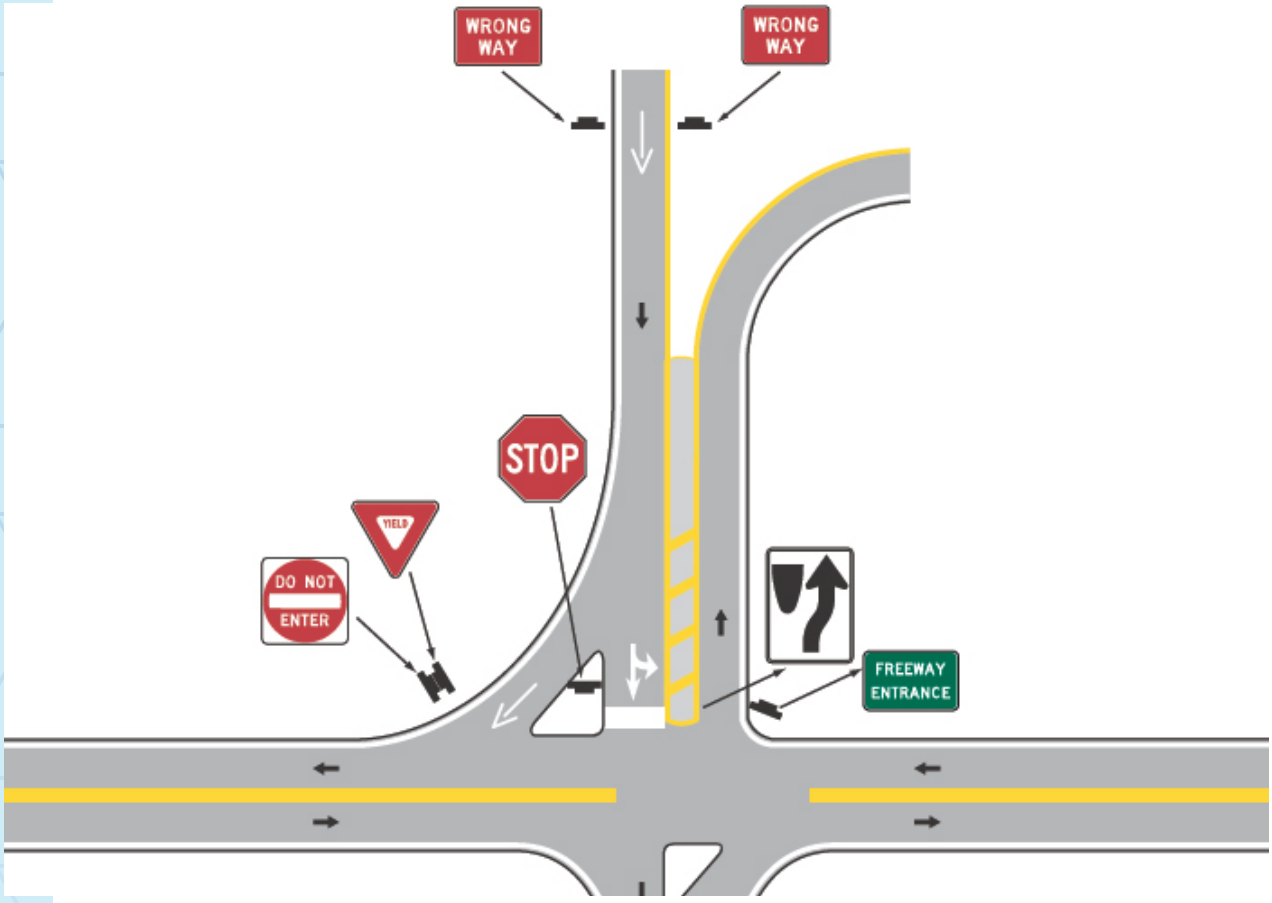
Where does it work?

- Multi-leg intersections
- Locations with weaving, merging, or turn-lane confusion
- Streets with high driveway density

Other considerations

- Maintain retroreflectivity
- Use advance guide signs on high-speed approaches
- Reassess sign clutter to avoid information overload

Figure 4.8. Lane Designation Markings and Signs Example



Source: Federal Highway Administration

IMPROVING SIGNING AND VISIBILITY AT SIGNALS

What is it?

Enhancements such as high-visibility crosswalks, upgraded signal heads, improved lighting, or reconfigured stop bars to increase driver awareness.

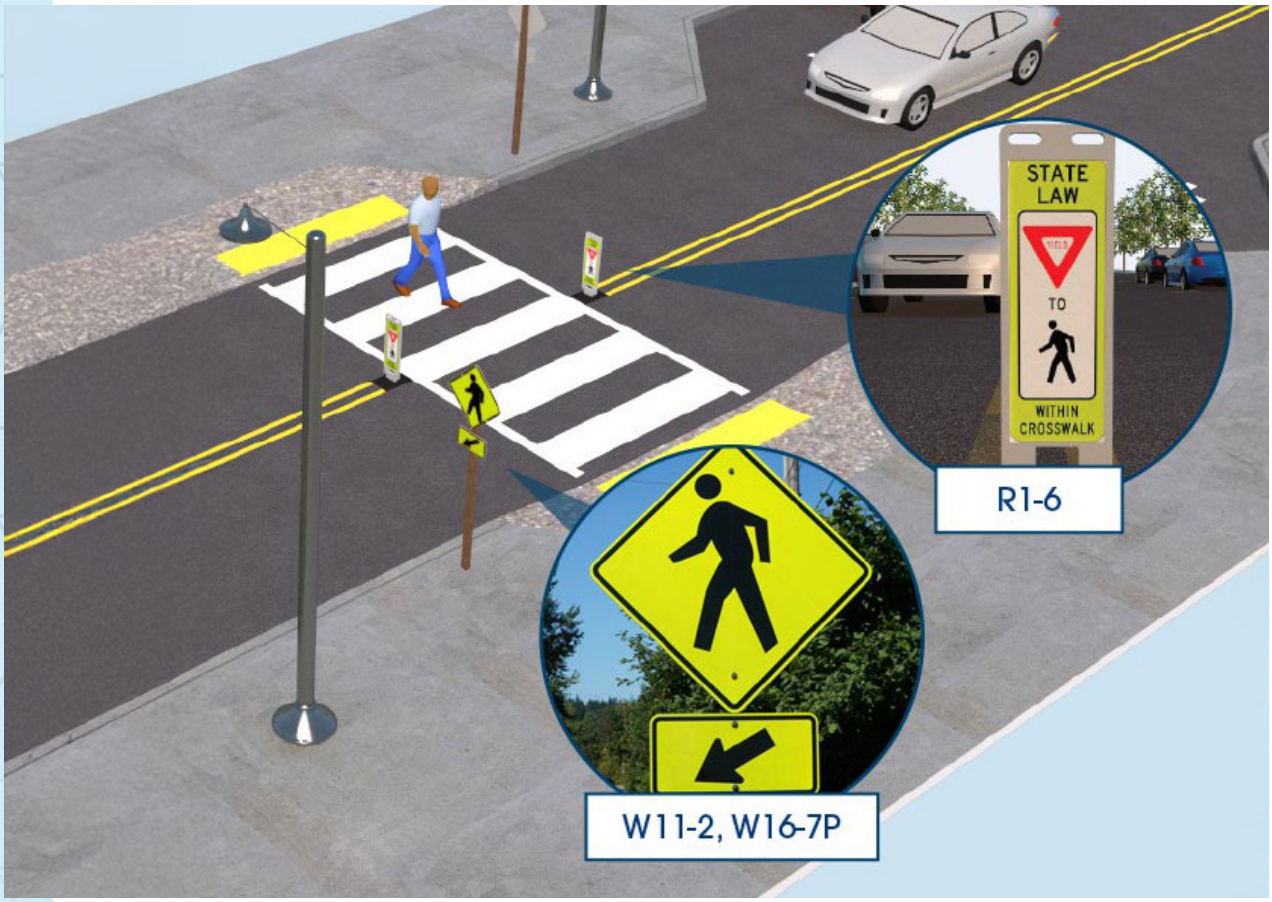
Where does it work?

- Signalized intersections
- High nighttime crash locations
- Multi-lane or skewed intersections

Other considerations

- Use thermoplastic or durable inlay materials
- Coordinate with lighting upgrades
- Evaluate mast-arm placement for visibility

Figure 4.9. Improving Signing and Visibility at Signals Example



Source: Federal Highway Administration

MID-BLOCK CROSSWALK

What is it?

Crossings placed between intersections to support direct pedestrian desire lines.

Where does it work?

- Long block lengths
- Transit stops and trails
- Downtowns and campus areas

Other considerations

- Always evaluate sight distance
- Pair with refuge islands, RRFBs, or signals as warranted
- Lighting is essential for nighttime safety

Figure 4.10. Mid-Block Crosswalk Example



Source: Adobe Stock

HIGH CONTRAST LANE MARKINGS

What is it?

Markings with colored or bordered contrast to improve visibility against light-colored pavement.

Where does it work?

- High-speed roads with lane departure issues
- Corridors with concrete or light asphalt pavement
- Areas with poor visibility during rain or nighttime

Other considerations

- Consider wet-reflective materials
- Maintain uniformity along corridor
- Coordinate with future resurfacing plans

Figure 4.11. High Contrast Lane Markings Example



Source: Federal Highway Administration

RETRO-REFLECTIVE BACKPLATES

What is it?

Traffic signal backplates with reflective borders that improve signal visibility during day, night, and power outages.

Where does it work?

- Signalized intersections with visual clutter
- Corridors with nighttime crash histories
- Wide or high-speed approaches

Other considerations

- Standardize citywide for consistency
- Maintain reflective material to avoid degradation
- Simple, low-cost, high-impact measure

Figure 4.12. Retro-Reflective Backplates Example



Source: Adobe Stock

DYNAMIC SPEED FEEDBACK SIGNS

What is it?

Radar-triggered signs that display a driver's real-time speed to encourage compliance.

Where does it work?

- School zones
- Transitions between high- and low-speed areas
- Corridors with documented speeding issues

Other considerations

- Works best paired with enforcement or calming measures
- Requires power supply and regular calibration
- Effective as part of a broader speed management program

Figure 4.13. Dynamic Speed Feedback Sign Example



Source: Adobe Stock

WIDER EDGE LINES

What is it?

Pavement edge lines increased from 4 inches to 6 inches to improve lane boundary visibility.

Where does it work?

- Rural roads
- Curves and segments with nighttime crashes
- Locations with narrow shoulders

Other considerations

- Combine with shoulder rumble strips where appropriate
- Evaluate roadside obstacles/clear zones
- Improves visibility in fog, rain, and low-light conditions

Figure 4.14. Wider Edge Line Example



Source: Adobe Stock

STUDY CORRIDORS

The systemic countermeasures toolbox was developed with the goal of applying it to the six road segments within the High-Injury Network (HIN) to help reduce crashes. These segments were selected as study corridors in coordination with City staff and the Vision Zero Task Force (VZTF). Crash reports were analyzed to characterize existing conditions and identify crash patterns and locations. This assessment established a baseline understanding of safety performance along the corridors. Collectively, the six corridors span approximately 10 miles and experienced 298 KAB crashes, as summarized in **Table 4.2**.

Table 4.2. Study Corridors

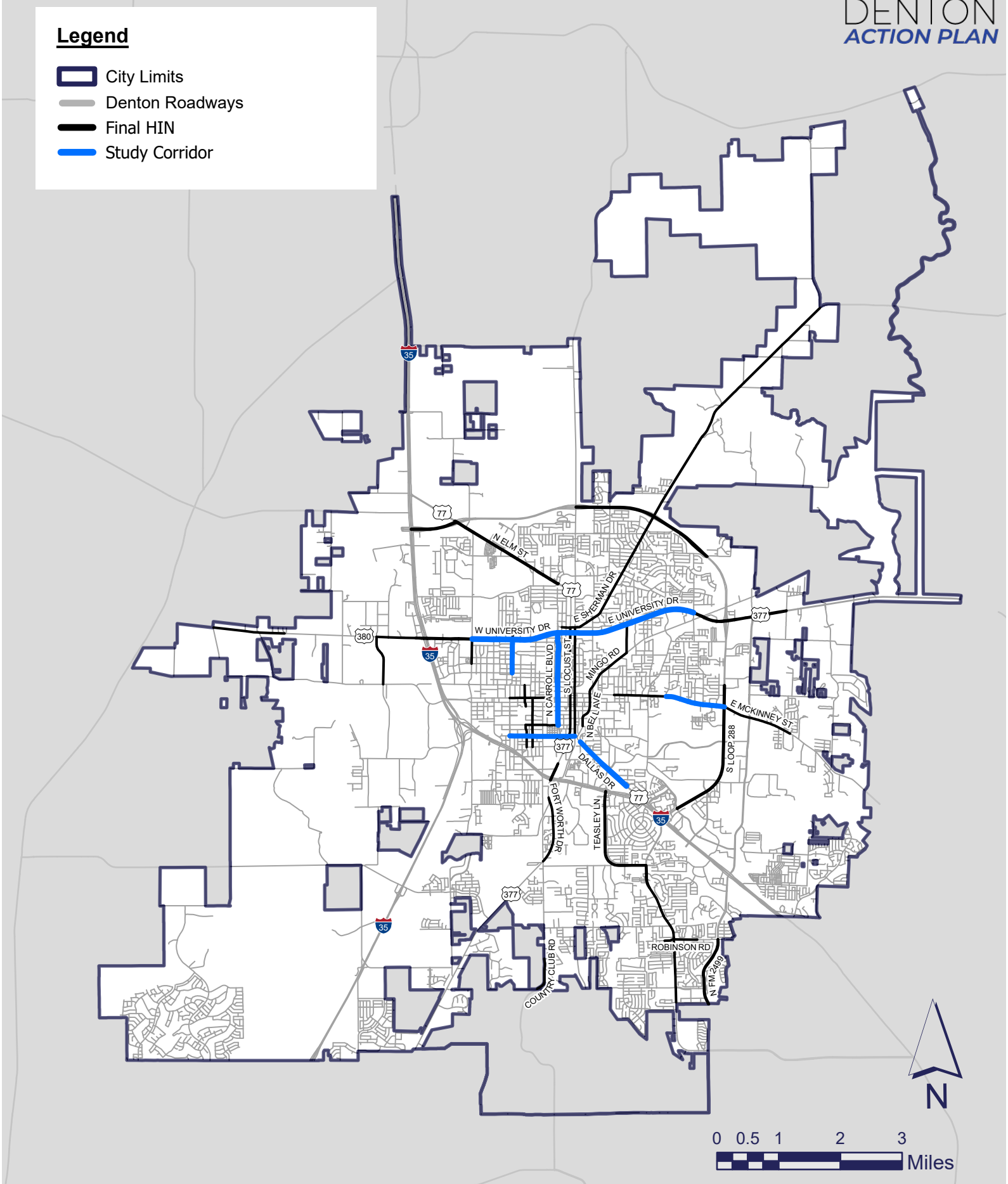
	LIMITS				CRASHES					
STUDY CORRIDOR	ORIGIN	ENDING	LENGTH (MI.)	FUNCTIONAL CLASS	K	A	B	TOTAL KABS	PEAK VOLUME	PEAK CRITICAL CRASH RATE
W University Dr	N Bonnie Brae	Old North Rd	3.7	Primary Arterial	4	22	107	133	31,453	3.13
N Carroll Blvd	380	W Highland St	1.5	Primary Arterial	1	3	53	39	28,998	3.23
E Sherman Dr	N Bell Ave	E Windsor Dr	0.7	–	0	0	0	0	0	0.00
Dallas Dr	Johnson	Rio Grande	1	Primary Arterial	2	3	26	31	26,716	3.16
Malone St	380	Panhandle	0.7	Collector	0	2	8	10	30,979	2.81
E McKinney St	Audra	Loop 288	2.1	Primary Arterial	0	6	27	33	33,667	3.37
		Totals	***10.06***		***7***	***39***	***252***	***298***		

Selected Study Corridors

Source: City of Denton, TxDOT

Exhibit 4.1. Selected Study Corridors

VISION ZERO DENTON ACTION PLAN



VISION ZERO



DENTON ACTION PLAN

CHAPTER 5

IMPLEMENTING THE VISION

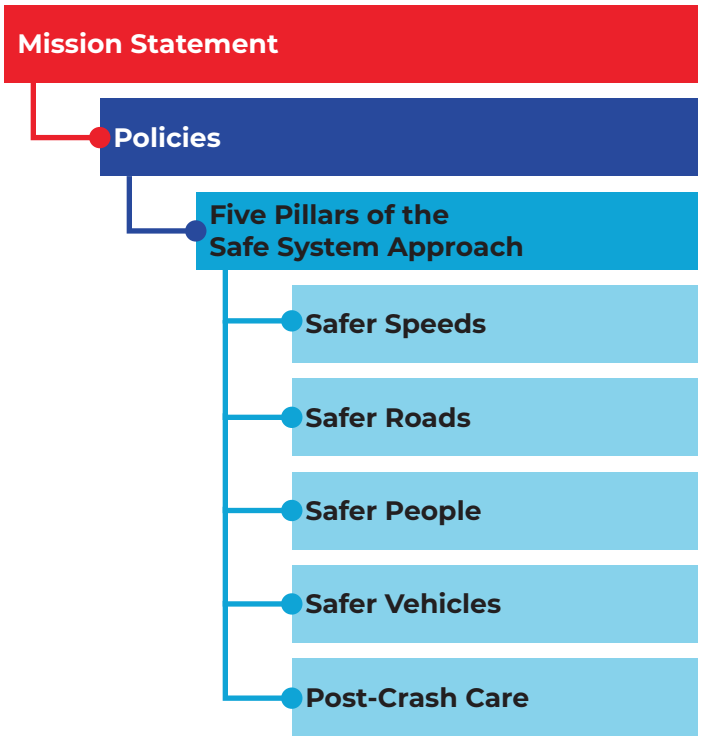
"The Implementation Program offers a 5–10 year roadmap grounded in the Safe System Approach, aligned with emphasis areas, and supported by the mission and guiding principles established by the Vision Zero Task Force.

IMPLEMENTATION PROGRAM

This chapter translates the Vision Zero Action Plan's analytical findings and community priorities into a set of actionable, trackable, and implementable strategies for the City of Denton. While **Chapters 3** and **4** identify where and why severe crashes occur—and the types of countermeasures that can address them—this chapter provides the framework for execution, spanning policy, programs, partnerships, and project delivery.

The Implementation Program offers a 5–10 year roadmap grounded in the Safe System Approach, aligned with SS4A emphasis areas, and supported by the mission and guiding principles established by the Vision Zero Task Force. Actions are designed to be achievable, scalable, and adaptable as Denton grows and conditions evolve.

The recommended actions are intended to realize the vision established by the community throughout this process. The Implementation Action Matrix is displayed in a tabular form, beginning on page 61. Policies are organized by the Five Pillars of the Safe System Approach, each stemming from the foundational Mission Statement. There are a total of 43 actions in the Matrix, organized by the overall vision framework described on the following page.

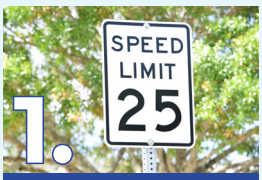


MISSION STATEMENT

As described in **Chapter 2**, the mission statement sets a clear and aspirational direction for improving roadway safety across the City. It guides the recommendations in the VZAP and is grounded in the principles of the Safe System Approach, ensuring that all implementation efforts align with this shared goal.

"Our mission is to create a safe, accessible, and sustainable multimodal future for all Denton road users. Through data, community engagement, and innovation, we aim to eliminate fatalities and serious injuries, ensuring a network that protects and serves everyone."





1. Safer Speeds



2. Safer Roads



3. Safer People



4. Safer Vehicles



5. Post-Crash Care

FIVE PILLARS OF THE SAFE SYSTEM APPROACH

The five pillars serve as the framework for organizing the action matrix. Each action is grouped under a pillar based on its topic. Together, these policies and actions support the goals of the Safe System Approach and provide clear guidance for improving safety.

IMPLEMENTATION PROGRAM COMPONENTS

EMPHASIS AREA

Relevant Texas SHSP Emphasis Areas associated with each action, these include:

- **Impaired Driving**
- **Distracted Driving**
- **Roadway & Lane Departures**
- **Intersection Safety**
- **Occupant Protection**
- **Speed Related**
- **Vulnerable Road Users**
- **Post-Crash Care**

TIMEFRAME

For every strategy, each action provides an estimated timeframe for implementation. The estimate timeframe for implementation allows for better decision making and allocation of funding to complete the action plan strategies and actions in a timely manner. This is broken out between the following:

Short (<2 Years)	Medium (2–5 Years)	Long (5+ Years)	Ongoing
This action is a top priority and can be a "quick win" for Vision Zero.	This action may take more time but can be accomplished before the next VZAP update.	This action will require many years but will have significant impact when complete.	This action does not have a specified time frame and should be executed on a continuous basis.

PARTNERS

In many instances, collaboration with partner organizations, entities, or stakeholders is crucial for the successful implementation of the recommended actions. These partners play a vital role by contributing resources, expertise, and support to achieve the Plan's goals. The following list identifies internal and external partners that could aid in the implementation process, though it is not exhaustive:

Internal Teams:

- City Council
- Transportation Services
- Planning & Development Services
- Streets, CIP, and Engineering
- Police Department
- EMS/Fire
- Parks & Recreation

External Partners:

- TxDOT
- Denton County
- DCTA
- UNT and TWU
- Community advocacy and safety groups
- Neighborhood leadership and local organizations
- National nonprofits and safety researchers

FUNDING

Funding and its source are an important step in implementing the action plan. The matrix also provides information about whether the action can be accomplished through three different funding sources:

- Existing Funds
- Reallocation of Funds
- Alternative Funding Source

ACTION MATRIX

The Matrix provides detailed information for each action:

- **Action description**
- **Emphasis area(s)**
- **Timeframe**
- **Responsible partners**
- **Funding pathway**

These components make the Implementation Program transparent, trackable, and easy to integrate into departmental work plans.

The full Matrix includes 43 actions, organized by pillar and aligned with the Mission Statement. Each action is designed to:

- **Reduce severe crash risk**
- **Improve multimodal safety**
- **Advance behavioral, operational, and engineering solutions**
- **Build toward a citywide culture of safety**



SAFER SPEEDS

Slower vehicle speeds reduce crash impact forces, increase driver reaction time, and improve awareness of surrounding conditions. Managing speeds is crucial to protecting all roadway users, particularly those who are most vulnerable. Achieving safer operating speeds requires the application of equitable strategies, including the establishment of appropriate speed limits, roadway design practices, and supportive ordinances and policies.

Table 5.1. Actions for Safer Speeds

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
★	Develop speed limit setting standards that reduce reliance on the 85th percentile measure.	» Speed Related » Vulnerable Road Users	Medium (2–5 Years)	TxDOT, Streets
	Expand the existing Street Tree Ordinance to contribute to Traffic Calming and the City's existing beautification efforts.	» Speed Related » Intersection Safety » Vulnerable Road Users	Medium (2–5 Years)	Streets, Parks & Recreation, Development Services
★	Implement the construction of solid barriers to separate transportation modes, prioritizing roadway segments where speed differentials are high.	» Speed Related » Roadway & Lane Departures » Vulnerable Road Users	Long (5< Years)	CIP, Streets, Development Services, Planning, TxDOT, Private Sector

★ *Indicates a priority project*

Table 5.1. Actions for Safer Speeds (Continued)

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Adding raised crosswalks and speed humps where appropriate to promote safer speeds through vertical deflection.	» Speed Related » Vulnerable Road Users	Long (5< Years)	City Council, CIP, Streets, Development Services
	Develop an access management plan and adopt access management standards that prevent crashes such as driveway consolidation, driveway closures near intersections, and medians.	» Occupant Protection » Speed Related » Vulnerable Road Users » Intersection Safety » Roadway & Lane Departures	Long (5< Years)	TxDOT, Streets, CIP, Private Sector, Planning
	Develop a speed management program that monitors speed related crashes across the City to determine targeted traffic calming and enforcement locations.	» Speed Related » Vulnerable Road Users	Long (5< Years)	Denton PD, Development Services



SAFER ROADS

Safe roads employ design and operational strategies that reduce the likelihood of crashes and limit the severity of injuries when crashes occur. These strategies protect the human body by managing conflict points and controlling crash forces. Designers can prevent crashes by separating roadway users traveling at different speeds or in opposing directions through physical space, timing, or both.

Table 5.2. Actions for Safer Roads

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Coordinate with local and state roadway authorities to begin implementing safety measures that incorporate universal street design, prioritizing future and existing projects in areas with a higher percentage of vulnerable populations.	» Vulnerable Road Users » Intersection Related	Ongoing	TxDOT, Streets, Development Services
	Support innovative construction and reimagined designs of existing intersections in the City in such a manner that makes travel across the City more accessible, comfortable, and intuitive, while also balancing appropriate spacing for each roadway use to accommodate a wide variety of travel modes.	» Intersection Related	Ongoing	TxDOT, Streets, Development Services
	Update the Street Design Manual to standardize a context-sensitive approach, with respect to the design of new and reconstructed roadways based on surrounding land uses.	» Intersection Safety » Speed Related	Ongoing	Streets, TxDOT, Development Services, Planning
	Prioritize the improvement of pedestrian facilities in residential areas in and around the downtown's vicinity.	» Vulnerable Road Users » Roadway & Lane Departures » Intersection Safety	Ongoing	Streets, CIP, Development Services, Planning
★	Prioritize the implementation of quick-build projects, such as bike lanes, road narrowing, curb extensions, high-visibility crosswalks, stop bar alignment improvements, and speed limit reductions, utilizing temporary materials, such as plastic bollards, flexible bollards, planters, textured paint, high-visibility paint, CMS boards, or other materials.	» Speed Related » Vulnerable Road Users	Short (<2 Years)	Transportation Services, Streets, CIP, Planning
	Develop crosswalk guidelines to aid in selecting locations and treatments for mid-block crossings.	» Vulnerable Road Users	Medium (2–5 Years)	Transportation Services, Streets, CIP

★ *Indicates a priority project*

Table 5.2. Actions for Safer Roads (Continued)

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Revise subdivision regulations to include access management tactics for safety, updating connectivity standards to improve street connectivity, including right-of-way for bicycle and trail facilities as well as revising the fee-in-lieu-of system for sidewalk variances granted by the Mobility Committee.	» Vulnerable Road Users	Medium (2–5 Years)	Development Services, Streets, CIP
	Identify and prioritize construction-ready safety projects to enhance roadway infrastructure and address critical safety concerns.	» Vulnerable Road Users » Intersection Safety » Distracted Driving » Impaired Driving » Roadway & Lane Departures	Medium (2–5 Years)	Streets, Mobility Committee, CIP, Planning
	Update the ADA Transition Plan to determine progress and identify new priorities to ensure compliance.	» Vulnerable Road Users » Intersection Related	Medium (2–5 Years)	City Council, Streets, EMS/Fire
	Develop a Safe Routes to School Plan focused on enhancing safety, accessibility, and connectivity for students commuting to and from school.	» Vulnerable Road Users » Intersection Related	Medium (2–5 Years)	City Council, Mobility Committee, Streets, EMS/Fire
	Implement roadway design features that prevent parking with 20–25 feet of an intersection (daylighting)	» Intersection Safety » Vulnerable Road Users	Medium (2–5 Years)	Streets, Planning, Development Services, TxDOT, CIP
★	Update intersection design and operations guidelines to incorporate a context sensitive approach for enhancing vulnerable road user safety.	» Intersection Related » Vulnerable Road Users	Long (5< Years)	Streets, Development Services, CIP, Planning, Denton PD
	Implement the construction of raised crosswalks in high-traffic or school zone areas to improve the visibility of micromobility modes of transportation and slow down vehicle speeds.	» Vulnerable Road Users » Speed Related	Long (5< Years)	Development Services, Streets, CIP
	Implement roadway reconfigurations at new traffic signal locations as an alternative to constructing additional turn lanes.	» Intersection Related	Long (5< Years)	Streets, CIP, Development Services, Planning, Denton PD
	Implement Access Management techniques on major corridors to reduce conflict points near commercial driveways.	» Roadway & Lane Departures » Vulnerable Road Users » Distracted Driving » Speed Related	Long (5< Years)	Streets, TxDOT, Planning
	Implement roadway design that would improve lighting at nighttime, particularly emphasizing lighting structures built for a pedestrian-sized context.	» Vulnerable Road Users » Intersection Safety » Distracted Driving » Impaired Driving » Roadway & Lane Departures	Long (5< Years)	Streets, CIP, Planning
	Develop and implement targeted improvements for the three corridors identified through the NCTCOG RSA Study Process to address safety and mobility challenges effectively.	» Vulnerable Road Users » Intersection Safety » Distracted Driving » Impaired Driving » Roadway & Lane Departures	Long (5< Years)	Streets, Mobility Committee, CIP, Planning



SAFER PEOPLE

Within the Safe System Approach, all roadway users, including pedestrians, bicyclists, drivers, and transit users, receive equal consideration. The approach prioritizes the safety of all users over vehicle throughput, recognizing that the transportation system should accommodate a range of travel modes. At the same time, all users share responsibility for operating within the conditions established by system designers and operators. Education and enforcement play a crucial role in promoting safe behavior and encouraging compliance.

Table 5.3. Actions for Safer People

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
★	Support community partners and schools in an effort to provide the highest quality driver, youth, and older adult training focused on safety and crash prevention.	» Roadway & Lane Departures » Impaired Driving » Occupant Protection » Speed Related » Vulnerable Road Users » Intersection Safety	Ongoing	Denton PD, Denton ISD, UNT, TWU, NCTC
	Engage in a regular auditing process of Denton's recent long-range planning efforts to evaluate how well the City is integrating recommendations from the plans into the VZAP Implementation process	» Vulnerable Road Users » Intersection Safety » Speed Related	Ongoing	Development Services, CIP, Planning, Parks & Recreation, DCTA
	Support the state in implementing regulatory measures that will strengthen the rigor of the driver's license testing	» Occupant Protection » Intersection Safety » Roadway & Lane Departures » Impaired Driving » Distracted Driving	Ongoing	Denton PD, TxDOT, Healthy Communities Coalition
	Improve paratransit services in Denton through new technologies that make requesting and scheduling a ride more intuitive and less costly	» Vulnerable Road Users	Ongoing	DCTA, City Council, Development Services, Planning

★ *Indicates a priority project*

Table 5.3. Actions for Safer People (Continued)

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Expand micromobility options that would reduce the reliance on driving to get to establishments that serve alcohol, particularly during peak hours on weekends.	» Impaired Driving	Short (<2 Years)	City Council, DCTA, Development Services
	Develop a process that would support the installation of midblock crosswalks at targeted locations with high pedestrian traffic.	» Vulnerable Road Users	Medium (2–5 Years)	Transportation Services, Streets, Development Services, City Council
	Enhance visibility of intersection enhancements through artistic treatments and the installation of low-cost bollards	» Intersection Safety » Vulnerable Road Users	Medium (2–5 Years)	City Council, Streets, Planning, Development Services
★	Enhance pedestrian infrastructure near schools, senior centers, and healthcare facilities through targeted safety improvements that focus on populations of vulnerable ages.	» Vulnerable Road Users » Intersection Safety	Long (5< Years)	City Council, Denton ISD, AARP, DCHD
	Evaluate the current pedestrian and bike network to assess its relative ease for the most vulnerable populations to navigate the system	» Vulnerable Road Users	Long (5< Years)	Streets, CIP, Planning, TxDOT



SAFER VEHICLES

The Safer Vehicles pillar can present challenges at the local level, as vehicle manufacturing standards and regulations are established mainly at the federal level. However, local actions continue to play a crucial role in advancing vehicle safety and supporting broader safety goals. Safety features built into vehicles protect people both inside and outside the vehicle by helping prevent crashes and reducing the severity of injuries when crashes occur.

Vehicle safety technologies include active systems that help prevent crashes, such as autonomous emergency braking, lane departure alerts, and blind spot monitoring. While vehicle manufacturers serve as primary stakeholders in advancing vehicle safety, individuals, employers, and organizations also influence outcomes through vehicle purchasing decisions and operational practices that prioritize safety features. The actions supporting the Safer Vehicles pillar range from promoting the use of emerging safety technologies to supporting policies and programs that enhance the protection of vehicle and roadway users.

Table 5.4. Actions for Safer Vehicles

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
★	Support the proposed rules by the National Highway and Transportation Administration that advance the Federal Motor Vehicle Safety Standards related to occupant and all-party survival in crashes including blind spot and back-up cameras, lane departure, driver visibility, speed limiters, pedestrian head survival, and other emerging technologies.	» Roadway & Lane Departures	Ongoing	TxDOT
	Develop procurement strategies that include multimodal alternatives to the fleet of municipal vehicles as well as specifying minimum safety requirements	» Occupant Protection	Short (<2 Years)	City Council, EMS/Fire, Denton PD, Streets

★ *Indicates a priority project*

Table 5.4. Actions for Safer Vehicles (Continued)

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Encourage micromobility users to be fitted with a flag or other visual element to account for the low-profile nature of the transportation mode	» Vulnerable Road Users	Medium (2–5 Years)	City Council, Denton PD, DCHD
★	Support the development of work zone intrusion detection systems that provide audible, visual, or vibratory alarms to rapidly alert drivers and field workers of an intrusion into a work zone.	» Occupant Protection » Roadway & Lane Departures » Vulnerable Road Users	Long (5< Years)	Private Sector, TxDOT
	Establish a Commercial Vehicle Enforcement Unit that would be tasked with vehicle inspection as well as to enforce rules and regulations that ensures CMV's are safe to drive within City limits	» Occupant Protection » Distracted Driving » Roadway & Lane Departures » Impaired Driving » Speed Related	Long (5< Years)	City Council, TxDOT, Denton PD, Streets



POST-CRASH CARE

When crashes occur, timely and coordinated response efforts are critical to protect those involved and reduce the risk of secondary incidents. First responders play a crucial role in quickly locating crash sites, providing immediate medical care, and transporting injured individuals to the appropriate medical facilities. At the scene, responders also secure the area to protect other roadway users and prevent additional crashes.

Prompt responses and thorough investigations by law enforcement support accurate documentation of crash circumstances. This information enhances the understanding of safety conditions and informs data analysis, engineering decisions, enforcement strategies, and policy development to help prevent future crashes.

Table 5.5. Actions for Post-Crash Care

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
★	Analyze safety data regularly with information that presents the identification of priority locations, contributing factors, and focus areas to inform safe system changes.	» Vulnerable Road Users	Ongoing	Streets, Planning, Development Services, TxDOT, CIP
	Increase police resources to have a more visible police presence for the purposes of effective traffic enforcement and improved traffic safety.	» Occupant Protection » Vulnerable Road Users	Ongoing	City Council, Denton PD
	Procure crash data reporting technology for studying near misses and utilizing predictive crash analyses to prioritize future City roadway improvements.	» Roadway & Lane Departures » Speed Related » Intersection Safety	Ongoing	Denton PD, TxDOT, Planning, Streets, Development Services
	Conduct a study analyzing the time from crashes to trauma center to inform strategies for shortening times from collisions to hospital care. (Examples include lifesaving equipment for all first responders and deploying a mobile EMT force in small vehicles)	» Vulnerable Road Users	Short (<2 Years)	EMS/Fire, Streets, TxDOT, Denton PD
★	Conduct advanced analyses on all reports of fatal and serious injury collisions within City Limits as new data becomes available.	» Vulnerable Road Users	Medium (2–5 Years)	Denton PD, Planning, Streets, TxDOT

★ *Indicates a priority project*

Table 5.5. Actions for Post-Crash Care (Continued)

	ACTION	EMPHASIS AREA	TIMEFRAME	PARTNERS
	Establish a crash analysis studio that analyzes recent crashes within the City limits to assess potential causes for the collision and where there exist opportunities to mitigate future accidents through low-cost safety projects.	» Vulnerable Road Users » Intersection Safety » Roadway & Lane Departure » Distracted Driving » Speed Related » Post-Crash Care » Occupant Protection » Impaired Driving	Medium (2–5 Years)	Streets, TxDOT Planning, Denton PD
	Expand and integrate improved emergency vehicle preemption technological capabilities throughout the City.	» Roadway & Lane Departures » Occupant Protection	Long (>5 Years)	EMS/Fire, City Council, Streets, CIP
	Introduce the exchange of citation and charges data between the City and Courts.	» Vulnerable Road Users » Occupant Protection	Long (>5 Years)	Denton PD, UNT, TWU
	Enhance the public's knowledge of the top causes of roadway crashes on the City's roadways through periodically publishing said data.	» Impaired Driving » Distracted Driving » Intersection Safety » Roadway & Lane Departures » Speed Related	Long (>5 Years)	Streets, Denton PD, Planning, EMS/Fire, TxDOT

PLAN ADMINISTRATION

The City of Denton and its community partners have the responsibility of administering and implementing this plan. City Staff will manage implementation on a daily basis, as well as the tracking and amendments of the Plan. The following outlines responsibilities and administration activities for various implementation agencies:

TRANSPORTATION SERVICES & PARTNER DEPARTMENTS

All City departments will have some level of involvement in the implementation of this Plan. The Transportation Services Division will be the primary group overseeing the plan administration and annual updates to the City Council.

CITY COUNCIL

The City Council will play a pivotal role in advancing Plan implementation by providing continuous guidance and direction to staff, as well as other boards and commissions, while also making decisions concerning budget allocations and regulatory modifications as specified in the Implementation Program.

OTHER BOARDS, COMMITTEES, & COMMISSIONS

Within Denton, various boards, committees, and commissions are designated to fulfill specific roles in reviewing and guiding a variety of initiatives, all of which will play a crucial role in implementing the recommendations in the Implementation Program. These initiatives should align with the Safe System Approach, as well as the actions and mission identified in this Plan.

VISION ZERO TASK FORCE & OTHER PARTNERS

The VZTF plays a central role in carrying out the plan by directing strategies and actions that support timely and effective achievement of established goals. This group provides continued assistance with implementing agencies, monitors progress, and responds to emerging challenges as needed. In addition, the VZTF promotes coordination among key stakeholders, including residents, regional partners, and external departments, by fostering transparent communication and sustained community engagement to ensure accountability and forward progress.

TRACKING PROGRESS

Extensive efforts were dedicated throughout the planning process to engage a wide spectrum of residents and other key stakeholders to ensure the Plan aligns with the overarching community vision. To sustain community engagement and enthusiasm, transparency about forthcoming progress in Plan implementation is crucial. An effective approach for conveying this progress is through an annual progress report, which should provide updates on the status of implementation strategies and showcase achievements accomplished in the preceding year. The responsibility of producing the annual progress report will be led by the Transportation Services Division and presented to the City Council. Annual reporting will be facilitated through the Power BI Dashboard, which tracks crash patterns and highlights behavioral, roadway design, and environmental influences. As updated data are incorporated, the dashboard will visually illustrate and interpret emerging trends over time.

Table 5.6. Performance Measures

GOAL	PERFORMANCE CRITERIA	DATA SOURCE
Reduce the number of fatalities resulting from traffic collisions	Number of Traffic Fatalities	TxDOT CRIS
Reduce the number of serious injuries resulting from traffic collisions	Number of Serious Injuries	TxDOT CRIS
Implement the recommended corridor-wide and intersection countermeasures per the Denton Vision Zero Action Plan	Number of Study Corridors with Safety Upgrades Received	Denton City Vision Zero Action Plan
Embrace the recommended policy provisions and updates per the Denton Vision Zero Action Plan	Number of Vision Zero Plan Policies Adopted	Denton City Vision Zero Action Plan

FUTURE PLAN AMENDMENTS

Denton's VZAP represents conditions at a particular moment in time and is designed to evolve as the City changes. To maintain the long-term integrity of the vision, the implementation framework must remain adaptable and responsive to shifting crash trends. Transportation Services will provide annual progress reports to the City Council on the status of the Implementation Program, including any updates to the High-Injury Network resulting from emerging patterns. In addition, the Plan should undergo a comprehensive evaluation and update every five years to ensure continued alignment with current conditions and to reassess the effectiveness of recommended strategies. **Table 5.7** summarizes the anticipated frequency for completing each implementation task

Table 5.7. Plan Updates and Timeframes

PLAN UPDATE LEVEL	RECOMMENDED FREQUENCY	APPROVED BY
Minor Revision – text or wording changes, not affecting the recommendations	As Needed	Vision Zero Task Force
Major Revision – any change substantively changing a recommendation	As Needed	Vision Zero Task Force
Vision Zero Implementation Progress Report	Annually	City Council
Full Plan Update	Every Five Years	City Council

PHASE II CONCLUSION

Phase II of the Vision Zero Action Plan marks a significant milestone in advancing strategies to eliminate traffic-related fatalities and severe injuries, fostering a safer community for all. Phase II laid the groundwork by identifying high-injury networks, addressing systemic roadway safety issues, and fostering meaningful community engagement to guide the development of action-oriented recommendations. These recommendations are intended to provide high-level guidance. The City should undertake a more detailed analysis to build upon the work completed in Phase II and refine these into more specific, actionable strategies. The following items are recommended to further advance the goals of the Vision Zero Plan.

- Public Engagement
  - Additional VZTF Meetings
  - Additional Pop Ups & Public Workshops
- Additional Comprehensive Safety Analysis
  - Interactive Dashboard for Transparency
  - Target Countermeasures
- Corridor Selected Target Measures
  - Additional Preliminary Intersection Design
- Evaluation of Design Standards

The recommended items will offer an exciting opportunity to build on the foundation established in Phase II, advancing targeted improvements, deepening public involvement, and further aligning Denton with its Vision Zero goal of eliminating traffic fatalities by 2050.

IMPLEMENTATION PRIORITIES

Building on the foundation established in Phase II of the Vision Zero Action Plan, the City will focus its upcoming implementation efforts on advancing recommendations into actionable, project level strategies. These efforts will address critical safety concerns while integrating Vision Zero principles into all aspects of planning and design.

2026 SS4A IMPLEMENTATION GRANT APPLICATION

The City of Denton is preparing an SS4A Implementation Grant application to continue the work completed in Phases 1 and 2 of the Vision Zero Action Plan. This grant request is designed to advance targeted safety initiatives with a focus on achieving impactful results through improvements across the community.

The City will implement a range of low-cost, high-impact countermeasures designed to improve safety outcomes citywide, with a focus on locations within the High Injury Network. The grant will also support alignment with the findings of the NCTCOG Road Safety Audit Study and enable the City to prioritize targeted improvements along three key corridors identified in the study, Carroll, Hickory, and Eagle, to address critical safety concerns and reduce risk. Additionally, the grant will support construction-ready projects across Denton, helping the City identify opportunities to maximize community benefits and accelerate implementation timelines. The application will also support requests for transportation planning initiatives, including an ADA Transition Plan and a Safe Routes to School Plan, ensuring accessibility and safety for all members of the community. The City of Denton remains committed to creating a safer, more accessible transportation network for all users, and this grant application will support continued progress toward the Vision Zero goal of eliminating traffic-related fatalities and serious injuries.

From Planning to Action

Vision Zero Phases 1 & 2

- ✔ *Crash Data & Analysis*
- ✔ *Community Engagement*
- ✔ *Priority Identification*

SS4A Implementation

- ✔ *Implementation Projects*
- ✔ *Corridor Improvements*
- ✔ *Construction-Ready Projects*

Community Impact

- ✔ *Safe Travel for All Users*
- ✔ *Improved Mobility & Access*
- ✔ *Citywide Safety Benefits*

SS4A DEMONSTRATION PROJECTS WITH PRELIMINARY DESIGN

The City of Denton will prioritize SS4A demonstration projects with preliminary designs, focusing on expanding safety analyses through tools such as the Interactive Dashboard. This resource will play a central role in enhancing the understanding of the High-Injury Network (HIN) and the targeted countermeasures that will be recommended in the six study corridors. These tailored solutions will be implemented to systematically reduce risks and safety outcomes.

Additionally, the City is committed to evaluating and refining its design standards to better align with Vision Zero principles and national best practices. By advancing thoughtful, data-driven design, Denton aims to create infrastructure that fosters a safer, more connected transportation network for all users.

SRTS-BASED SAFETY IMPROVEMENTS IN ALIGNMENT WITH VISION ZERO

The City aims to enhance school safety by implementing Safe Routes to School (SRTS) improvements that align with Vision Zero principles. As an initial step, a preliminary analysis was conducted for 10 schools to evaluate their proximity to the High Injury Network (HIN).

As shown in **Table 5.8**, two schools, Nelson Elementary School and McMath Middle School, are located within a quarter mile of the HIN. Notably, access points to Nelson Elementary School directly connect to Teasley Lane, a corridor identified as part of the HIN, indicating an elevated exposure to traffic-related safety risks.

In addition, five schools are within a half-mile buffer of the HIN, while two are beyond this distance. These findings provide a foundation for prioritizing targeted safety improvements and identifying focus areas for SRTS improvements. The next phase will involve a transportation assessment as part of a Safe Routes to School Plan. This effort will include a more detailed evaluation of safety conditions and needs at each school, informing the development of tailored improvements.

Table 5.8. Schools Distance from HIN

SCHOOL	DISTANCE FROM HIN
Nelson Elementary School	0.25 Mile
McMath Middle School	0.25 Mile
Rivera Elementary School	0.5 Mile
Alexander Elementary School	0.5 Mile
Borman Elementary School	0.5 Mile
Evers Park Elementary School	0.5 Mile
Ryan Elementary School	0.5 Mile
Ginnings Elementary School	0.5 Mile
Stickland Middle School	0.5 Mile
Ryan Elementary School	Greater than 0.5 Mile
McNair Elementary School	Greater than 0.5 Mile

HIGH INJURY NETWORK-BASED SYSTEMATIC IMPLEMENTATIONS OR IMPROVEMENTS

The City will implement systemic safety improvements along the HIN by using crash data analysis to identify locations where countermeasures are most needed. This data-driven approach will allow the City to target specific crash patterns and apply appropriate safety treatments. For example, at locations with a high frequency of nighttime or low-visibility crashes, the City will enhance lighting conditions through the installation of additional light fixtures, retroreflective backplates, and high-contrast lane markings. At signalized intersections, the City will improve safety by upgrading signal timing, installing retroreflective backplates, and increasing the visibility of traffic control devices. To address speeding-related crashes, the City will deploy countermeasures such as dynamic speed feedback signs, roadway reconfiguration, and other traffic calming measures. These examples represent a broader set of data-driven strategies the City will deploy to improve roadway safety, reduce crash risk, and advance the Vision Zero mission statement.

VISION ZERO



DENTON ACTION PLAN