



Vision Zero Transportation Safety

# Action Plan

Second Draft

April 18, 2023

SECOND DRAFT

## Dedication

This Vision Zero Transportation Safety Action Plan is dedicated to the victims of street violence in Des Moines, especially the families, friends, and colleagues who have been killed or seriously injured on our streets.



Balloons let loose into the wind at Ema Cardenias' memorial. The 14-year-old East High School student was hit and killed on E University Avenue on April 28, 2022.

CREDIT: Omar Waheed / The Des Moines Register



A roadside memorial on the side of Interstate 80 honors Susan Farrell and Carlos Puente-Morales, Des Moines police officers killed in a car crash at this spot on March 26, 2016.

CREDIT: Kelsey Kremer / The Des Moines Register

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## List of Abbreviations

AADT	Annual Average Daily Traffic
CIP	Capital Improvement Program
DSM	Des Moines Airport Code and City Abbreviation
EJ	Environmental Justice
FHWA	Federal Highway Administration
HIN	High Injury Network
ICAT	Iowa Crash Analysis Tool
KABCO	Injury Severity Scale <b>K:</b> Fatal Injury (Killed) <b>A:</b> Suspected Serious Injury <b>B:</b> Suspected Minor Injury <b>C:</b> Possible Injury <b>O:</b> No Apparent Injury
KSI	Killed or serious injury (K and A on KABCO scale)
MoveDSM	City of Des Moines Transportation Master Plan
NEPA	National Environmental Policy Act
PlanDSM	City of Des Moines Comprehensive Plan
PCSi	Proven Safety Countermeasures initiative
RRFB	Rectangular Rapid Flashing Beacon
RSA	Road Safety Audit
SS4A	Safe Streets and Roads for All

## Organization or Department Abbreviations

AARP	American Association of Retired Persons
CMO	City Manager's Office
COM	Communications Office
DART	Des Moines Area Regional Transit Authority
DEV	Development Services Department
DMAMPO	Des Moines Area Metropolitan Planning Organization
DMFD	Fire Department
DMPD	Police Department
DMPS	Des Moines Public Schools
ENG	Engineering Department/Design
EQUITY	Equity Office
FIN	Finance Department
GIS	Geographic Information Systems Division
IowaDOT	Iowa Department of Transportation
LEGAL	City Legal Department
NBS	Neighborhood Services Department
PolkHealth	Polk County Health Department
P&R	Parks & Recreation Department
TNC	Transportation Network Company
TSC	Transportation Safety Committee
T&T	Traffic & Transportation Division
VZAG	Vision Zero Advisory Group

## Action Plan Acknowledgements

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Des Moines Fire Department (DMFD)

Des Moines Public Schools (DMPS)

Des Moines Neighborhood Services Department

Des Moines Street Collective

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### Thank you!

We would also like to thank the many people in Des Moines that set aside time to attend Vision Zero events and provide valuable perspectives on street safety throughout the development of this Action Plan.

## Letter on Vision Zero from the Mayor and City Council

[Placeholder]

SECOND DRAFT

**Vision Zero is a goal  
to eliminate deaths  
and serious injuries  
together  
on all streets  
in Des Moines  
by 2040.**

## What is Vision Zero?

Each year, an average of 42 people die and 200 people are seriously injured as a result of crashes on Des Moines streets. This loss of life and life altering injuries are unacceptable, and the Des Moines Vision Zero Transportation Safety Action Plan (Action Plan) lays out the steps to eliminate deaths and serious injuries on all our streets in Des Moines by 2040. People who move around Des Moines should be safe, no matter how they chose to get around or where they are traveling. In a 5-year window between 2017 and 2021, nearly 1,000 of the 50,359 total crashes in Des Moines resulted in a person dying or being seriously injured.<sup>1</sup> For many people, being involved in a crash could change their life—physically, mentally, and emotionally. For those people that sadly do not survive, their community has lost a loved one forever.

The City of Des Moines is taking steps to achieve Vision Zero, including the adoption of this Action Plan. The idea of Vision Zero in Des Moines did not start with this Action Plan and achieving it will not happen overnight. Committing to Vision Zero is important because it signals a clear intention toward necessary change. Achieving Vision Zero will require a sustained commitment to leadership, collaboration, and accountability for City departments, partners, and the broader Des Moines community. This Action Plan provides a roadmap and a collaborative process to meet the goal of zero traffic deaths and series injuries in Des Moines by 2040.

## What is Vision Zero?

Vision Zero is a transportation safety goal that was developed in Sweden in the late 1990s focused on a shared responsibility to eliminate street deaths and serious injuries.<sup>2</sup> A common principle of Vision Zero and the Safe System Approach is that deaths and serious injuries as a consequence of using the transportation system are unacceptable and preventable, as shown in Figure 1. Vision Zero has proven to be successful globally and in the United States. Places like Sweden, the Netherlands, Norway, Australia, New Zealand, Hoboken, NJ, Jersey City, NJ, and Madison, WI have seen drastic declines in deaths and serious injuries on streets since adoption of Vision Zero and implementation of the Safe System Approach.<sup>3</sup>

Cities, counties, regions, and states across the U.S. have adopted Vision Zero as a goal and developed action plans to chart a path toward to eliminate street deaths and serious injuries; Des Moines is on that same path. Each agency has adapted their approach to their unique circumstances and contexts.

### Fundamental Principles of Vision Zero

These principles are core to successful Vision Zero efforts:

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

(Source: Vision Zero Network)

**Figure 1. Principles of Vision Zero. Source: Vision Zero Network**

<sup>1</sup> Based on all reported crashes from 2017 through 2021 per Iowa Crash Analysis Tool (ICAT) crash data <https://icat.iowadot.gov/>

<sup>2</sup> <https://visionzeronetwork.org/about/what-is-vision-zero/>

<sup>3</sup> <https://highways.dot.gov/safety/zero-deaths/safe-system-approach-presentation-0>



## How is Vision Zero and the Safe System Approach Different?

Vision Zero can be achieved by applying the Safe System Approach and creating a positive street safety culture. Vision Zero is a fundamental change from a traditional street safety to using the Safe System Approach. It recognizes that humans make mistakes and streets should be designed to minimize the impacts of those mistakes. The second major departure from traditional safety efforts is that Vision Zero is a collaborative effort and recognizes that all elements of the transportation system—safe roads, safe road users, safe speeds, safe vehicles, and post-crash care—must be safe to achieve Vision Zero. Additionally, the following six principles as shown in Figure 2 and described below form the foundation of the Safe System Approach:

- **Death and Serious Injury is Unacceptable** – While no crashes are desirable, the Safe System Approach focuses on eliminating crashes that cause deaths or serious injuries.
- **Humans Make Mistakes** – The transportation system can be designed to accommodate inevitable human mistakes.
- **Humans Are Vulnerable** – Human bodies have physical limits for tolerating a crash and the transportation system must be human-centric and consider these vulnerabilities.
- **Safety is Proactive** – Instead of waiting for a crash to happen, proactive tools such as the crash analysis in this Action Plan, should be used to mitigate risks in the transportation system.
- **Responsibility is Shared** – All stakeholders (transportation system users and managers, vehicle manufacturers, etc.) must ensure that crashes don't lead to fatal or serious injuries.
- **Redundancy is Critical** – Reducing risks requires that all parts of the transportation system are strengthened, so that if one part fails, the other parts still protect people.

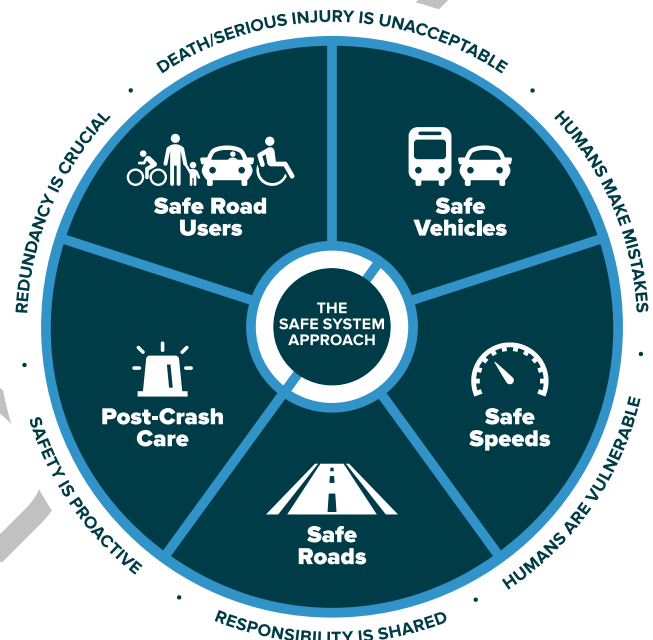


Figure 2. Achieving Vision Zero requires all the principles and elements of the Safe System Approach. Source: FHWA

As the Federal Highway Administration (FHWA) notes, Vision Zero is a shared goal of zero street deaths and serious injuries, and the Safe System Approach is how we get there.<sup>4</sup> It refocuses our transportation system to prioritize safety as a key priority. Vision Zero and the Safe System Approach recognize that humans make mistakes and therefore the street system should be designed to ensure that mistakes do not result in death or serious injury.<sup>5</sup> Vision Zero and the Safe System Approach is a paradigm shift that requires creating a positive street safety culture, increasing collaboration across the community, and ensuring safety improvements are being made equitably and where need and impact are greatest. Many agencies have also incorporated equity as a key aspect of their Vision Zero efforts to ensure that street safety is provided in underserved communities.

<sup>4</sup> [https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/FHWA\\_SafeSystem\\_Brochure\\_V9\\_508\\_200717.pdf](https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/FHWA_SafeSystem_Brochure_V9_508_200717.pdf)

<sup>5</sup> <https://www.transportation.gov/sites/dot.gov/files/2022-08/SS4A-NOFO-FY22-Amendment-1.pdf>

## The Safe System Approach Framework as Our Lens

The Safe System Approach Framework is a proven lens to ensure every transportation decision considers how to eliminate deaths and serious injury on streets.<sup>6</sup> The City of Des Moines, and agencies working within Des Moines, will now use Safe System Approach Framework as the lens to make policy, practice, program, and especially project decisions. It will ensure that safety is a top priority in all street decisions in the city in order to reach the goal of Vision Zero by 2040 together. The Safe System Approach Framework is the way in which we ensure that if a crash occurs, it does not result in death or serious injury. Below is guidance on how to apply the Safe System Approach framework in Des Moines based on national guidance and as shown in Figure 3 below:

- **Separating Users in Space** – This includes providing enough physical space as well of level of barrier protection between modes of travel thinking about the protecting the most vulnerable road user at risk to crash.
- **Separating Users in Time** – In locations where people must use the same space, such as an intersection, separate users in time (ex. a left turn phase or a bike phase at an intersection) to reduce potential conflicts.
- **Increase Visibility** – Ensure people using the street have every opportunity to see other people. A couple techniques include installing curb bump outs at intersections and installing lighting along a street.
- **Increasing Attentiveness** – Install systems that encourage increased awareness in key locations, such as rumble strips on the edge of a highway and rectangular rapid flashing beacons (RRFB) at a pedestrian crossing or vehicles with less blind spots. This also includes preventing impairment and distracted driving.
- **Reducing Speeds** – For vulnerable users, speed is a determining factor in whether the person survives a crash or not. Survivability decreases as speeds rise. Reducing speeds includes preventing speeding and lowering speed limits to a safe speed for all road users.
- **Reducing Impact Forces** – Reduce the potential for injury by reducing crash forces is key to all road users surviving a crash. This includes techniques such as reducing curb radiuses at intersections, smaller vehicles, front end pedestrian crash avoidance, and automated breaking systems.

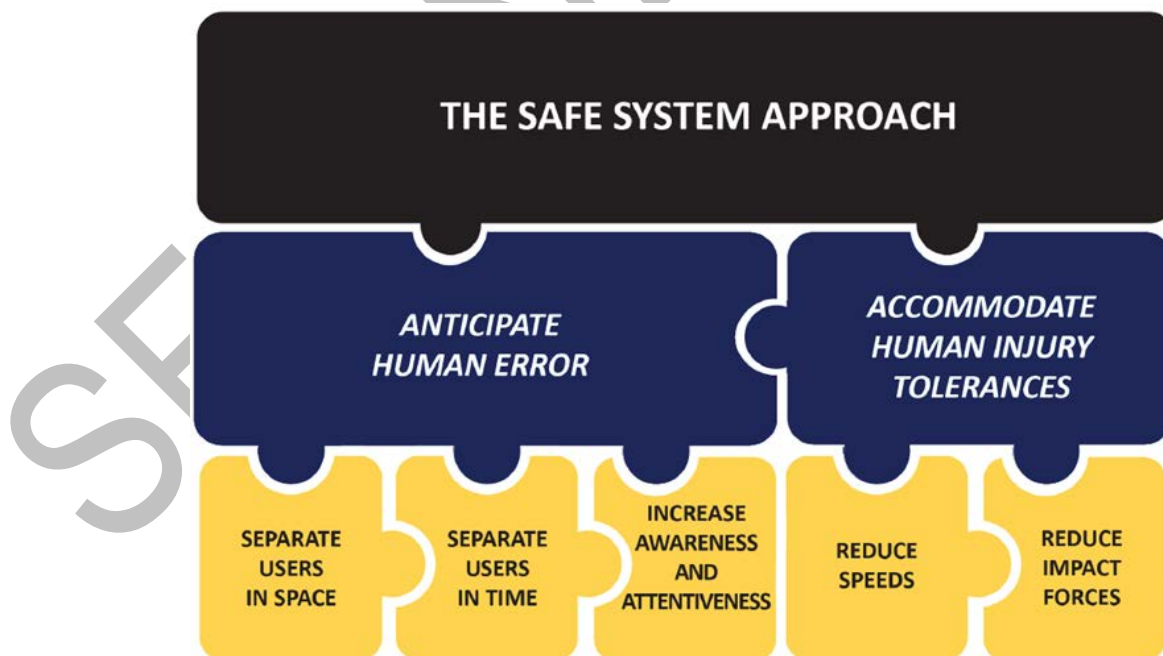


Figure 3. The Safe System Approach Framework to be used as a lens in Des Moines. Source: Toole Design Group

<sup>6</sup> <https://www.ite.org/pub/?id=C8B1C6F9-DCB5-C4F3-4332-4BBE1F58BA0D>

## The Road to Safety in Des Moines

The PlanDSM Comprehensive Plan (PlanDSM) for the City of Des Moines, adopted in 2016, provides goals and objectives that guide land use, transportation, and infrastructure development in Des Moines to the year 2040 and beyond.<sup>7</sup> The PlanDSM vision states Des Moines will have “a complete transportation system providing safe and efficient infrastructure for walking, bicycling, mass transit, and automobiles.” Two street safety-oriented goals included in PlanDSM include:

- Provide opportunities for healthy lifestyles through walking as a primary mode of transportation.
- Enhance the bicycle network by expanding bicycle facilities that are safe, comfortable, and easily accessible.

The MoveDSM Transportation Master Plan (MoveDSM), adopted in 2018, is an element of PlanDSM.<sup>8</sup> The goal of MoveDSM is “to preserve safety, quality of life, and economic development; and to ensure that Des Moines is best positioned to provide transportation options for all citizens in every stage of life.” MoveDSM notes that “traveling on Des Moines’ streets can be dangerous, and people walking, and biking are much more likely to be seriously injured or killed getting around the city.” A safety analysis summary from 2012-2016 as part of MoveDSM is shown in Figure 4 and was a precursor to a full safety analysis as part of this Action Plan.

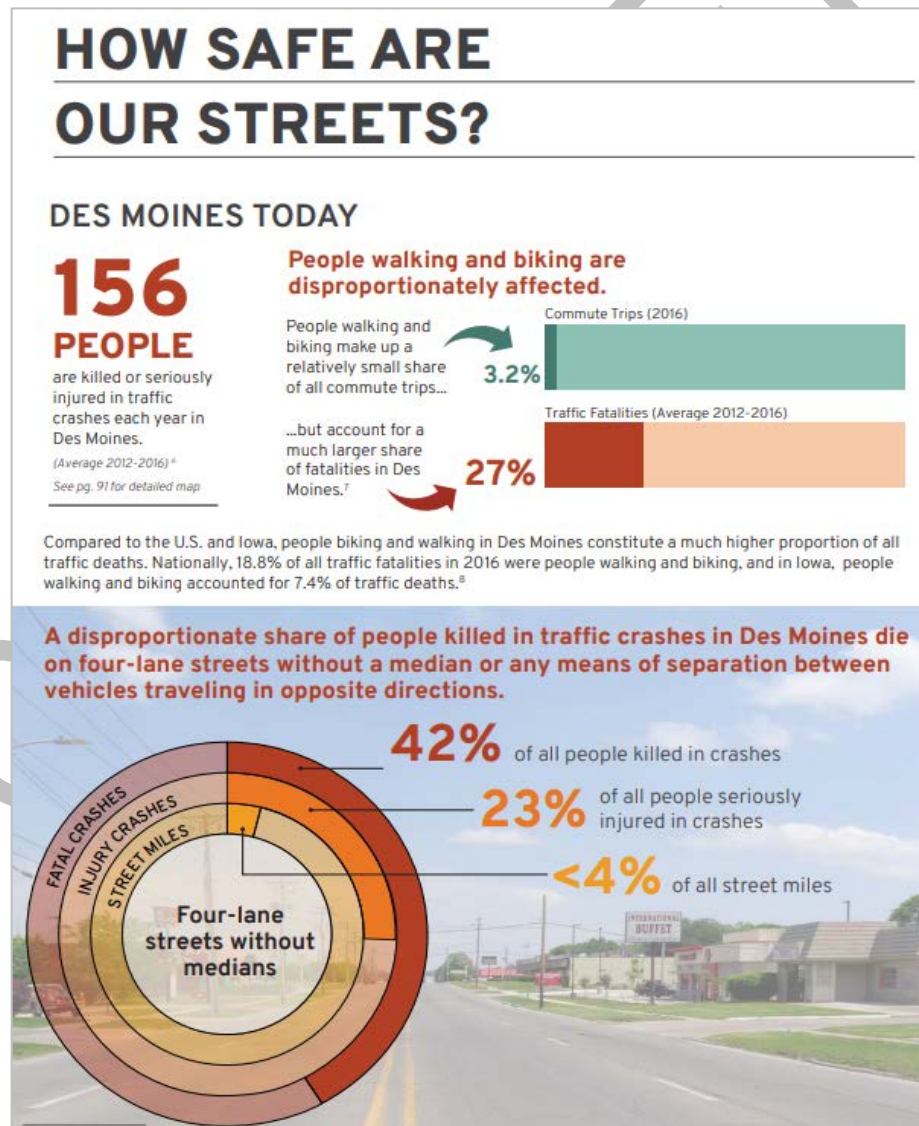


Figure 4. “How Safe are Our Streets?” section of MoveDSM based on 2012-2016 data. Source: City of Des Moines

<sup>7</sup> <https://plandsm.dsm.city/>

<sup>8</sup>

[https://cms2.revize.com/revize/desmoines/document\\_center/Engineering%20and%20Traffic%20Forms%20and%20Documents/Traffic/MoveDSM\\_Transportation%20Master%20Plan.pdf](https://cms2.revize.com/revize/desmoines/document_center/Engineering%20and%20Traffic%20Forms%20and%20Documents/Traffic/MoveDSM_Transportation%20Master%20Plan.pdf)

The adoption of MoveDSM was a critical step in establishing safety as a goal for transportation in Des Moines. It identified creating a safer transportation network as a strategy. As a change in process, it establishes a multidisciplinary advisory body for all transportation projects: the Transportation Safety Committee is responsible for reviewing projects to ensure they comply with MoveDSM and the City's Complete Streets Policy. Specifically, the following street safety actions in MoveDSM served as a precursor to this Action Plan and adoption of Vision Zero in Des Moines:

- Update the yielding policy so that pedestrians have the right of way when approaching an intersection.
- Where possible, add wide shoulders so that people walking and bicycling have a place to travel.
- Reduce speed limits on rural streets to 40 mph.
- Implement signage and pavement markings, shoulder widening to narrow lane widths, surface treatments, and enforcement.

This Action Plan will be formally adopted by the City and incorporated as a work plan of PlanDSM and MoveDSM. The Vision Zero approach is a change in the way Des Moines funds, prioritizes, and designs street projects and programs. This is a high-level shift in procedure. To be effective, the adoption of Vision Zero will happen in every department and among City partners. Making the Action Plan a part of PlanDSM and MoveDSM will integrate the responsibility for improving street safety across all City departments, partner agencies, community groups, and the public to ensure everyone is working together to improve street safety and reach Vision Zero.



**Figure 5. PlanDSM (top), the City's Comprehensive Master Plan, includes specific implementation plans like MoveDSM (bottom), GuideDSM, LiveDSM, and InvestDSM.**



## Vision Zero as the Path Forward in Des Moines

While preventing deaths on streets is something everyone hopes to achieve, Vision Zero is an intentional shift to prioritize safety in every street-related decision to prevent deaths and serious injuries of all users. The Vision Zero Resolution is also being considered by City Council; it commits the City of Des Moines to the goal of eliminating street deaths and serious injuries in Des Moines by 2040.

The target year of 2040 was selected based on the present levels of funding and City staff resources that will be devoted to this effort. It accounts for the lead time necessary to fill any additional staff positions and obtain additional funding sources to move forward with the Action Plan. The target year accounts for the time it takes to program, design, fundraise, and implement capital improvement projects and safety countermeasures. Finally, it considers the funding challenges of maintaining infrastructure and sustaining programs so that the objectives of the Action Plan will be realized.

The Action Plan establishes zero street deaths and serious injuries as a top priority for the City's transportation plans, policies, programs, and projects moving forward. In addition to saving lives, the Action Plan will help ensure that moving around Des Moines, regardless of mode choice or ability, is more accessible, equitable, and enjoyable for all users. Per the City's Vision Zero webpage:

It will take strategies and commitment to a plan to make Vision Zero a reality. The following strategies will be followed to make sure the City of Des Moines implements the necessary changes to ensure transportation is usable and safe for everyone:

- **Building and sustaining leadership, collaboration, and accountability** - especially among a diverse group of stakeholders. This includes transportation professionals, members of the City Council, public health officials, community members, and police officials;
- **Collecting, analyzing, and using data** - to understand trends and potential disproportionate impacts of street deaths on certain populations;
- **Prioritizing equity and community engagement;** and
- **Setting a timeline to achieve zero street deaths and serious injuries** - which brings urgency and accountability and ensures transparency on progress and challenges.<sup>9</sup>

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<sup>9</sup> [https://www.dsm.city/departments/engineering - division/vision\\_zero.php](https://www.dsm.city/departments/engineering - division/vision_zero.php)

## Action Plan Development at a Glance

The Action Plan was developed through a collaborative process with the Des Moines community. The Action Plan development began in June 2022, including a Vision Zero presentation and discussion with the City Council and Transportation Safety Committee. Development of the Action Plan is informed by community engagement in three distinct phases with different objectives. The development of this Action Plan was in three distinct phases to ensure it emerged from issues, concerns, needs, and ideas unique to Des Moines:

- **Investigation (June 2022 through October 2022)** – Listening and engaging the community to understand key street safety issues, where people felt safe or not on streets in Des Moines, and ideas the community had for Vision Zero.
- **Consensus Building (November 2022 through March 2023)** – This phase incorporated all the ideas the community has for preventing street deaths and serious injuries. This phase ensured the community had a chance to contribute to the first ever Vision Zero Transportation Safety Action Plan in Des Moines and provide specific actions in the Action Plan.
- **Commitment to Vision Zero (Coming Soon)** – This phase will allow the community to pledge their commitment to Vision Zero and begin to make changes that ensure everyone is being safe while traveling on streets in Des Moines. The City will pass a Vision Zero Resolution while partners, organizations, and individuals can take a Vision Zero pledge.

During the Investigation and Consensus Building phases of the project, outreach focused on understanding people's experience on the streets of Des Moines. The events also gathered information about street safety concerns and ideas to incorporate into the goals and actions of the first Action Plan from as many residents and visitors as possible. Providing engagement through multiple formats—listening workshops, pop-up events, and an interactive engagement website—were intended to increase the reach of the engagement.

## Action Plan Timeline

### June 2022

- Action Plan process launched
- Presentations to introduce Vision Zero to the City Council and Transportation Safety Committee
- Community listening workshop
- City's Vision Zero webpage launched

### August 2022

- 2 community pop-up events
- Working Group #1

### September 2022

- Community listening workshops
- Online engagement website opened
- Online engagement website closed, and results posted

### October 2022

- 4 community listening workshops
- Review of City's current practices
- Vision Zero resources provided to City
- Crash Analysis conducted
- Engagement recap completed
- Working Group #2

### November 2022 to March 2023

- City staff and partner interviews to understand current practices
- Project update to City Council in January 2023
- Action Plan development
- Working Group #3-5

### Coming Soon

- Adopt Vision Zero Resolution and Action Plan, tentatively June 2023
- Implement actions and projects
- Community pledge to Vision Zero

**Figure 6. Des Moines Vision Zero Action Plan Development Timeline.**

### Vision Zero Transportation Safety Work Group

A Work Group represents a cross-section of the Des Moines community to guide the development of the Action Plan from the onset. They included Des Moines City staff members, agency partners, as well as community organizations that represent the broader Des Moines community and who are all vital to carrying out the actions and steps in the Action Plan. The Work Group met five times over the course of the Action Plan development to provide high-level guidance in the beginning on the engagement approach. In the middle of the project, the Work Group reviewed the crash analysis and provided reactions as well as feedback. Later in the process, the Work Group reviewed and provided feedback on actions and implementation timelines. Moving forward, the Work Group will help with implementation as guided by this Action Plan and measuring the success of Vision Zero in Des Moines.

Steps to Vision Zero in Des Moines

This Action Plan summarizes the steps taken to determine the actions necessary for the City and its partners to achieve Vision Zero by 2040. Following adoption, the actions described later in this Action Plan will be implemented and the City will continue to monitor progress. Between adoption and 2040, the City will make any adjustments to keep Des Moines on track to achieving Vision Zero.

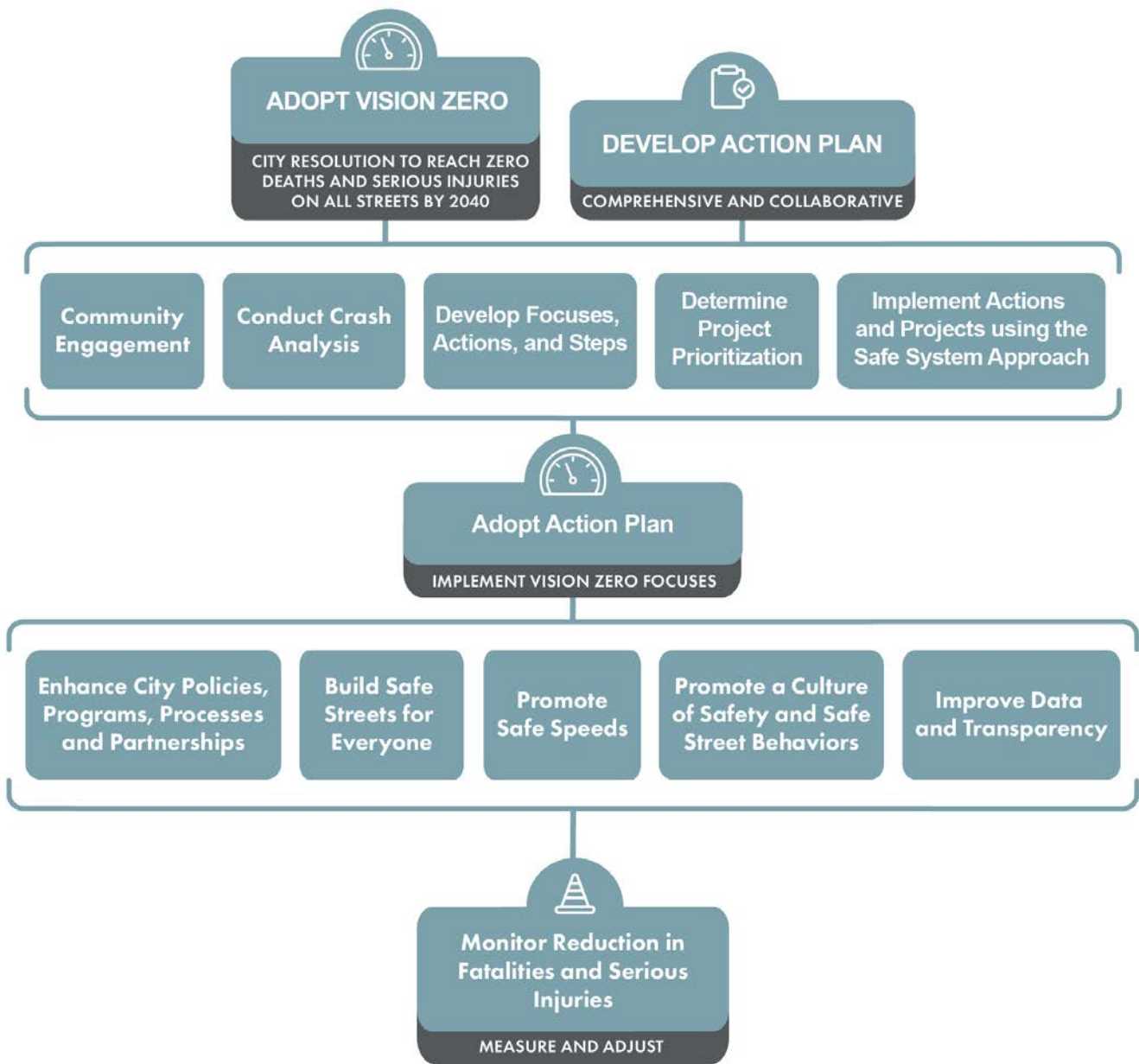


Figure 7. Steps to Vision Zero in Des Moines.



## We Heard from Des Moines

Community engagement is important to Vision Zero to fully understanding street safety issues and how they impact people's lives. It also creates a sense of community in the planning process and that it takes everyone playing their part to prevent street deaths and serious injuries in Des Moines. At the start of the project, the City launched a Vision Zero webpage to keep the public informed on the Action Plan process.<sup>10</sup> Throughout the project, engagement efforts online, in the workshops, and in pop-ups were designed to gather similar feedback: Location of experienced safety issues, project ideas, and transportation stories.

### Pop-Up Events

During pop-up events in August 2022, the project team stationed outreach activities at two busy locations in the community on separate occasions. There were two pop-up events held during the initial investigation phase of the project: one at DART Central Station and another before the start of an Iowa Cubs game at Principal Park. The pop-ups were an opportunity for people to encounter the project in their daily life without having to attend a specific meeting or listening workshop.



Figure 8. Pop-up event interaction at DART Central Station. Source: Confluence

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<sup>10</sup> [https://www.dsm.city/departments/engineering - division/vision\\_zero/index.php](https://www.dsm.city/departments/engineering - division/vision_zero/index.php)

## Listening Workshops

Four workshops were held in late September 2022 and a total of 55 residents participated. The workshops were held across the city to reach as many segments of the Des Moines population as possible. The workshops were promoted on the City's Vision Zero webpage, through flyers, and news coverage. During each community listening workshop, there were four stations for participants to provide input on street safety across Des Moines:

- **Recording station** – Share stories on street safety and how it has impacted lives
- **Post-it activity** – Provide ideas and concerns
- **Visioning activity** – Draw or describe how to make streets safer
- **Mapping activity** – Pinpoint places where streets felt safe or unsafe

# VISION ZERO TRANSPORTATION SAFETY COMMUNITY LISTENING WORKSHOP SERIES

*Share your thoughts on transportation safety as the City develops its first **Vision Zero Transportation Safety** Action Plan with a goal of **ZERO** traffic deaths and serious injuries.*

### Stop by to provide input at:

#### Workshop #1

Tues, Sept 20, 2022 | 4:00pm-7:00pm  
Pioneer Columbus Community Recreation Center  
2100 SE 5th Street

#### Workshop #2

Wed, Sept 21, 2022 | 4:00pm-7:00pm  
East Side Library  
2559 Hubbell Avenue

#### Workshop #3

Thurs, Sept 22, 2022 | 4:00pm-7:00pm  
South Side Library  
1111 SW Porter Avenue

#### Workshop #4:

Thurs, Sept 29, 2022 | 4:00pm-7:00pm  
Franklin Avenue Library  
5000 Franklin Avenue



Scan to access the website!



or visit: [dsm.city/visionzero](https://dsm.city/visionzero)

Figure 9. Workshop handout provided at both pop-up events. Source: Confluence





## Interactive Engagement Website

The interactive engagement website was launched September 20, 2022 and closed October 24, 2022 to coincide with the in-person community listening workshops. The website offered similar engagement activities that were available at the in-person public workshops in a virtual format to reach more people. The intent was to allow for multiple activities in two formats to engage the public to contribute thoughts and ideas in inform the Vision Zero Action Plan in Des Moines. The site had 1,140 total visits, with 362 map your idea comments, 19 tell us your story responses, and 66 share your idea or other forum-type responses.

- **Tell Us Your Story** – This activity was intended to collect stories from those that have been impacted by a crash or to understand a near miss crash experience to understand how street safety impacts the people of Des Moines. This is reiterated in the Share your Ideas activity, as well as the mapping activity.
- **Share Your Ideas** – Participants were asked to provide ideas on ways to create safer streets in Des Moines. There were a wide variety of ideas and potential solutions received in the feedback to this activity. The next section summarizes the feedback received.
- **Online Mapping** – The mapping activity allowed participants to identify specific locations using three comment types – safe location, unsafe location, and transportation safety improvement idea – and leave a comment about that location.
- **Key Questions** – Participants were asked specific questions about what actions they would like to see in the Action Plan, who should carry them forward, and about any other ideas for improving safety.

The screenshot displays the interactive engagement website interface. At the top, there are three main activity cards:

- Tell us your story**: Includes a photo of the Iowa State Capitol and a prompt to "Write down a story about when you have felt unsafe on streets in Des Moines." It shows a timeline from "START 20 Sep 2022" to "END 24 Oct 2022" and a button labeled "Tell us your story".
- Share your ideas**: Includes a photo of two people walking on a crosswalk and a prompt to "Write down your ideas for safe streets in Des Moines." It also shows the same timeline and a button labeled "Share your ideas".
- Map your issues and ideas**: Includes a photo of a city street and a prompt to "Interact with the mapping activity to pinpoint locations where you have felt safe or unsafe on streets in Des Moines as well as ideas you have for making streets safer across the city!" It shows the same timeline and a button labeled "Map your vision".

Below these cards is a section titled **Key Questions and Considerations** with an orange header. It contains three question boxes:

- What are some actions you would like to see in a Vision Zero Traffic Safety Plan that will help eliminate deaths and serious injuries on streets in Des Moines?**
- Who may help carry the actions you identified forward? This can be an elected official, city department, other agency (such as Iowa DOT), or a community-based organization.**
- Do you have any other comments or ideas about improving transportation safety for the City?**

At the bottom of the third question box, it states "Comments for this forum are now closed." and provides a button to "View Comments (14)".

Figure 11. Screenshot of online engagement activities for Des Moines Vision Zero as part of the initial community engagement. Source: Confluence/Social Pinpoint

The engagement process gathered transportation stories, where people felt safe or unsafe, and project ideas. Community feedback provides qualitative information about the lived experiences of those using streets throughout



Des Moines. This, combined with the crash analysis described in the next section, paints both sides of street safety in Des Moines.

Overall, there is broad community support to make our streets safer for all road users, especially for pedestrians and bicyclists. Major concerns include cars speeding through neighborhoods, the need for safe locations to cross streets, and the desire for better bike facilities. Participants expressed an understanding of the complexity and the potentially great costs of implementing an Action Plan and that it would not happen overnight. Participants understood this work requires physical improvements as well as public awareness/education campaigns.

### *How Can We Make Streets Safer?*

- Slow cars down – Lower the speed limit in key areas and build streets that encourage slower vehicle speeds
- Design and build more multimodal streets – expand the bike network and sidewalk network. Design intersections for bicyclists and pedestrians
- Make space for transit – Consider transit improvements in every street project, including bike projects
- Make multimodal improvements more permanent – use more than paint for multimodal street improvements and accommodate bike lanes during construction projects
- Build a multimodal culture through education and communication

### *What are Your Ideas?*

- Build speed tables
- Make walk signals recall automatically
- Educate the public on new street designs, such as the application of yellow flashing lights with left turn arrows
- Educate the public on existing laws, such as how to share the road with people riding bikes
- Increase funding and services to DART. Also, allow elementary-aged children to ride free like the middle and high schoolers currently do
- Providing protected bike lanes throughout the city
- Coordinate with elected officials to gain their support in these endeavors.
- Provide more police patrolling and monitoring of speeds. Consider additional speed cameras or red-light cameras as well

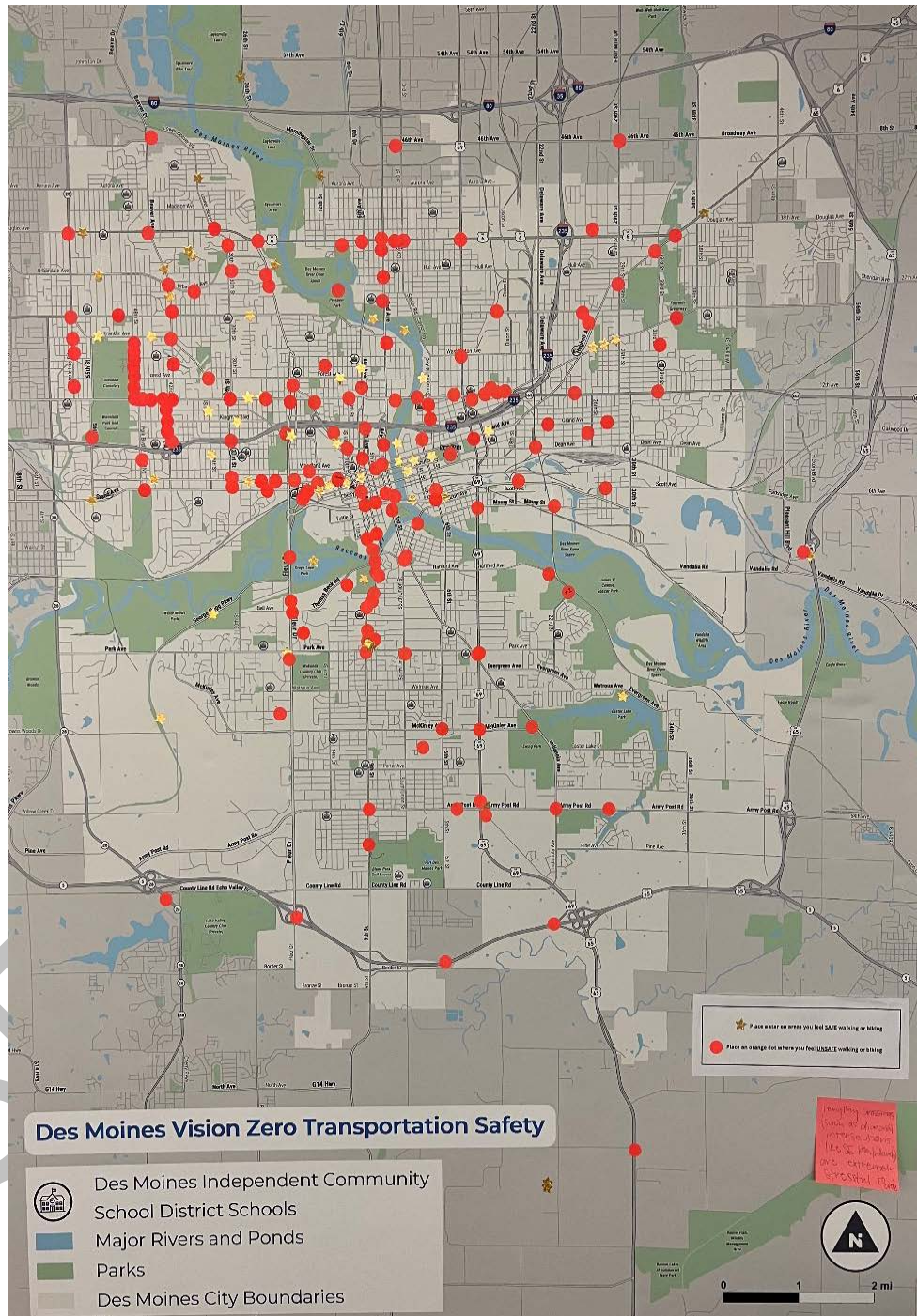
### *Where are Improvements Needed?*

- Build dedicated bike lanes on Urbandale Avenue
- Slow vehicles down on East Walnut Avenue
- Expand the sidewalk on the east side of Des Moines, specifically on Guthrie Avenue, the west side of Hubbell Avenue, and on the west side of the SW 3rd Street bridge
- Build a trail connecting Downtown to the east side
- Downtown. Specifically start along SW 9<sup>th</sup> Street, SE 14<sup>th</sup> Avenue, and Fleur Drive, and near Drake University. Paint the bike lanes green and build pedestrian bumpouts
- Focus on making residential streets and streets near schools safer
- Lower speed limits to 20 mph in residential areas and Downtown



## You Showed Us the Good Spots and the Trouble Spots

In the Community Listening Workshops and the online engagement website, participants were asked to share specific locations that are currently enjoyable and locations where you feel unsafe. In the Listening Workshops, participants put dots on a map of safe or unsafe locations. Online, participants were able to zoom into an interactive map and add locations that felt safe or unsafe, or where they had a project idea and could provide specific comments were the icons were placed.



**Figure 13. Results of the listening workshop mapping activity. Orange dots represent areas where people felt unsafe and gold stars are places where people felt safe. Source: Confluence**

### Where Do You Feel Safe?

- University Avenue and 41st Street, where traffic calming is installed
- The raised crossings and off-street paths at Roosevelt High
- The bus stop along 42nd Street
- Ingersoll Avenue
- SW 12th Street speed humps
- Bicycle facilities throughout downtown
- Bicycle and pedestrian bridges and dedicated trails throughout the city

### Where Do You Feel Unsafe?

- 48th Street, University Avenue, and 42nd Street
- Unprotected bike lanes
- Intersections as a pedestrian
- Many intersections are the culprit of people's senses of feeling unsafe. Additionally, speeding was mentioned frequently. A lack of thru road connections inhibits mobility and should be addressed moving forward.

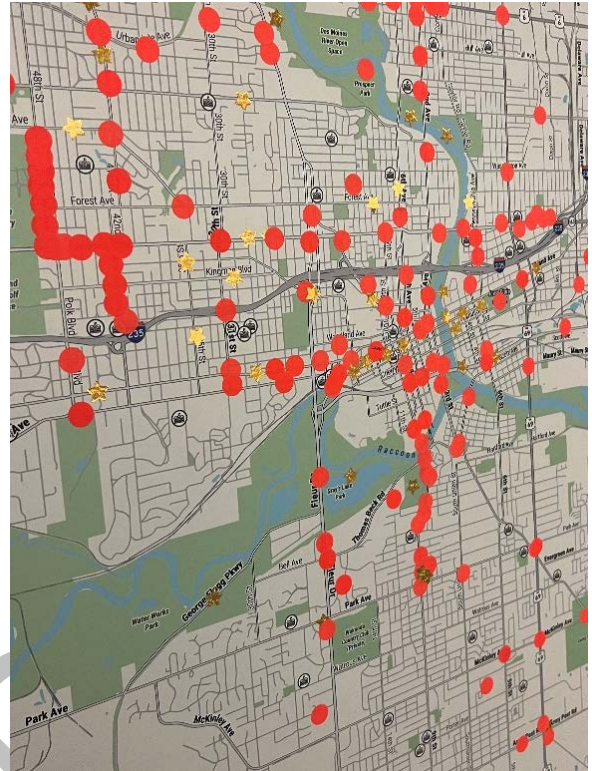


Figure 14. Results of the listening workshop mapping activity in the center of Des Moines. Source: Confluence

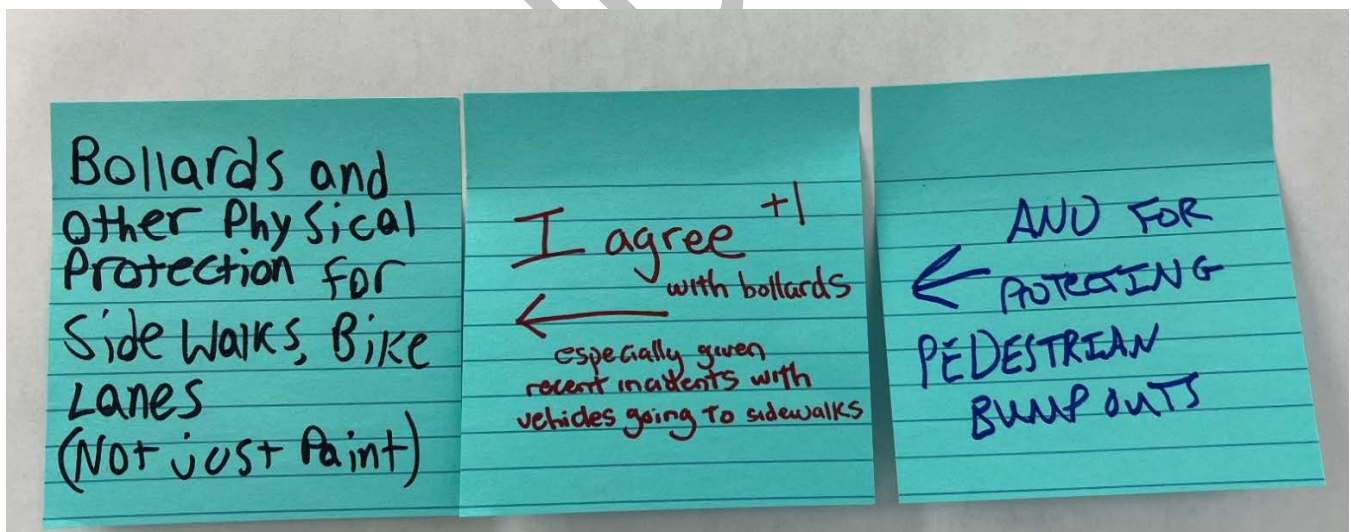


Figure 15. Sample of feedback received at Workshop #1. Source: Confluence



In the online map, out of 362 total comments, 54.4% used the *Unsafe location* comment type, while approximately 34.5% used the *Transportation safety improvement idea* comment type, and 11.1% used the *Safe location* comment type. Moines. The unsafe feedback was concentrated on arterial streets, streets near schools, and the west side of the city. The comments show a lack of consideration for pedestrians crossing the street or motorists not understanding how to share the street with bicyclists.<sup>11</sup>

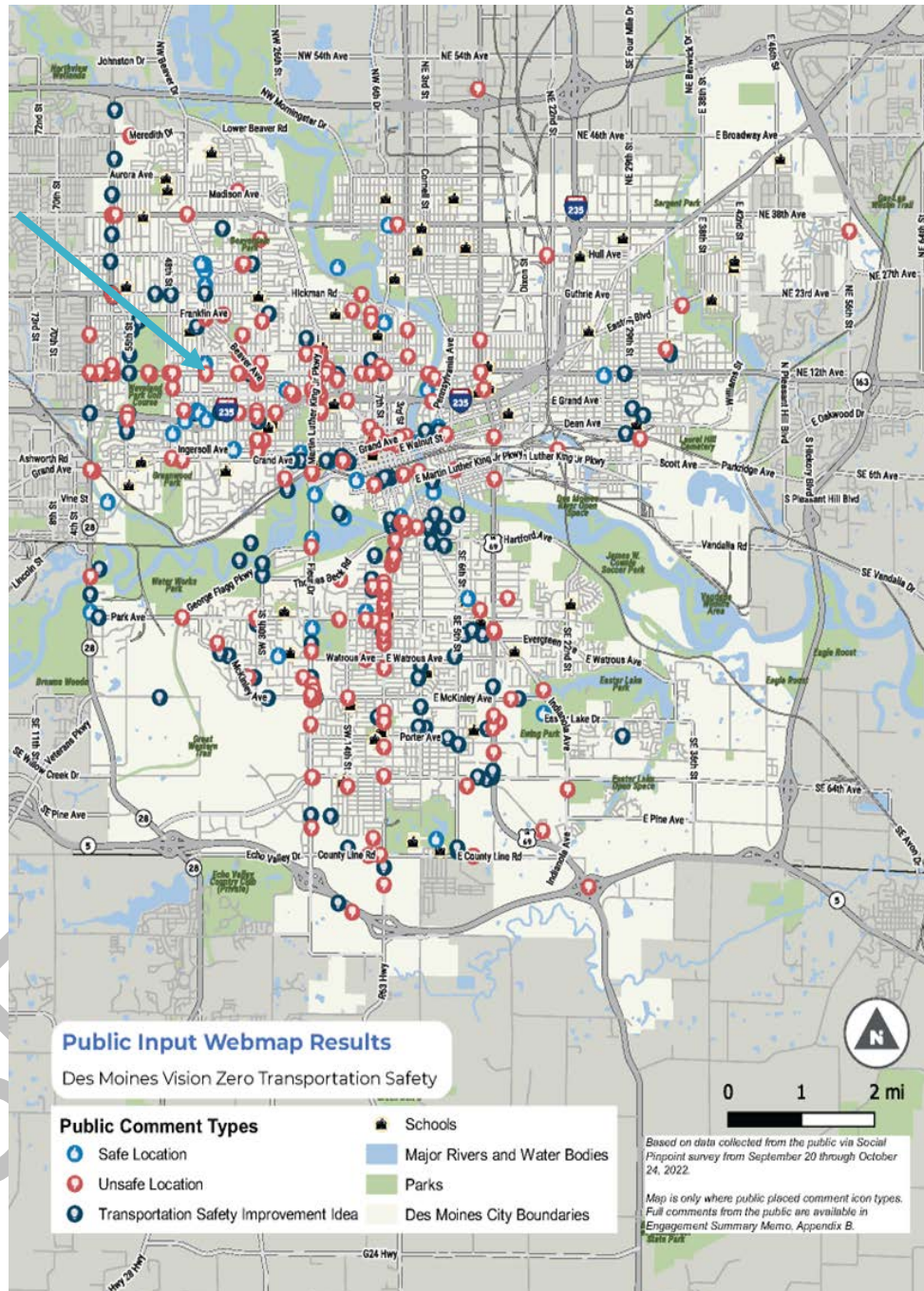


Figure 16. Icons located by the public during the online mapping activity. Source: Social PinPoint

<sup>11</sup> Social PinPoint mapping results can be found at <https://confluence.mysocialpinpoint.com/dsmvisionzero/map#/>

## How Safe are Des Moines Streets?

The City conducted a crash analysis to understand where recorded crashes have occurred in Des Moines over the last five years, from 2017 through 2021 from the IowaDOT Iowa Crash Analysis Tool (ICAT).<sup>12</sup> This analysis also looked at infrastructure and behavioral contributing factors of crashes in Des Moines. The crash data was used to conduct a historical crash analysis in two phases:

- **Crash Mapping** – a series of maps that identifies high injury network (HIN) corridors most in need of safety improvements based on where crashes have occurred.
- **Descriptive Crash Analysis** – a statistical analysis of key crash factors to understand circumstances of crashes to devote resources to preventing leading causes of crashes in the future.

When a crash occurs and first responders are dispatched, the police investigate the details and reasons for the crash. Information from the scene of the crash, contributing factors that led to a crash, and information of parties involved on a crash report form used in the State of Iowa.<sup>13</sup> These reports are entered into the ICAT database for review and analysis.

### *Why focus on fatal and serious injury crashes?*

Since Vision Zero is focused on eliminating fatal and serious injury crashes, crash injury severity was a constant throughout the crash analysis conducted across Des Moines. These are referred to killed or seriously injury (KSI) crashes are K and A crashes on the KABCO injury severity scale used in Iowa.<sup>14</sup>

### *Why focus on vulnerable road users?*

Vulnerable road users include anyone outside of a metal enclosure of a motor vehicle to protect them injury. Those road users outside of a vehicle, including pedestrians, bicyclists, and motorcyclists, have a greater risk of death or serious injury if involved in a crash.<sup>15</sup>

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<sup>12</sup> <https://icat.iowadot.gov/>

<sup>13</sup> <https://iowadot.seamlessdocs.com/f/IowaAccidentReport>

<sup>14</sup> [https://safety.fhwa.dot.gov/hsip/spm/conversion\\_tbl/pdfs/kabco\\_cstable\\_by\\_state.pdf](https://safety.fhwa.dot.gov/hsip/spm/conversion_tbl/pdfs/kabco_cstable_by_state.pdf)

<sup>15</sup> <https://aaaafoundation.org/impact-speed-pedestrians-risk-severe-injury-death/>

## Crash Mapping

Using historical crash data from 2017 through 2021, a set of maps shows where crashes have occurred in Des Moines to understand one aspect of where transportation safety improvements are needed. These series of maps include consideration for modes involved in the crash and the recorded location of each crash during the study period. A map of recorded locations of KSI crashes and non-KSI crashes by all modes is shown in Figure 17. Crashes by mode are coded by the most vulnerable road user involved in the crash (e.g., a crash that involved a pedestrian are recorded as a pedestrian crash) for the crash mapping and analysis.

## Developing a High Injury Network

The development of a High Injury Network (HIN) is often a key element of Vision Zero plans and efforts. The HIN is a data-driven approach to identifying priority corridors where street safety improvements should be prioritized first for the greatest need and impact based on historical crashes. Crashes by location are scored based on the number of crashes and level of injury severity to determine where crashes happen most often and result in greater injuries, called a sliding windows map. Places with a higher number of fatal and serious injury crashes and happen more often get the highest score and are included in the High Injury Network (HIN). The HIN map show corridors where crashes have happened most often and resulted in higher injury severity severely. For Des Moines, the HIN is mostly on wider arterial streets with higher speeds and vehicle volumes that run through the city.

### What is a High Injury Network (HIN)?

It is set of streets where crashes have historically happened more often and resulted in a more severe injury across streets in Des Moines.

This subset of streets will help the City and partners focus resources on locations that see the most crashes. This network of the most dangerous streets is called the High Injury Network (HIN) and is shown in Figure 18. Further analysis of the HIN corridors can also identify key contexts where crashes have occurred to apply safety improvements where similar conditions could result in a crash in the future. City staff will conduct a similar crash mapping regularly to understand where crashes are located compared to project implemented throughout the Vision Zero process.

## High Injury Network and Equity Overlay

Another factor in determining safety need and impact is equity considerations. The Des Moines Area MPO identified environmental justice (EJ) areas, or those areas with large populations of traditionally underserved populations, using Census data.<sup>16</sup> The analysis calculates degrees of disadvantage by identifying Census tracts where the population exceeds the 70th percentile for seven equity considerations by population groups. Overlaying the HIN map with EJ data shows where safety concerns and underserved communities overlap shown in Figure 19. Because many of the HIN corridors span the length of the city, a direct relationship of HIN corridors to areas with a higher degree of disadvantage (6 of 7 degrees) was not apparent. However, portions of many HIN corridors run along the edge or through higher degrees of disadvantage areas in the north to south center of the city.

### The Environmental Justice analysis considered **seven degrees of disadvantage**:

- Nonwhite population
- Car-less households
- Households in poverty
- Single heads of households with children
- Households with person(s) over 65 years old
- Limited English proficiency
- Persons with a disability

<sup>16</sup> <https://dmampo.org/wp-content/uploads/2021/04/EJ-2021-Final.pdf>



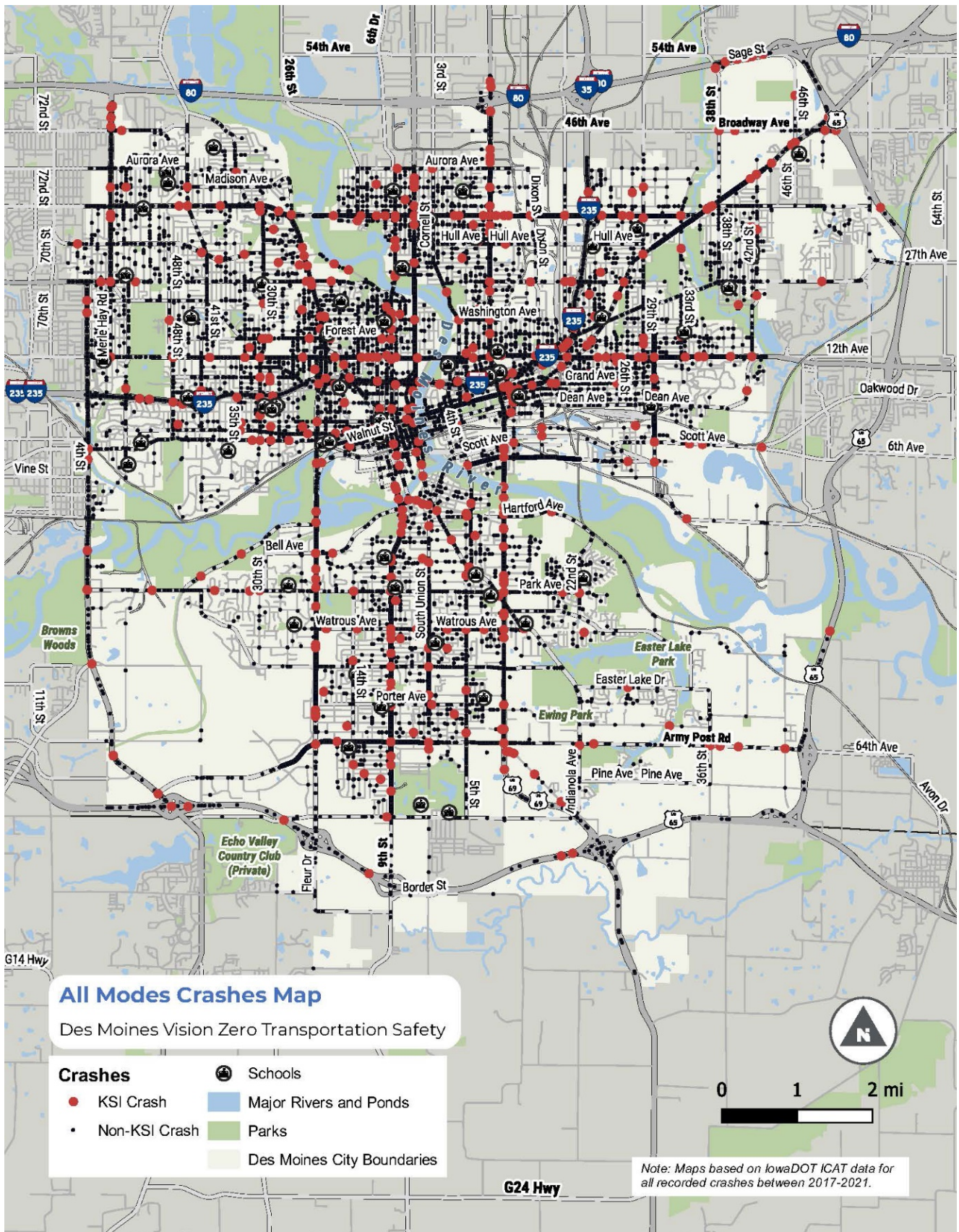


Figure 17. Des Moines all modes crashes map. Data Source: Iowa DOT ICDAT 2017-2021



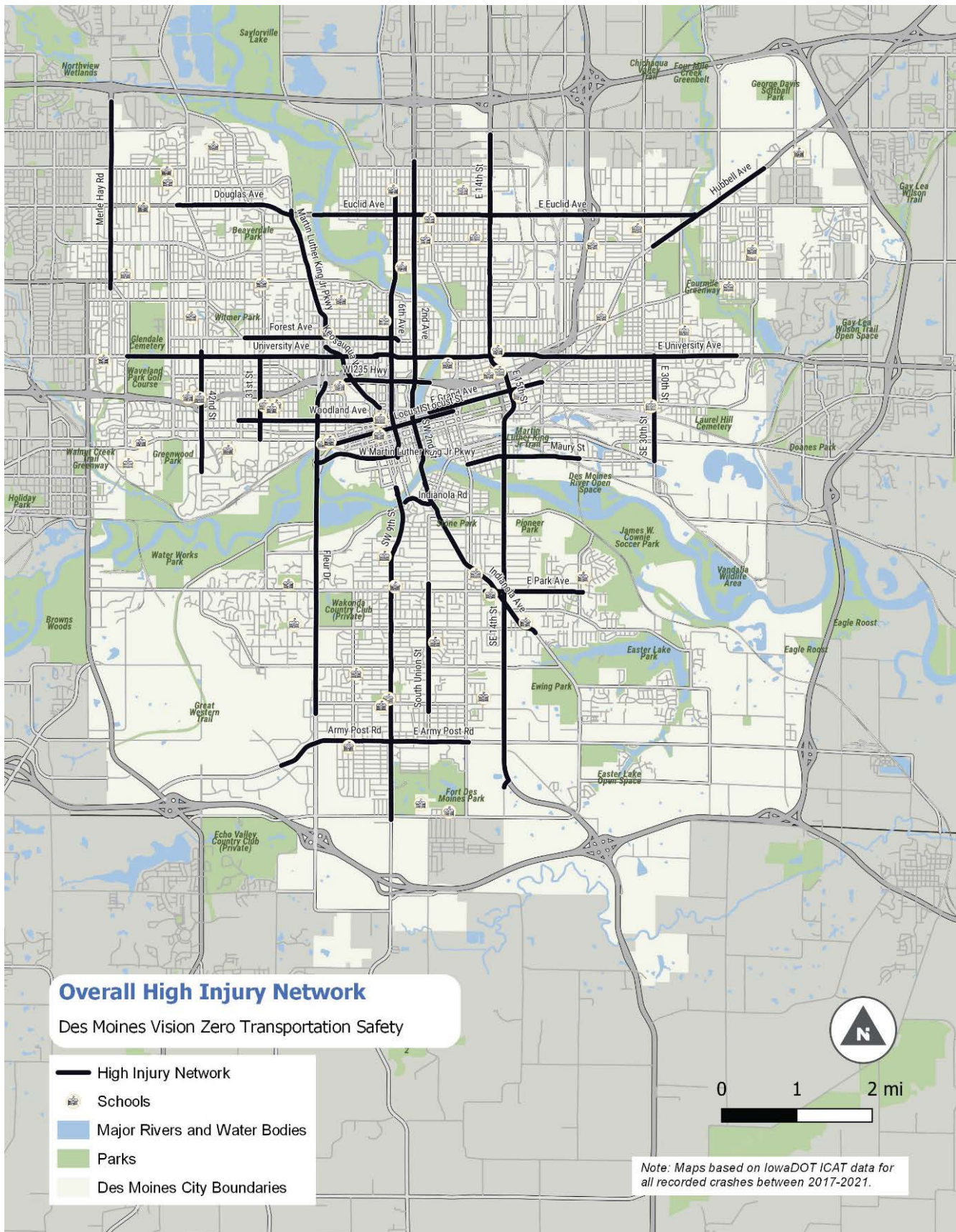


Figure 18. Des Moines High Injury Network for all modes. Data Source: Iowa DOT ICAT 2017-2021



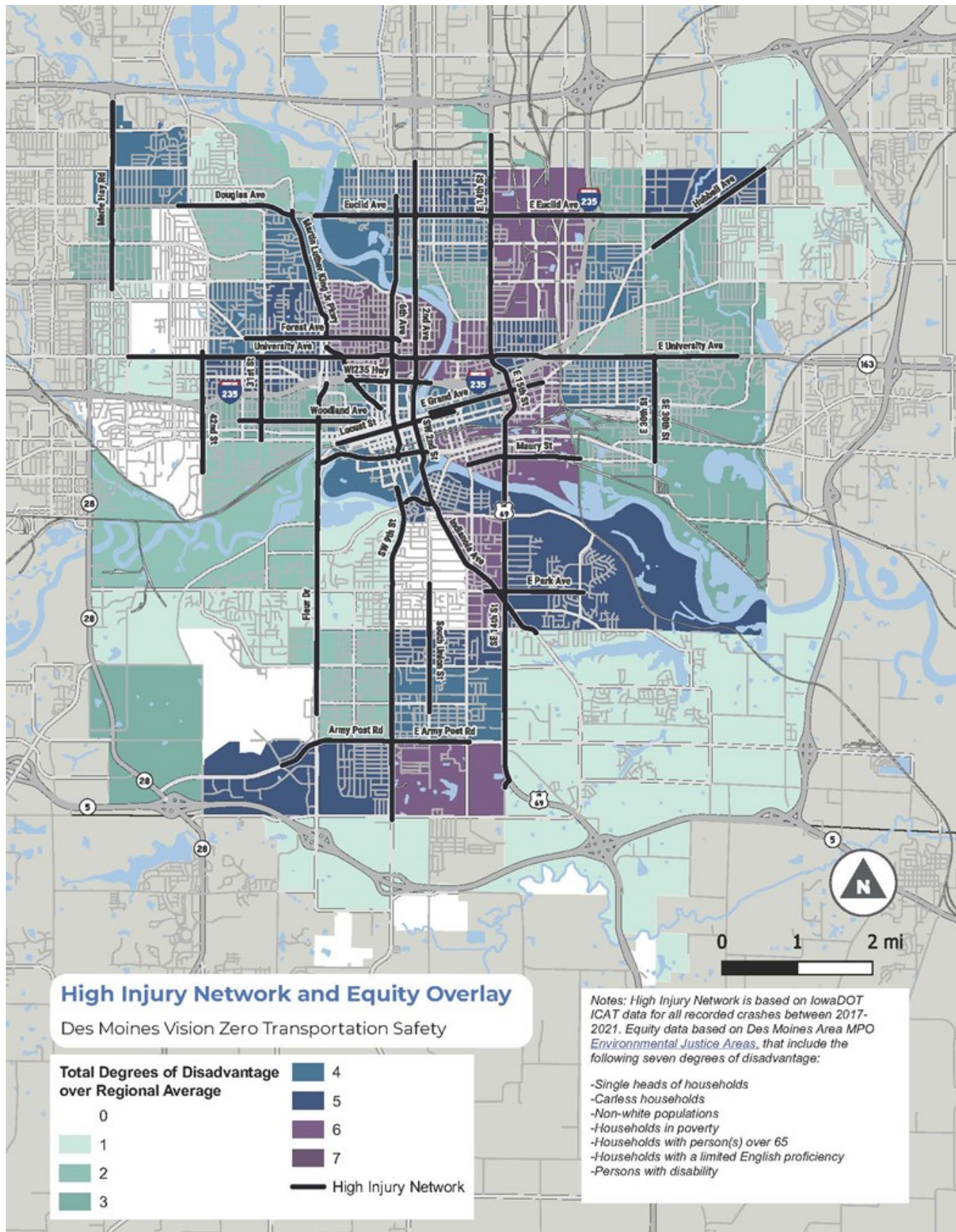


Figure 19. Des Moines High Injury Network for all modes and equity overlay. Data Source: Iowa DOT ICDAT 2017-2021; Des Moines Area MPO Environmental Justice Areas 2021

### List of High Injury Network Corridors

Table 1 lists the to and from extents for all the HIN corridors across Des Moines based on the maps shown in Figure 19 and Figure 19. These HIN corridors should be prioritized for safety improvements first and the City will further prioritize safety improvements using the following factors that are explained in *Implementing Projects that Make Streets Safer* section of the Action Plan:

- Number of KSI crashes
- Number of total crashes
- On the overall HIN
- EJ Degrees of Disadvantage
- Number of unsafe location comments collected from the October 2022 Social PinPoint survey

Table 1. Des Moines HIN Corridors Shown in Figure 18 and Figure 19. Data Source: IowaDOT ICDAT 2017-2021

HIN Corridor	From	To
19th St	Washington Ave	Forest Ave
2nd Ave	Vine St	NW 42nd Pl
31st St	Grand Ave	University Ave
42nd St	130 ft north of Woodlawn Ave	360 ft north of University Ave
6th Ave	W MLK Jr Pkwy	Seneca Ave
Army Post Rd	SW 28th St	SE 5th St
Douglas Ave	4529 Douglas Ave	MLK Jr Pkwy
E 14th St / US 69	E University Ave	E Broadway Ave
E 15th St / US 69	Dean Ave	I-235 westbound ramp
Johnson Ct / US 69	I-235 westbound ramp	Fremont St
Johnson Ct / US 69	E 14th St/ E Vine St	Dean Ave
E Grand Ave	Robert D Ray Dr	E 18th St
E Park Ave	SE 8th St	2201 E Park Ave
E 30th St / SE 30th St	E MLK Jr Pkwy	E University Ave
Euclid Ave / E Euclid Ave	Des Moines River bridge crossing	Hubbell Ave
Fleur Dr	Highview Dr	W MLK Jr Pkwy
Forest Ave	34th St	5th Ave
Hubbell Ave	E 30th St	4219 Hubbell Ave
I-235	Keosauqua Way	Robert D Ray Dr
Indianola Ave	E Marion St	Jackson Ave
Indianola Rd	Monona Ave	Indianola Ave
Keosauqua Way	19th St	8th St
Locust St	Fleur Dr	E 6th St
Maury St	SE 6th St	SE 22nd St
Merle Hay Rd	Franklin Ave	Northern City Limit
MLK Jr. Pkwy	Washington Ave	Douglas Ave/Euclid Ave
S Union St	Wall Ave	Pleasant View Dr
SE 14th St	Southridge Blvd	E 14th St/Johnson Ct
SW 2nd St	Jackson Ave	Vine St
SW 9th St	County Line Rd	Morgan St
University Ave / E University Ave	56th St	E 40th St
W MLK Jr. Pkwy	Fleur Dr	SW Water St
Woodland Ave	35th St	10th St



## Key Findings of the Descriptive Crash Analysis

The project team used statistical analysis to understand the broader trends in the crash data, called a descriptive analysis. This analysis included statistics of information of the five-year study period, from crashes by year to crashes by mode. The descriptive analysis summarized in this section key findings from the full Descriptive Crash Analysis Report that informed focuses, actions, and steps in this Action Plan.

### How Severe are the Injuries From Crashes in Des Moines?

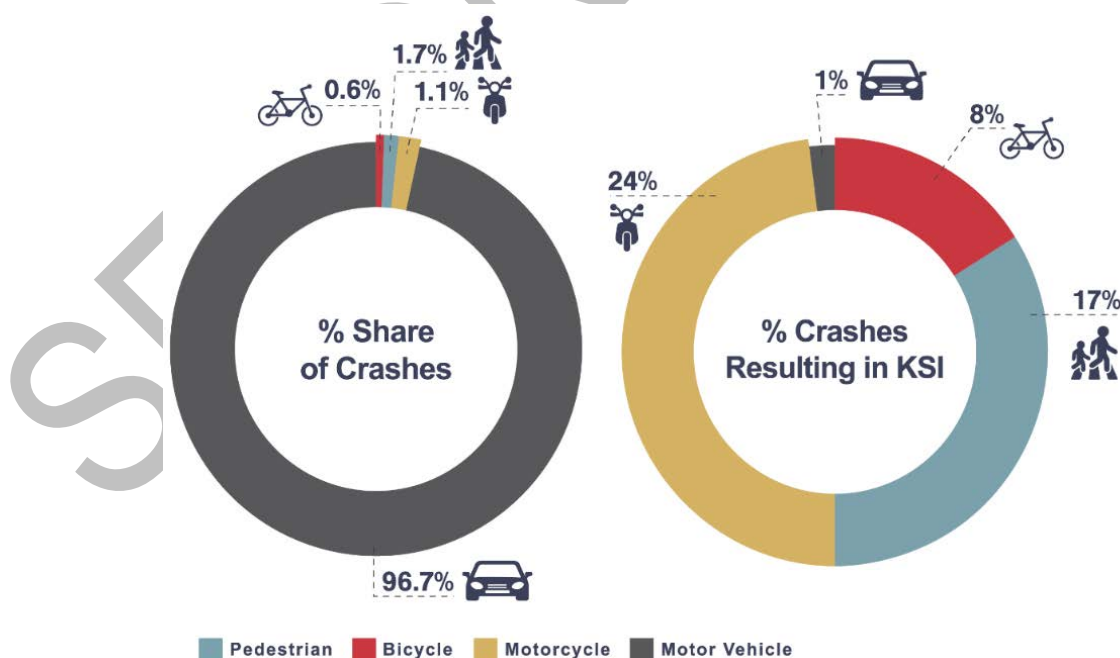
Table 2 shows the injury severity level for all crashes in Des Moines between 2017 and 2021. Although the majority of crashes resulted in no injuries (17,708 or 63% of total crashes), 82 crashes that resulted in death and 420 resulted in suspected serious/incapacitating injuries. While fatal and serious injury crashes are lower, these are the crashes we are focused on eliminating in Des Moines as part of Vision Zero.

**Table 2. Crashes by Injury Severity. Data Source: IowaDOT ICDAT 2017-2021**

Injury Severity	# Crashes	% Crashes
Fatal (K)	82	0.3%
Suspected Serious/ Incapacitating (A)	420	1.5%
Suspected Minor/Non-Incapacitating (B)	2,385	8.5%
Possible (Complaint of Pain/Injury) (C)	7,451	26.6%
Uninjured (O)	17,708	63.1%
<b>Total</b>	<b>28,046</b>	<b>100%</b>

### People Walking, Bicycling, and on Motorcycles are Most at Risk of being Killed or Seriously Injured While Travelling in Des Moines

When vulnerable road users (i.e., people walking, bicycling, and riding motorcycle) were involved in a crash, they were more likely to be killed or seriously injured compared to motorists. Crashes with only motor vehicles involved accounted for most of the crashes with 97% of total crashes but did not result in a high frequency of KSI crashes.



**Figure 20. All crashes compared to those resulting in a KSI by mode. Data Source: IowaDOT ICAT 2017-2021**

### How many Crashes Happen Yearly?

For the years analyzed, crashes were highest in 2019 and lowest in 2020. However, crashes that resulted in someone being killed or seriously injured were lowest in 2019 and were highest in 2021. This follows national crash trends during the first few years of the COVID-19 Pandemic, though the primary cause remains unclear.<sup>17</sup> Figure 21 shows the number of all crashes and KSI crashes per year from 2017 through 2021.

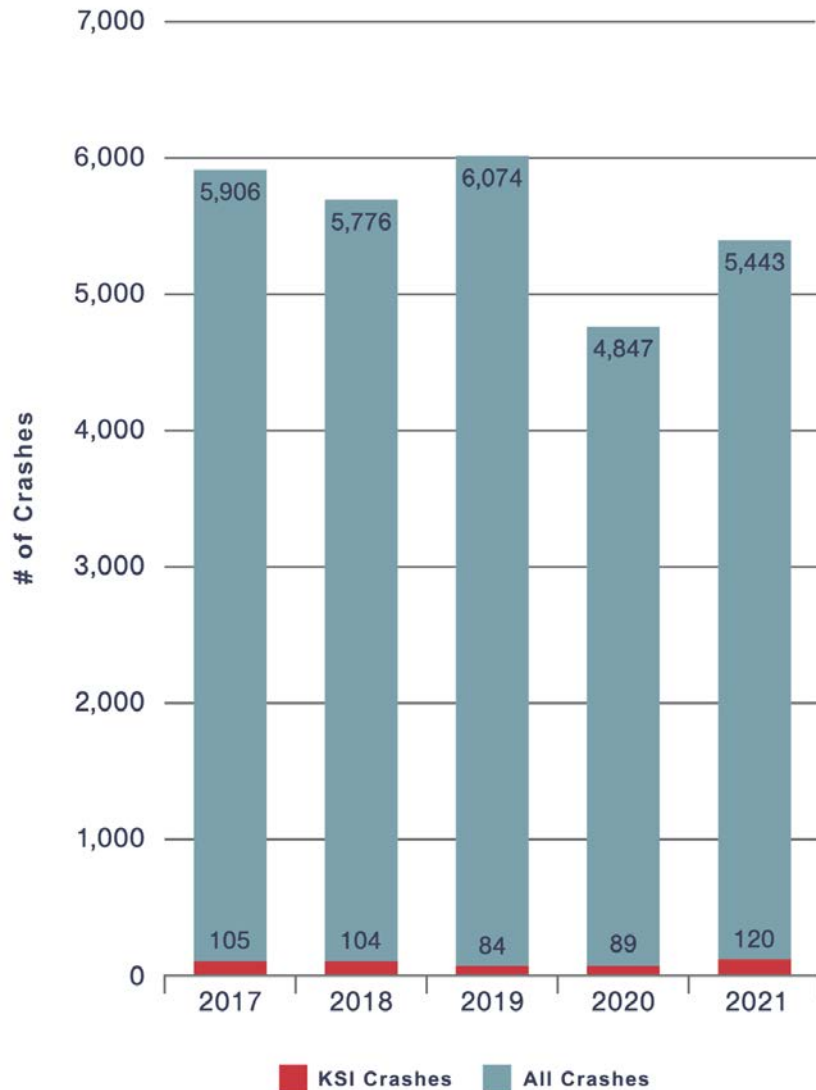


Figure 21. Crashes by year. Data Source: IowaDOT ICAT 2017-2021

<sup>17</sup> Office of Behavioral Safety Research. (2021, October). Continuation of research on traffic safety during the COVID19 public health emergency: January – June 2021. (Report No. DOT HS 813 210). National Highway Traffic Safety Administration. [https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-10/Traffic-Safety-During-COVID-19\\_Jan-June2021-102621-v3-tag.pdf](https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-10/Traffic-Safety-During-COVID-19_Jan-June2021-102621-v3-tag.pdf)

### Crash Risk Varies Throughout the Day

Most crashes occurred during the typical peak PM commute period as shown in Figure 22. However, crashes were substantially more severe during the night and early evening, particularly for people who were travelling on foot, by bicycle, or on motorcycle.

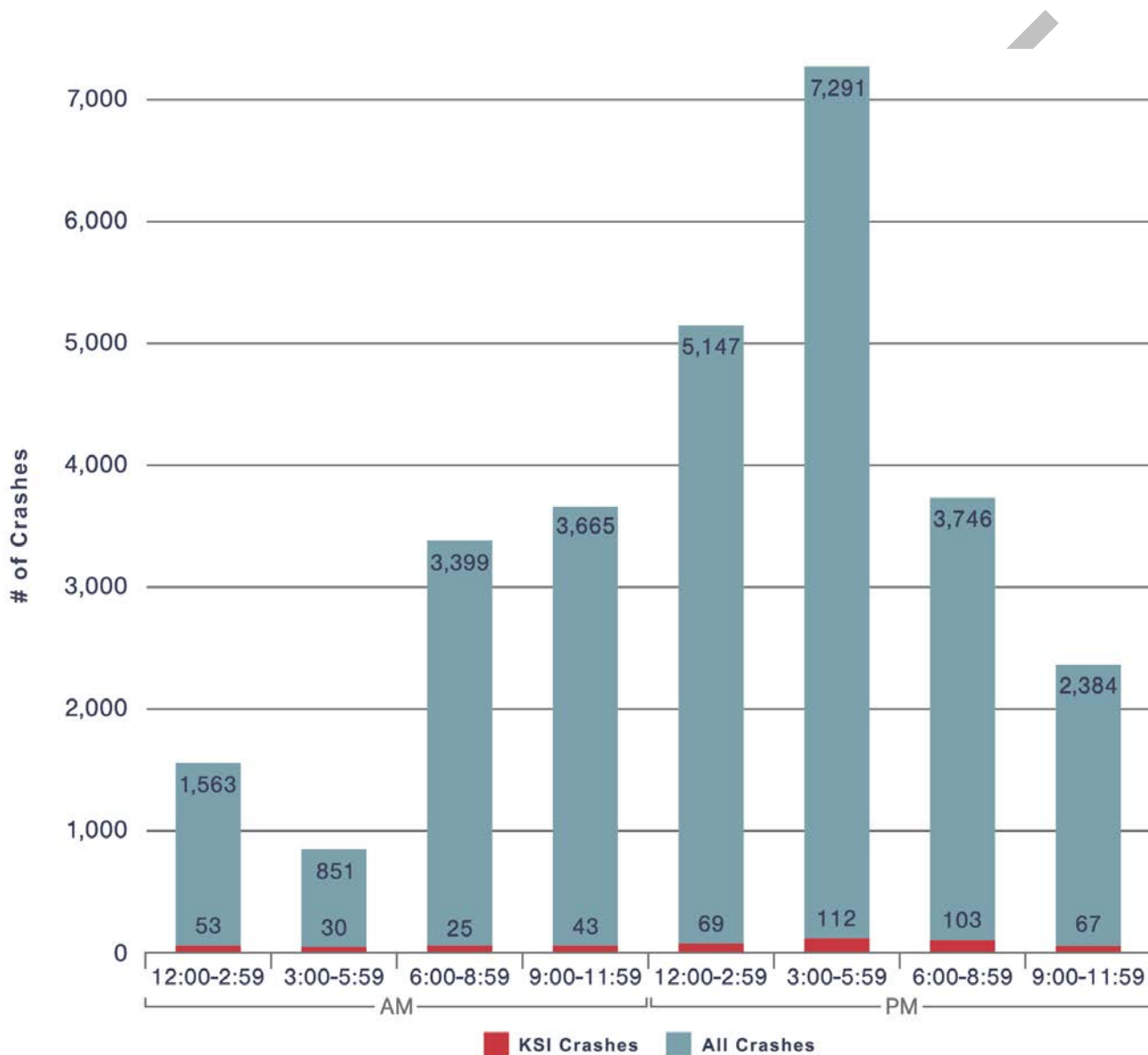


Figure 22. Crashes by time of day. Data Source: Iowa DOT ICAT 2017-2021

# Where Do Most Serious Crashes Happen?

## More Crashes Happen at Intersections

Crashes occurred more often at intersections (74% of crashes; 69% of KSI crashes), however segment crashes had a slightly higher risk of resulting in a KSI (2.1% for all modes, 24% for vulnerable road users). Most KSI crashes occurred at unsignalized intersection (54% crashes; 58% KSI crashes).

## More Serious Crashes Occur on Streets with Higher Speed Limits

Streets with a higher posted speed limit had a higher number of crashes and KSI crashes on a per-mile basis, particularly for streets with posted speed limits of 35mph and 40mph. Streets with a posted speed of 35mph saw 88.3 crashes per mile and 1.7 KSI crashes per mile, while those with a 40mph posted speed saw 80.3 crashes per mile and 1.7 KSI crashes per mile. Contrast this with streets with a posted speed of 25mph (which make most roads in Des Moines), which had 8.4 crashes per mile and 0.1 KSI crashes per mile.

## Streets with More Vehicles Have Higher Crash Rates

Streets with higher vehicle volumes, measured by annual average daily traffic (AADT) estimates, saw higher crashes per mile and KSI crashes per mile compared to low-volume roads. Arterials and state highways had the largest frequencies of both overall and KSI crashes.

Table 3. Crashes by Vehicle Volume. Data Source: IowaDOT ICAT 2017-2021

Vehicle Volume	Crashes per Mile	KSI Crashes per Mile
20,000-24,999	93.7	2.1
10,000	11.8	0.2

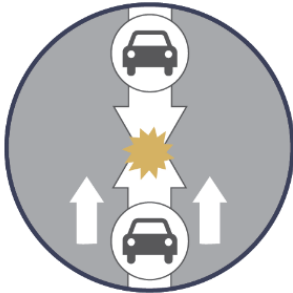
# What are the Most Common Types of Serious Crashes?

Crash types are used to inform the types of safety countermeasures that are needed on streets with the highest number of KSI crashes. They may also inform systemic safety improvements needed across Des Moines, such as speed limit reduction or signal modifications that are applied citywide to prevent crashes even where there have not been previously observed crashes.



11.9%

of crashes exceeding  
authorized speed  
resulted in a KSI



7.7%

of crashes from traveling the  
wrong way or on the wrong side  
resulted in KSI



6.7%

of crashes from failing to yield to  
non-motorist resulted in KSI

Figure 23. Crash causes resulting in the highest share of KSI crashes. Data Source: IowaDOT ICAT 2017-2021

### *Some Crash Causes are More Dangerous Than Others*

Some crash causes had a larger share of KSI crashes compared to other causes. “Exceeded authorized speed” and “lost control” had the highest number of KSI crashes, with 54 KSI crashes each.

### *Solo Motorcycles and Motor Vehicles Going Straight are a Common KSI Crash Type*

Solo-motor vehicle going straight crashes accounted for the largest share of KSI crashes with 75 (23%) KSI crashes, followed by broadside (front to side) with 73 KSI crashes (22%), and non-collision (single vehicle) crashes 44 KSI crashes (14%). Broadside crashes also had a high share of KSI crashes, with 23% of motorcycle broadside crashes resulting in a KSI and 22% for motor vehicles.

### *Vulnerable Road Users are at Greater Risk of Death and Serious Injury if a Crash Involves Impairment*

Crashes where drivers who are driving while impaired often led to risk of fatal or serious crashes for vulnerable pedestrians and motorcyclists.

- Of the 7 pedestrian crashes that involved an impaired motorist, 3 (or 42%) of those crashes resulted in a serious or fatal injury.
- Of the 42 motorcycle crashes that involved an impaired motorist, 25 (or 59%) of those crashes resulted in a serious or fatal injury.
- Of the 961 motor vehicle crashes that involved an impaired driver, 72 (or 7.5%) of those crashes resulted in a serious or fatal injury.

### *The Most Common and Dangerous Crash Types Vary by Mode*

Figure 24 shows the most common crash types based on reported pre-crash movements resulting by mode—for people biking, walking, driving a motorcycle, or driving a motor vehicle—in order of highest number of KSI crashes.

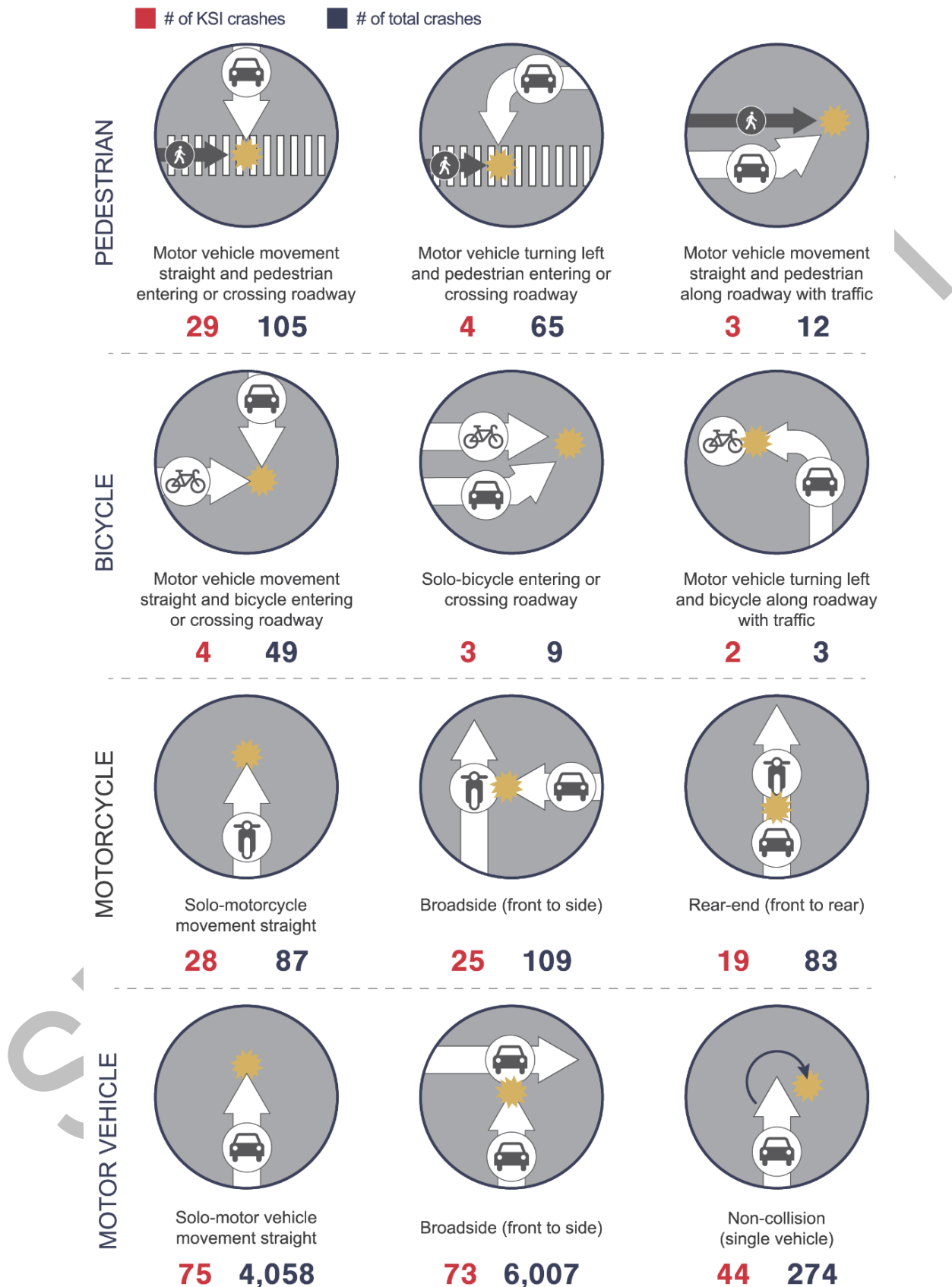


Figure 24. Most common crash types by each mode, 2017-2021. Data Source: IowaDOT ICAT 2017-2021

## Let's Take Action

At the heart of Vision Zero is the principle that traffic deaths and serious injuries are unacceptable and, most importantly, preventable. Reaching Vision Zero in Des Moines will take a combination of bold actions by many people across the whole community, the City of Des Moines, agency partners, community organizations, and the greater public. This section organizes the actions into focus areas, actions, and steps and outlines key partners in each action step, but anyone can jump in to contribute to specific actions in hope of reaching Vision Zero together.

### Focus Areas

The goal of this Action Plan is to have zero traffic deaths and serious injuries by 2040, and the following five key focus areas organize recommended actions and steps. The focus areas are data-driven and emerged from the public engagement, crashes analysis, and review of current agency practices across Des Moines. The focuses are consistent with Vision Zero best practices but were adapted to represent the specific context, needs, and priorities for Des Moines. The five focus areas are:

#### *Enhance City Policies, Programs, Processes and Partnerships*

Vision Zero and the Safe System Approach completely reframes how the City of Des Moines will make changes to our streets. It is clear that "business as usual" is not working and will not get us to zero. We need City processes, partnerships, and laws to prioritize street safety and allow for systematic change. We need to not only react to tragedies but be proactive in preventing street deaths and serious injuries.

#### *Build Safe Streets for Everyone*

We recognize that people make mistakes, but that those mistakes should not result in death. The Safe System Approach means that our transportation system can and will protect all street users. Because our resources are limited, we will first focus on the HIN and the most vulnerable roadway users in Des Moines, while looking for opportunities to make citywide changes.

#### *Promote Safe Speeds*

Speed management is a critical component of Vision Zero because it is one of the most influential factors in crash severity and frequency. In Des Moines, speeds are most problematic on multilane arterials. We will create safe speeds by focusing on speed reduction along the HIN through automated enforcement and messaging and promote slower speeds within the city. We will pair these actions with the actions in the Build Safe Streets for Everyone and Promote a Culture of Safety and Safe Street Behaviors focus areas, when possible, so that speed limits are self-enforcing.

#### *Promote a Culture of Safety and Safe Street Behaviors*

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

#### *Improve Data and Transparency*

A Vision Zero approach is different than previous approaches as it prioritizes projects by focusing on data to save lives. Vision Zero also holds the government and its partners accountable for its commitments. Clear, usable data that is available to both the City and to the public is essential to progress, not to mention the secondary benefits like telling a compelling story on progress and outcomes.

## Actions

Within each of the five focus areas, the Action Plan has 19 actions that were developed in close collaboration with stakeholders from all perspectives of street safety: transportation, enforcement, public and environmental health, sustainability, community planning, emergency services, parks and recreation, schools, and social justice. Additionally, hundreds of Des Moines community members helped shape the actions by telling us about their street safety concerns and wishes. The actions were developed to save lives by creating safer streets and promoting safe driving, walking, and bicycling behaviors. These actions include what we need to do to substantially reduce street deaths and serious injuries over a five-year period.

## Steps

Each action has several steps that the City and its community and government partners need to do to implement the action. The Action Plan identifies a lead entity who will spearhead the step to implementation, and in following the Safe System Approach that responsibility is shared, the Action Plan also identifies partners who will provide support on step. A timeline for each step is also identified to indicate when within the next five years the step should be completed. Finally, each of the steps includes metrics that the City will measure to track its progress in implementing the step.

Each step in the Action Plan should be specific and measurable, and provide answers to the following questions:

- What does success look like? What are the measures of success?
- Who is primarily responsible for achieving this goal and in what timeframe?
- What are the conditions and limitations for success?

## A Working Spreadsheet of Focus Areas, Actions, and Steps to Get to Vision Zero

The focus areas, actions, and steps are provided in a working Excel spreadsheet so the City can use it as a living document to track implementation progress, and a copy of that spreadsheet is provided on the subsequent pages of the Action Plan for incorporation.



Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
FOCUS AREA 1 Enhance City Policies, Programs, Processes, and Partnerships											
	ACTION 1.1 Establish a Vision Zero program within the City of Des Moines										
Transformative Step	1	Adopt a Vision Zero Resolution and Action Plan	Complete action						T&T	CMO, ENG, TSC, VZAG	Plan adopted
	2	Create a press release announcing the Vision Zero Resolution and Action Plan upon adoption	Complete action						T&T	COM	Press release issued
Transformative Step	3	Establish a permanent, dedicated funding source for Vision Zero implementation and coordination		Prepare BRC request					ENG	CMO, FIN, T&T	Funding established at needed levels
	4	Continue to create a Vision Zero program with dedicated staff			Initiate action	On-going action	On-going action	On-going action			Funding and staffing at needed levels to reach Vision Zero, 1 full time staff dedicated to Vision Zero by FY2025
	5	Create identifiable branding for Vision Zero in Des Moines		Initiate action	Complete Action				T&T	COM	Branding finalized
	6	Establish a Vision Zero technical advisory group (VZAG) to create an interdisciplinary Vision Zero program and administrative framework that guides all street safety decision and includes staff from multiple departments, including engineering, transportation, planning, police, fire, communications, public works and legal		Initiate action	On-going action	On-going action	On-going action	On-going action	T&T	CMO, COM, DEV, NBS, DMFD, DMPD, Polk Health, AARP, IowaDOT, DART, DMPS, MPO, LEGAL, PW, EQUITY, P&R, other groups	Group established, at least 2 meetings annually
	7	Conduct a joint meeting of the City Council's Transportation Safety Committee and the VZAG at least once a year to collaborate on the overall Vision Zero program			Initiate action	On-going action	On-going action	On-going action	T&T	TSC, VZAG	Annual meeting convened
	8	Conduct annual review of Vision Zero successes and challenges to include in the Vision Zero annual report		Initiate action	On-going action	On-going action	On-going action	On-going action	T&T	CMO, VZAG	Review conducted annually
	ACTION 1.2 Institutionalize the Safe System Approach and a goal of Vision Zero on all street-related decision in Des Moines										

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	1	Incorporate the Action Plan by reference as an element in the City's PlanDSM and MoveDSM		Initiate action	Complete action				T&T	DEV, CMO	Plan adopted into PlanDSM and MoveDSM
	2	Update the purchasing standards to size City-owned vehicles to safe system street designs and require latest driver assistance safety features			Initiate action	Complete action			FIN - FLEET	T&T	Action completed
	3	Integrate Complete Streets Policy and Traffic Calming Program into the Vision Zero program			Initiate action	Complete action			ENG		Integration established and being considered
Transformative Step	4	Integrate Vision Zero into the BRC and CIP project approval process by requiring information about how a project works to achieve Vision Zero goals in the project justification and/or include information on the CIP sheet and give priority to projects on the HIN and in environmental justice areas			Initiate action	Complete action			ENG	T&T, CMO, BRC	Integration established and being considered
	5	Establish internal processes for the Des Moines Engineering and Public Works Departments to ensure that traffic safety improvements and mitigations are evaluated and implemented where feasible on projects identified on the HIN			Initiate action	Complete action			T&T	ENG, PW	Process created and being implemented
	6	Establish a process to ensure maintenance projects include safety improvements for all road users			Initiate action	Complete action			ENG	T&T, CMO, BRC	Process created and being implemented
	ACTION 1.3 Increase collaboration between agencies and partners to improve safety outcomes through routine decision-making										
	1	Work to have Vision Zero accounted for in Iowa DOT project development process for projects in Des Moines. Modify process to ensure safety considerations happen before design decisions have been made, including during any National Environmental Policy Act (NEPA) process				Initiate action	Complete action		ENG	IowaDOT	Safety considerations are established in IowaDOT project processes

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	2	Work to ensure safety of all road user best practices are included in the Iowa Statewide Urban Design and Specifications (SUDAS) to support the City of Des Moines Transportation Safety Plan		Initiate action	On-going action	On-going action	On-going action	On-going action	ENG	T&T	Safety of all road user best practices are included in SUDAS or City adopts supplement
	3	Work with IowaDOT and Des Moines Area MPO to ensure 5-year fatality projection for Des Moines are do not estimate an increase in fatalities		Initiate action	On-going action	On-going action	On-going action	On-going action	ENG	IowaDOT, MPO	Fatality projections for region project reductions
	4	Coordinate with Des Moines Area MPO on their Safe Streets and Roads for All (SS4) regional safety plan		Initiate action	Complete Action				CMO	T&T, ENG	City involved in regional safety plan and vice versa
	5	Review and monitor Iowa state laws and policies related to street safety as well as infrastructure and vehicle safety technologies, including automated street safety cameras and distracted driving			Initiate action	On-going action	On-going action	On-going action	CMO, LEGAL	T&T, ENG, VZAG	Review Iowa law changes annually
	ACTION 1.4 Develop and implement infrastructure policies and practices that reduce roadway fatalities and serious injuries										
	1	Update the City's plans, policies, and procedures related to transportation and mobility to ensure that these documents elevate safety of all road users and achieving Vision Zero as a priority in decision-making			Initiate action	Complete action			T&T	CMO, DEV, ENG, PW, DMFD, DMPD	Initial review and updates completed, then reviewed and refined annually
	2	Review and update land use policies and development standards that prioritize the safety of all road users (e.g., block size, crosswalk spacing, access management)			Initiate action	Complete action			DEV	T&T, ENG, DMFD, PW	Initial review and updates completed, then reviewed and refined annually
	3	Update traffic control standards to consider safety of all road users when developing temporary work zone detours			Initiate action	Complete action			T&T	ENG, PW, DEV	Updates complete and then standards being applied
	ACTION 1.5 Secure funding for implementing Vision Zero and increase funding for long-term maintenance of improvements										
	1	Apply for USDOT Safe Streets and Roads for All Implementation Grant funding	Initiate action	Complete action					ENG	T&T, CMO	Action completed, and grant request awarded

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	2	Determine list of local, state, and federal funding sources to advance Vision Zero projects and programs, such as State Highway Safety Improvement or Active Transportation grants		Initiate action	On-going action	On-going action	On-going action	On-going action	ENG	T&T, PW, DEV, CMO	List of grants created and matched with Vision Zero projects and steps
Transformative Step	3	Increase operations funding for long-term maintenance of street improvements (i.e., signs, markings, signals, etc.)		Prepare BRC request	On-going action	On-going action	On-going action	On-going action	ENG, PW	CMO, FIN, T&T	Funding established at needed levels, no fatal or serious injury crashes are due to lack of maintenance
FOCUS AREA 2 Safe Streets for Everyone											
	ACTION 2.1 Improve streets for all road users by applying the Safe System Approach framework on the High Injury Network										
	1	Identify comprehensive safety projects along the HIN where need and impact are greatest, on the HIN and in EJ areas first and prepare BRC requests for inclusion to existing or as new projects in City's Capital Improvement Program		Initiate action	On-going action	On-going action	On-going action	On-going action	T&T	ENG, PW	Fatal and serious injury crashes are reduced
Transformative Step	2	Create a CIP project sheet for the implementation of low-cost, high-impact strategies that can improve safety at locations.		Prepare BRC request	On-going action	On-going action	On-going action	On-going action	T&T	ENG, PW	Fatal and serious injury crashes are reduced
	3	Encourage safe speeds through implementation of safety countermeasures that achieve target speeds on HIN corridors where speeds or speeding is identified as a safety concern		Prepare BRC request	On-going action	On-going action	On-going action	On-going action	T&T	ENG	Speeding-related fatal and serious injury crashes are reduced
	4	Identify and implement proactive safety countermeasure improvements on the HIN, including signal improvements and crosswalk enhancements to be consistent with City standards, practices and budgetary levels		Prepare BRC request	On-going action	On-going action	On-going action	On-going action	T&T	ENG, PW	Intersections improvements completed and fatal and serious injury crashes reduced
	5	Implement safety technologies on HIN corridors identified in the City's ITS Master Plan			Initiate action	On-going action	On-going action	On-going action	T&T	ENG	Safety technologies being used and working to reduce fatal and serious injury crashes

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	ACTION 2.2 Ensure alternatives to driving and active transportation modes are safe for all ages and abilities										
	1	Continue building the enhanced bikeway network along the HIN and connectivity identified in Move DSM	On-going action	On-going action	On-going action	On-going action	On-going action	On-going action	T&T	ENG, PW, P&R	Miles constructed
	2	Continue to improve pedestrian sidewalks and high visibility crossing treatments along the HIN and priority one sidewalks in MoveDSM	On-going action	On-going action	On-going action	On-going action	On-going action	On-going action	T&T	CMO, ENG, PW, P&R	Miles constructed and fatal and serious injury pedestrian crashes reduced
	ACTION 2.3 Perform engineering reviews on the HIN to identify risk factors that can be addressed										
	1	Establish an interagency crash rapid response team to review serious injury and fatal crash locations				Initiate action	On-going action	On-going action	T&T	DMPD, DMFD, ENG	Team created, review conducted, and recommendations being incorporated into safety improvements
	2	Establish a program to conduct road safety audits (RSA) at high crash locations to identify contributing street factors and inform appropriate safety countermeasures			Prepare BRC request	On-going action	On-going action	On-going action	ENG	T&T, DMPD, DMFD, ENG	RSA conducted and recommendations being incorporated into safety improvements
	FOCUS AREA 3 Promote Safe Speeds										
	ACTION 3.1 Create a speed management program within the Vision Zero program to systematically evaluate and promote safe speeds										
Transformative Step	1	Conduct evaluation of arterial and collector streets on the HIN to identify speeding issues and determine process for setting safe target speed limits for all road users			Prepare BRC request	Initiate action			T&T	CMO, DMPD	Speeding reduced, fatal and serious injury crashes reduced
	2	Identify and implement systematic programs and practices that reduce speeding citywide				Prepare BRC request to establish program	On-going action	On-going action	T&T	CMO, DMPD	Speeding reduced, fatal and serious injury crashes reduced



Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	3	Work with Iowa DOT to evaluate speed limits on designated state highways, considering context, and explore ways to make changes			Initiate action	On-going action	On-going action	On-going action	T&T	IowaDOT	Speeding reduced, fatal and serious injury crashes reduced
	ACTION 3.2 Enhance speed management along the HIN Streets										
	1	Implement speed feedback signs on HIN corridors and near schools			Prepare BRC request	On-going action	On-going action	On-going action	T&T	DMPD, ENG	Speeding reduced, fatal and serious injury crashes reduced
	2	Install more automated street safety cameras on HIN corridors and near schools		Prepare BRC request	On-going action	On-going action	On-going action	On-going action	DMPD	T&T, IowaDOT	Speeding reduced, fatal and serious injury crashes reduced
	ACTION 3.3. Enhance slow zones in priority areas near schools and parks										
	1	Define types of slow zones and set appropriate speeds for each. Define treatments to be applied to slow zones, such as lower speed limits, increased fines, increased enforcement, street design measures, and signage as part of the Traffic Calming Program				Initiate action	On-going action	On-going action	T&T	DMPS, DMPD, IowaDOT	Speeding reduced, fatal and serious injury crashes reduced
	2	Implement slow zones on the HIN and in EJ areas. Educate and inform neighborhood associations and community groups about the zones					Initiate action	Complete action	T&T	DMPS, DMPD, NBS, IowaDOT	Speeding reduced, fatal and serious injury crashes reduced
	FOCUS AREA 4 Promote a Culture of Safe Street Behaviors										
	ACTION 4.1 Implement an inclusive communications campaign to heighten awareness and understanding of traffic safety among the public, public agency staff, and the media, and celebrate Vision Zero successes										
	1	Review Descriptive Crash Analysis to identify demographic groups to engage to promote a positive street safety work with a broad range of agencies and organizations			Initiate action	On-going action	Complete action		COM	VZAG	Groups coordinated

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	2	Develop standard language regarding Vision Zero and street safety for use by all City departments and partner agencies when interacting with the media and with the public directly			Initiate action	Compete action			COM	CMO, VZAG	Action completed
Transformative Step	3	Implement a multimodal safety education campaign for all, focused on the HIN and EJ areas, covering safe interactions with other road users and employing multiple communication methods. Highlight the prevalence and impact of distracted driving and the benefits of seat belt, car seat, and helmet use. Coordinate with City and Statewide messaging for maximum impact				Initiate development of action	Implement campaign	On-going action	TBD	TBD	Campaign created and implemented
	4	Couple major infrastructure changes and enforcement activities with messaging to communicate why traffic safety is important			Initiate action	On-going action	On-going action	On-going action	COM	T&T, ENG	Messages issued
	5	Develop branded Vision Zero signage to be installed with Vision Zero infrastructure projects during construction			Complete action				COM	T&T	Action completed
	6	To encourage informed conversations about Vision Zero implementation, create a resources for community members to better understand engineering strategies used to address roadway safety issues				Initiate action	Complete action		T&T	COM	Action completed
	7	Create an online pledge form for groups and individuals in Des Moines to commit to Vision Zero			Initiate action	On-going action	On-going action	On-going action	COM	T&T	Pledge created; number of new pledges
	ACTION 4.2 Strengthen street safety enforcement policies and practices										
Transformative Step	1	Expand use of automated street safety cameras and high visibility awareness campaigns for speeding and red light running on the HIN			Initiate action	On-going action	On-going action	On-going action	DMPD	T&T, COM, DMFD	locations or units
	2	Safety 'Standdown' day that is collaborative with street safety awareness programs, such as speeding, seat belts, impairment, motorcycles, crosswalks, and car seat safety			Initiate action	On-going action	On-going action	On-going action	DMPD	T&T, DMFD, CMO, COM	Events per year

Focus Areas/Actions/Implementation Steps			Implementation Timeline						Lead Entity	Partners	Measurement
			FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028			
	3	Conduct targeted impairment enforcement on City streets throughout the HIN, including sobriety checkpoints, saturation patrols, and issuance of warnings			Initiate action	On-going action	On-going action	On-going action	DMPD	T&T, COM	Activities per year
	ACTION 4.3 Implement training to promote culture change										
Transformative Step	1	Create and deliver a train the trainer course to City agencies and community organizations about Vision Zero goals, actions, and language			Initiate action	On-going action	On-going action	On-going action	T&T, HR	COM	Unsafe street behaviors reduced, fatal and serious injury crashes reduced
	2	Develop public education materials around street safety behaviors and safety countermeasures that work			Initiate action	On-going action	On-going action	On-going action	COM	CMO, DMPD, DMFD	Unsafe street behaviors reduced, fatal and serious injury crashes reduced
	3	Create insurance incentives programs for safe drivers and required trainings for those involved in crashes and/or receive multiple tickets		Initiate action	On-going action	On-going action	On-going action	On-going action	CMO	VZAG, insurance companies	Unsafe street behaviors reduced, fatal and serious injury crashes reduced
	ACTION 4.4 Work with schools to improve the culture of safety around schools and to promote safe, active transportation through education, school policies, and pick-ups and drop-offs										
	1	Create a <u>Safe Routes to Schools</u> Plan and program for each school			Initiate action	On-going action	On-going action	On-going action	DMPS, T&T	CMO, DMPD	Number of successful SRTS programs per year
	2	Develop programs and presentations on street safety and Vision Zero for schools to engage students, parents and staff. Such street safety programs in schools might include a Safe Routes to Schools and Safety Towns programs				Initiate action	On-going action	On-going action	DMPS	T&T, DMPD, DMFD	School presentations per year
	3	Develop safety plans during pickup and drop-off times at schools as part of Safe Routes to Schools program				Initiate action	On-going action	On-going action	DMPS	T&T	Number of schools with plans developed, being used, reduced crashes around schools
	FOCUS AREA 5 Improve Data and Transparency										

Focus Areas/Actions/Implementation Steps		Implementation Timeline						Lead Entity	Partners	Measurement	
		FY 2023	FY 2024	FY 2025	FY2026	FY2027	FY 2028				
	ACTION 5.1 Implement demonstration/pilot projects to test innovative safety countermeasures										
	1	Conduct a pilot projects along the HIN and in EJ areas to test out innovative safety countermeasure to determine effectiveness in Des Moines before permanent installation and at other locations				Initiate action	On-going action	On-going action	T&T	ENG, PW, IowaDOT	Treatments evaluated before permanent installation, education public of benefits of new safety countermeasures
	ACTION 5.2 Routinely conduct evaluation studies to determine safety impacts of Vision Zero projects										
	1	Develop metrics and framework for evaluation of safety projects, including leading indicators such as operating speed and yielding behavior. Collect and geocode data before and after projects are completed				Initiate action	Complete action		T&T	ENG, GIS, PW	Safety project evaluation created and being used
	2	Conduct project before-and-after analysis to know what safety countermeasures are working to reduce fatal and serious injury crashes			Initiate action	On-going action	On-going action	On-going action	T&T	ENG, PW	Fatal and serious injury crashes are reduced
	3	Document effects of infrastructure projects and share findings with the public			Initiate action	On-going action	On-going action	On-going action	T&T	ENG, PW, COM	Included in annual report
	4	Conduct a more in-depth street safety equity analysis to further inform the Vision Zero program		Make request to MPO	Initiate action	Complete action			MPO	T&T, EQUITY	Analysis completed
	ACTION 5.3 Regularly report back to the community about Vision Zero progress										
	1	Develop and publish an annual report that documents the implementation status of the Vision Zero Action Plan, tracks progress toward fatality, serious injury, and overall crash reduction, summarizes the effects of safety interventions, and changes to the Vision Zero program		Initiate action	On-going action	On-going action	On-going action	On-going action	T&T	CMO, COM, VZAG	Annual report published
Transformative Step	2	Create a dashboard on the City's Vision Zero webpage and maintain it with project updates, progress on actions, and program updates. Provide up-to-date and accessible data about traffic fatalities and serious collisions on the City's website, highlighting equity metrics when appropriate and Vision Zero program successes		Initiate action	On-going action	On-going action	On-going action	On-going action	COM, T&T		Dashboard created and maintained



Focus Areas/Actions/Implementation Steps			Implementation Timeline					Lead Entity	Partners	Measurement	
			FY 2023	FY 2024	FY 2025	FY2026	FY2027				FY 2028
	3	In conjunction with other feedback gathering efforts, conduct an annual public survey on safety concerns and ideas in Des Moines that get reported out in the Vision Zero Annual Report			Initiate action	On-going action	On-going action	On-going action	COM	T&T	Survey conducted annually
	ACTION 5.4 Improve crash data management processes										
	1	Share hyperlink to Iowa Crash Analysis Tool (ICAT) portal on the City's Vision Zero web page to share crash records data		Complete action					COM	T&T	Action completed
	2	Work with Iowa DOT on enhancing crash data reporting and systemic safety models			Initiate action	On-going action	On-going action	On-going action	T&T	IowaDOT	Action completed
	3	Work with emergency management services and hospitals to pilot a program to better understand injuries severity and type and to link reported crash data to health outcomes					Initiate action	On-going action	T&T	PolkHealth, DMPD, DMFD, IowaDOT, Hospitals	Action completed

## Implementing Projects that Make Streets Safer

Making on-the-ground safety improvements to streets across Des Moines is key to reaching Vision Zero by 2040. Including Vision Zero location-specific projects on the HIN, including safety improvements in all street projects, as well as identifying similar conditions where fatal and serious crashes *could* occur, called proactive systemic safety, to make proactive safety improvements. Rolling out Vision Zero safety improvement projects will be imbedded in the City's Capital Improvement Program (CIP).

### Vision Zero as part of the City's Capital Improvement Program

Each year, the City of Des Moines creates a CIP that details all of the projects that will be included in the City's Capital Budget for the next five years. One near-term step within the first Vision Zero Focus Area is to establish a permanent, dedicated funding source for Vision Zero implementation and coordination. This means that the City will use this Action Plan to select projects to be included in the next CIP. The flow chart in Figure 25 shows how projects go from an idea to a funded project. With Vision Zero as a top priority in all decisions, street projects will be evaluated and approved accordingly in the CIP process.

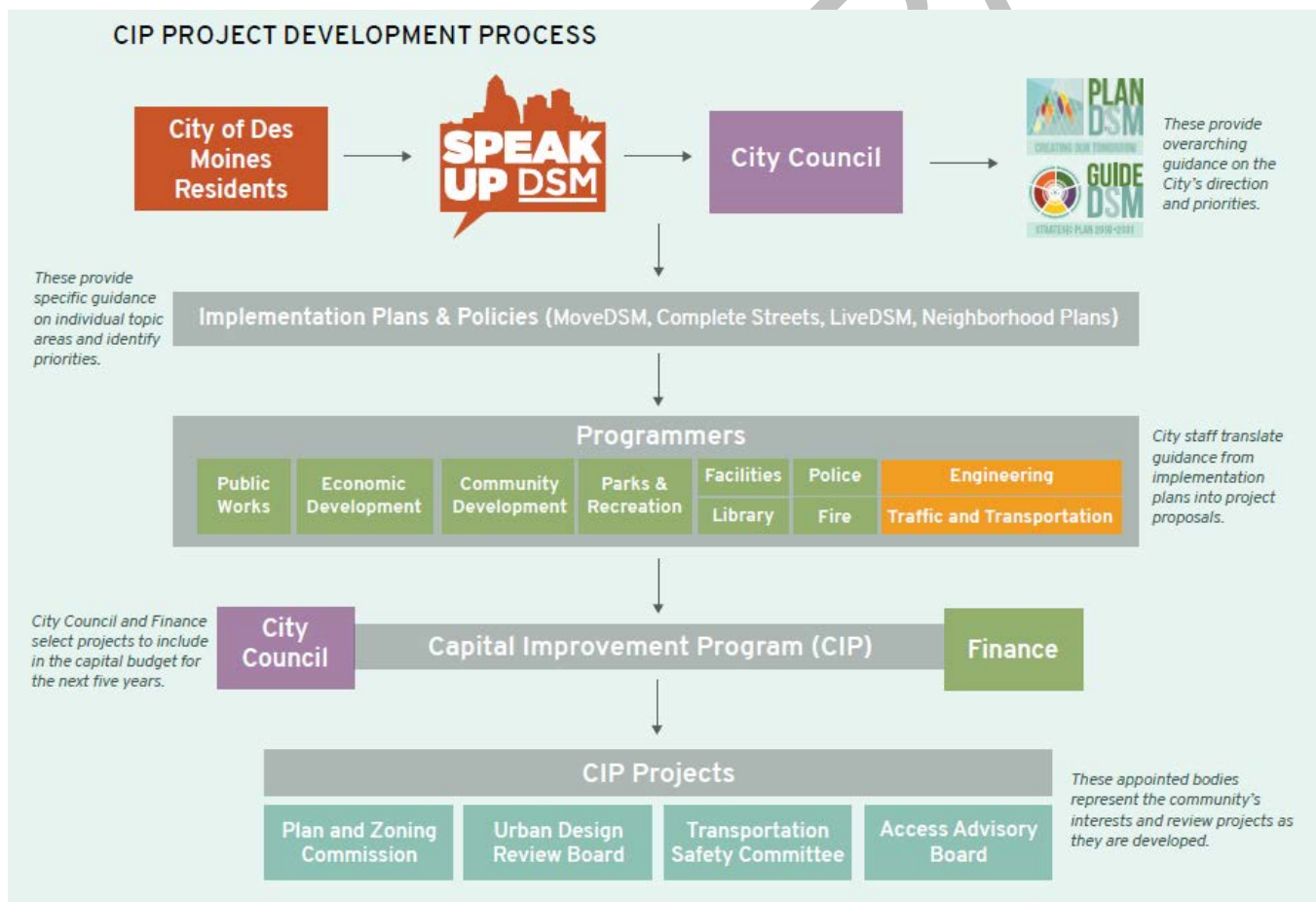


Figure 25. Flow chart of CIP process. Source: MoveDSM

## Project Prioritization and Monitoring Process

Given that the number of HIN corridors is greater than the number of projects that can be built annually with current City funding levels, the City and agency partners must further prioritize projects based on where need and impact are greatest using the following prioritization metrics in Table 4.

**Table 4. Location-Specific Prioritization Metrics.**

Metric	Weight
Number of KSI Crashes	30%
On the Overall HIN	25%
EJ Degrees of Disadvantage	20%
Total Crashes	15%
Number of Unsafe Location Comments from Public	10%
	100%

Using these projection prioritization metrics, the corridors in the HIN were prioritized for location-specific projects as shown in Table 5. The corridors below were ranked as top priority corridors, indicating that they are the locations that should be prioritized first for safety improvements.

**Table 5. Top Priority HIN Corridors for Safety Improvement Projects.**

Corridor	From	To
University Ave / E University Ave	56th St	E 40th St
SE 14th St	Southridge Blvd	E 14th St/Johnson Ct
SW 9th St	County Line Rd	Morgan St
2nd Ave	Vine St	NW 42nd Pl
E 14th St / US 69	E University Ave	E Broadway Ave
6th Ave	W MLK Jr Pkwy	Seneca Ave
19th St	Washington Ave	Forest Ave
Keosauqua Way	19th St	8th St
Euclid Ave / E Euclid Ave	Des Moines River bridge crossing	Hubbell Ave

Another consideration of project prioritization is project readiness and current available funding for construction. As part of this, the City is planning to seek a FHWA Safe Streets and Roads for All (SS4A) Implementation Grant to fund safety improvements on the following HIN corridors listed in Table 6 below.

**Table 6. City of Des Moines Implementation Projects for SS4A Grant.**

Corridor	From	To
Martin Luther King Jr. Parkway & 19th Street	Cottage Grove Avenue	Mondamin Avenue
Douglas Avenue (U.S. 6)	Merle Hay Road	Martin Luther King Jr. Parkway
Euclid Avenue (U.S. 6)	Des Moines River	2nd Avenue
Forest Avenue	Beaver Avenue	9th Street
SE 14th Street (U.S. 69) & Maury Street Intersection		

## Project Implementation Steps

Once funded, the City will keep track of projects in the following steps of project implementation:

1. Planning
2. Design
3. Engineering
4. Construction
5. Evaluation
6. Refinement

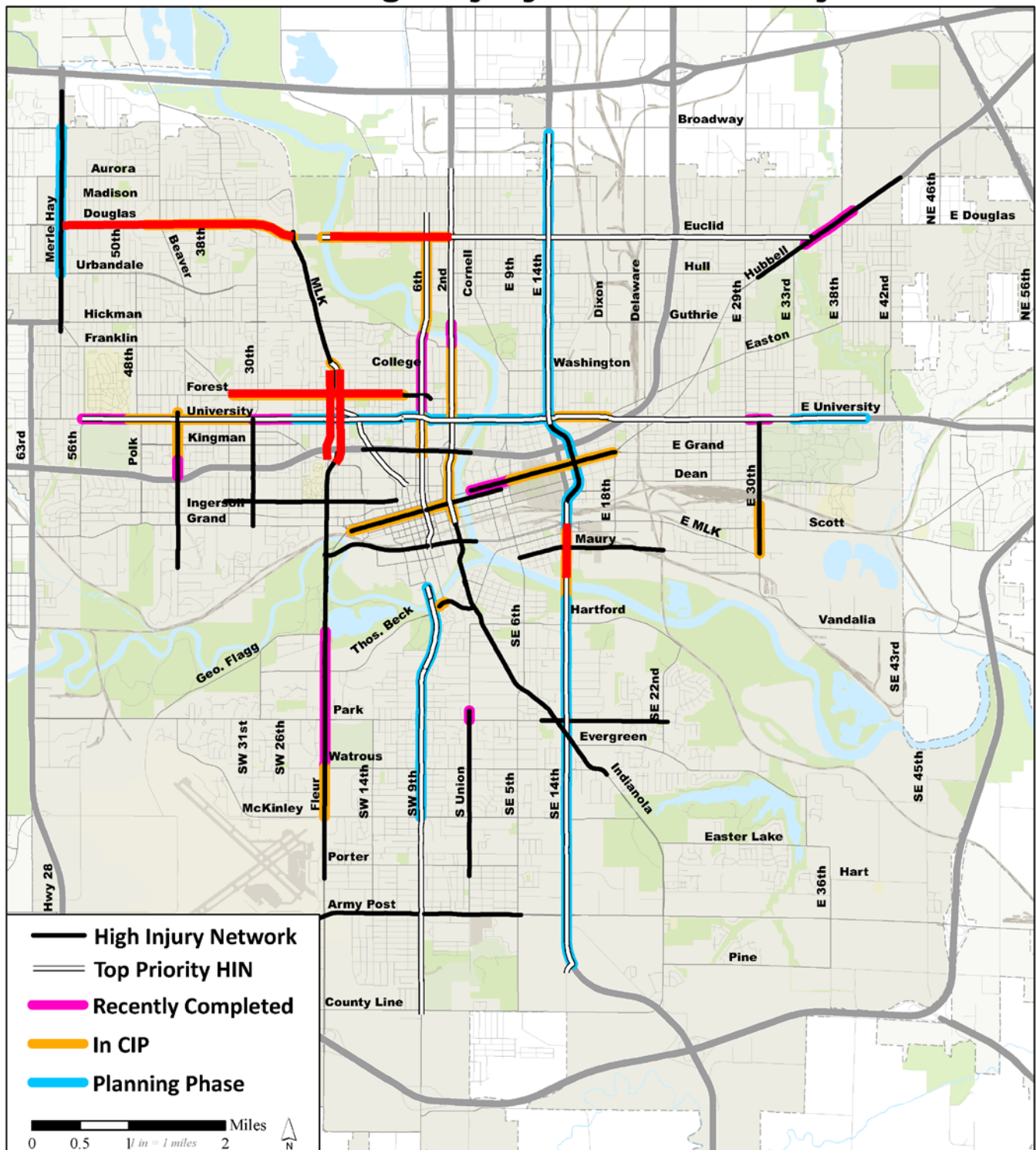
In the planning stage of each project, the City will review crashes along that corridor more in depth to understand the crash types and modes affected to determine the safety countermeasures that will be most effective eliminating future fatalities and serious injuries. The City will also review the public input from the September 2022 Social PinPoint survey map to understand people's safety concerns and ideas. Using both data points as well as other factors, the City will select safety countermeasures that most effectively mitigate fatal and serious injury crashes and address the public's safety concerns.

## Project Tracking

Throughout the Vision Zero implementation process, the City will actively track project implementation status in the Vision Zero Data Dashboard, including information like priority, project segments of longer HIN corridor, and where each project is in the implementation steps outlined above. The City has started tracking the status of projects on the HIN in the map shown in Figure 26.



## Vision Zero High Injury Network -- Projects



**Figure 26. Vision Zero Project Status Map. Source: City of Des Moines**

## Safety Countermeasure Toolbox and Instruction Guide

The *Safety Countermeasure Toolbox and Instruction Guide* developed as part of the City's Vision Zero program will help guide this process on each project. This Toolbox, including FHWA's Proven Safety Countermeasures initiative (PCSi), a collection of safety countermeasures to be used across Des Moines are shown in Figure 27 below.<sup>18</sup>



Figure 27. Proven Safety Countermeasures. Source: FHWA

<sup>18</sup> <https://highways.dot.gov/safety/proven-safety-countermeasures>

## Proactive Systemic Safety Improvements

Systemic safety improvements are those that can be done proactively in places where crashes may be likely to occur or where vulnerable road user safety should be increased. Some systemic treatments can be implemented with limited study or design efforts. FHWA encourages widespread implementation of systemic treatments that are proven effective in reducing fatalities and serious injuries; but such treatments should at least be first installed on the HIN. For Des Moines, the following safety countermeasures are recommended for proactive, systemic implementation:



Establish parking restrictions at crossing locations / daylighting citywide, but at least on the HIN first.



Install high-visibility continental crosswalk enhancements citywide, but at least on the HIN first.



Install Leading Pedestrian Intervals citywide, but at least on the HIN first.



Install retroreflective traffic signal backplates citywide, but at least on the HIN first.

Figure 28. Recommended Systemic Proactive Safety Countermeasures for Des Moines.

## Post-Construction Project Evaluation

Once each project is constructed, it should be analyzed to determine if the safety improvements are eliminating fatal and serious injury crashes. If they are working, the City will consider constructing those safety countermeasures at locations with similar conditions. If they are not working, the City may refine the design or add more safety countermeasures.

# Measures of Vision Zero Success in Des Moines

To achieve Vision Zero, it is important to prioritize street safety where need and impact are greatest until the goal of zero deaths and serious injuries on streets across Des Moines is reached by 2040. Figure 29 charts a path to reducing deaths and serious injuries annually until Vision Zero is reached. Ideally, all involved partners should be striving for less fatal and serious injuries than the chart indicates, achieving Vision Zero sooner.

## Charting a Path to Vision Zero by 2040

At least yearly, the City should track fatal and serious injury crashes compared to this chart to understand steps and projects being implemented are on track or need to be adjusted to reach the goal of Vision Zero by 2040. The path will look different than the graph below, but crashes should follow or be below this general trend over time. If the estimated number of fatal and serious injury crashes do not meet these goals, more resources and/or shifts in street safety decisions will need to be made.<sup>19</sup>

As of March 4, 2023, there have been **13 KSI** crashes so far in 2023.

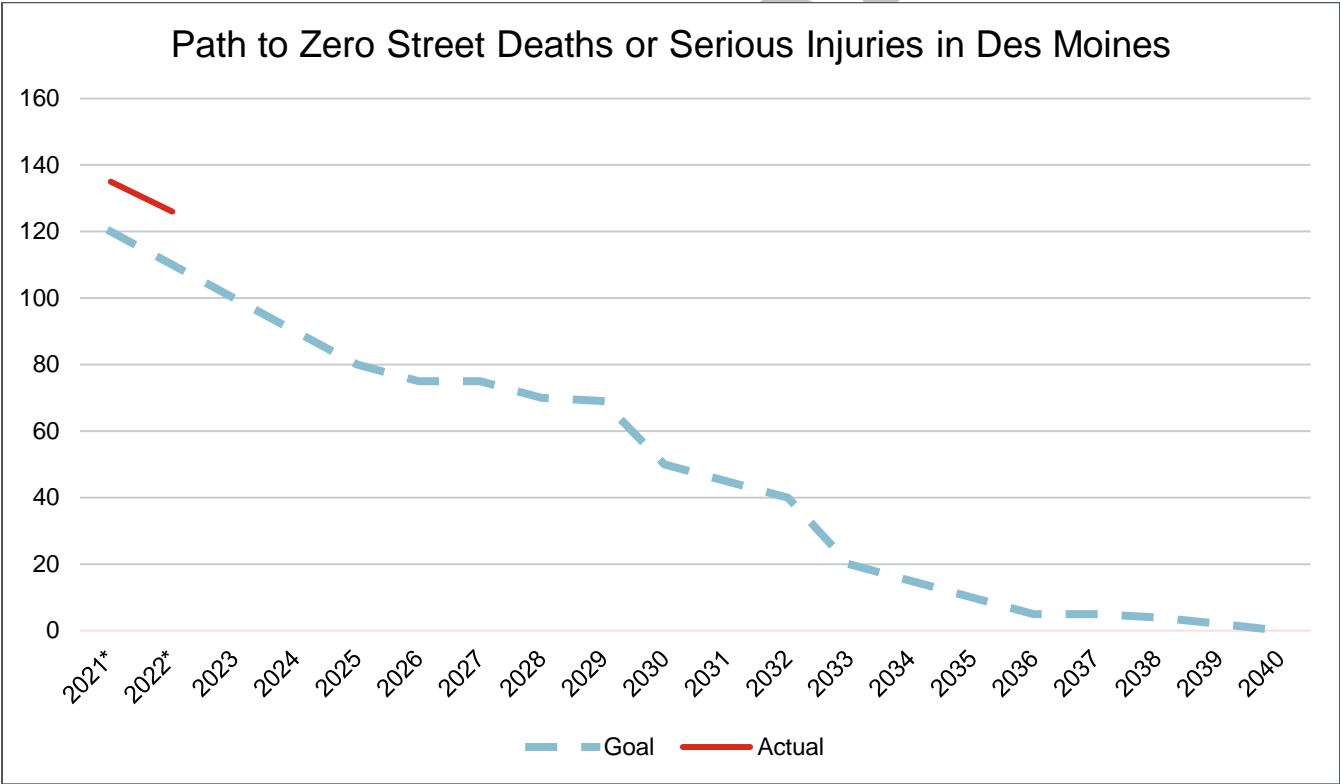


Figure 29. Path to Zero street deaths or serious injuries in Des Moines by 2040.<sup>20</sup>

<sup>19</sup> <https://icat.iowadot.gov/>

<sup>20</sup> 2021 and 2022 crash data is provisional data from ICAT and actual are based on persons injured, not number of crashes



## Primary Vision Zero Action Plan Performance Measures

In addition to charting a path to Vision Zero above, it is important to measure the following key indicators to understand if the Des Moines community is on the path to reaching Vision Zero by 2040. The following performance measures should be analyzed yearly and adjustments to the program should be outlined in the City's Vision Zero Annual Report:

- Fatal and serious injury crashes decrease annually until reaching zero by 2040
- Number of safety improvements implemented where need and impact are greatest, including on HIN corridors, in disadvantaged communities, and proactively to prevent crashes before they occur
- Number of steps fully implemented and that are working to reduce fatal and serious injury crashes
- Number of crashes by type, modes involved, and locations are decreasing citywide
- Once zero fatal and serious injury crashes are reached, measure that all crashes should decrease annually

## Performance Measures

The City of Des Moines will need to monitor the success of individual Vision Zero steps in the previous section and spreadsheet of focuses, actions, and steps. Each action in the list in the previous section includes a method for measurement to guide implementation of that action. If certain actions are not successful, are not moving fast enough, or are not working for another reason, the City should assess and adjust based on each step. However, the specific measures to each step should not reduce the focus on the ultimate performance measure of eliminating fatal and serious injuries on all streets in Des Moines by 2040. Steps completed and that are working should also be included in the City's Vision Zero Annual Report.

## Next Steps for Vision Zero in Des Moines

To carry out everything presented in this Action Plan and to successfully eliminate fatalities and serious injuries on all streets in Des Moines by 2040, we need help from everyone. We all have a personal responsibility to make the right choices and to spread the word about why street safety matters—making the City's efforts even more effective.

### What Happens First?

This Action Plan is the first step towards achieving Vision Zero in Des Moines. Immediately following the adoption of this Action Plan by City Council, the City and partners are ready to get started with a clear roadmap and next steps. These legislative actions ensure the Action Plan is integrated into the work of every department and at the highest level.

Within the year following adoption, City staff will set out to complete some key actions right out of the gate. These include applying for a United States Department of Transportation Safe Streets and Roads for All Implementation Grant, evaluating the HIN using the prioritization framework in this Action Plan, and incorporating priority projects into the City's CIP process. The City will also continue efforts to expand the bicycling and pedestrian network based on current programmed projects. Over time, bicycle and pedestrian projects will be prioritized based on the criteria in this Action Plan.

Following the first year, the City will initiate the publication of an annual report that documents the implementation status of the Vision Zero Action Plan, tracks progress toward fatality, serious injury, and overall crash reduction, summarizes the effects of safety interventions, and any adjustments to the Vision Zero program. A Vision Zero data dashboard will actively track progress towards zero street deaths and fatalities for the public to see.

### How to Get Involved

Achieving Vision Zero is a citywide effort. You have already helped this effort by making it to the last page of this plan. You can also:

- Check out the City's Vision Zero webpage to stay up to date on the latest information on the Vision Zero program in Des Moines at [dsm.city/visionzero](https://dsm.city/visionzero).
- Tell your friends, community organizations you are involved with, and family, about the Vision Zero Action Plan. Des Moines will only reach zero street deaths and serious injuries by 2040 if everyone is committed to Vision Zero, so please help the City get the word out!

Achieving safer streets in Des Moines is everyone's responsibility. The City of Des Moines is committed to carrying out the ambitious actions and projects laid out in this Action Plan to achieve safe streets. We look forward to working with all of you to reach our shared goal of Vision Zero.