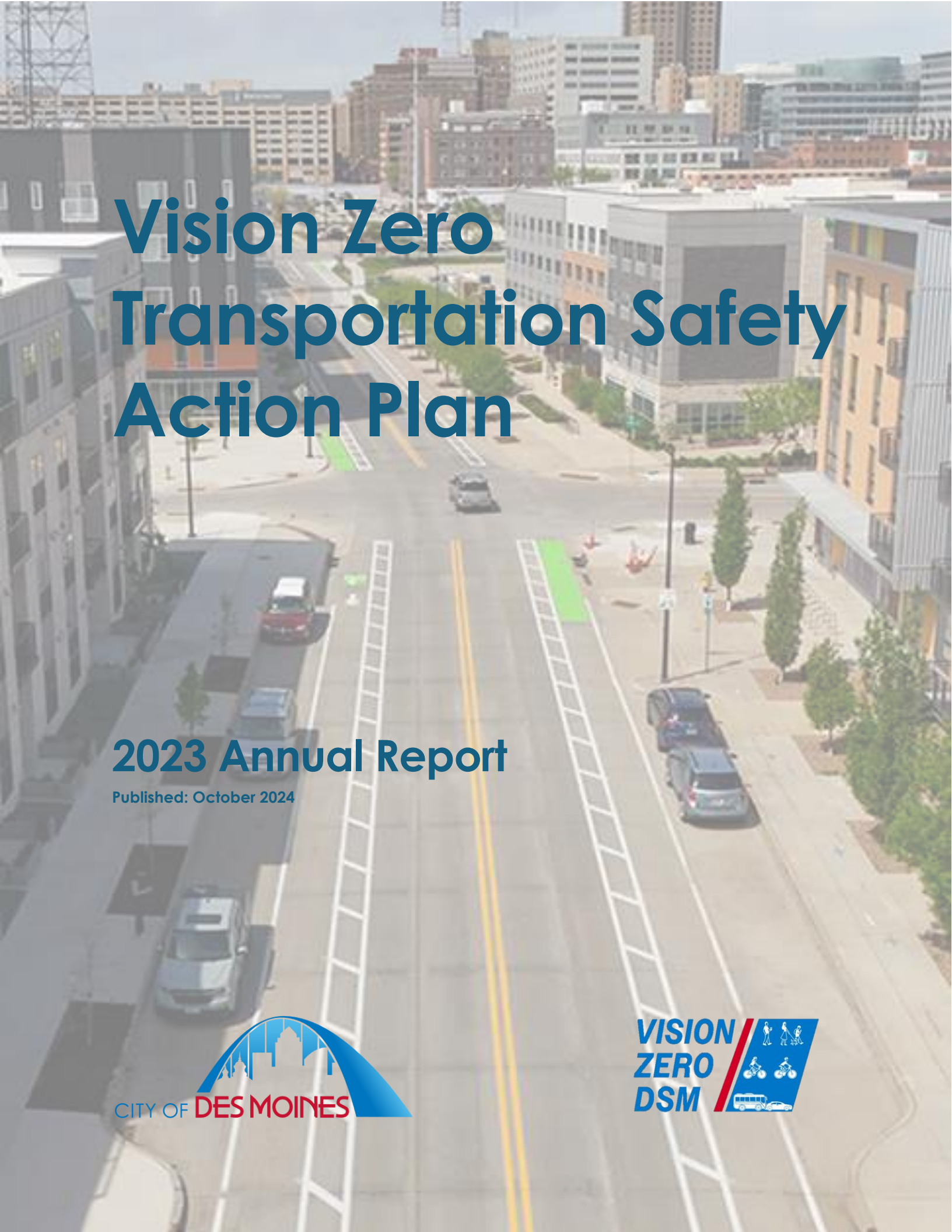


Vision Zero Transportation Safety Action Plan

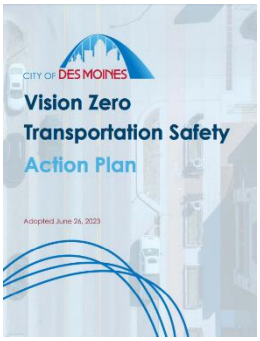
2023 Annual Report

Published: October 2024

CITY OF DES MOINES

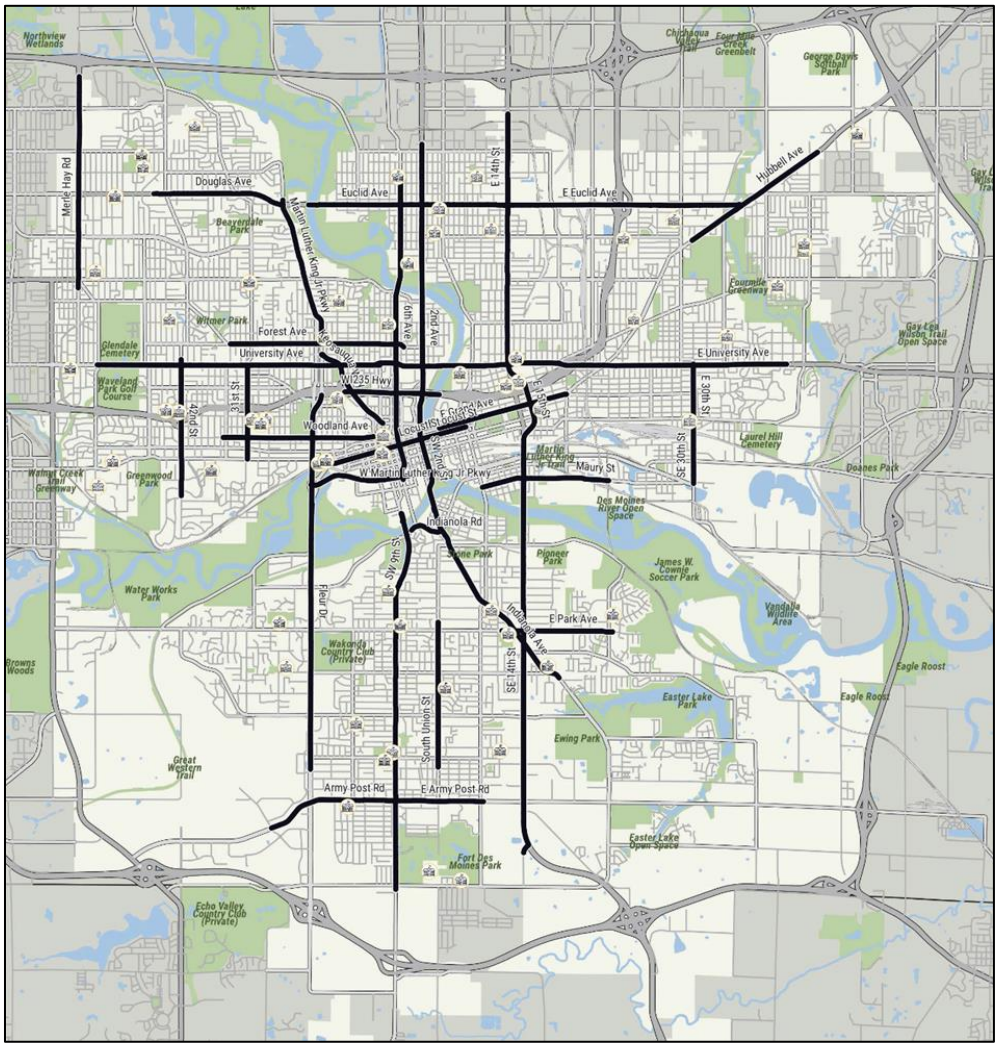
VISION ZERO DSM

Introduction



Vision Zero DSM is the City of Des Moines' initiative to eliminate traffic deaths and serious injuries on our streets. Vision Zero starts with the ethical belief that everyone has the right to move safely in their communities and that system designers and policymakers share the responsibility to ensure safe systems for travel. The Vision Zero approach recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. The City of Des Moines' Vision Zero Transportation Safety Action Plan was adopted in June 2023. The plan set forth a set of actions to eliminate traffic deaths and serious injuries by 2040.

This report will summarize the implementation status of the Vision Zero Action Plan, track progress of fatal and serious injury crash reduction, summarize the effects of safety interventions, and detail adjustments to the Vision Zero Program.



Overall High Injury Network

Progress on Implementation of Vision Zero Action Plan

There are five Focus Areas, 19 Actions, and 70 Action Steps in Vision Zero Transportation Safety Action Plan. Below is a summary status of the action steps as of March 2024:

Details on each action step are available here: https://www.dsm.city/departments/engineering_-_division/vision_zero/index.php

Several key action steps were completed in 2023. Action 1.1 – Establish a Vision Zero program saw the adoption of the Vision Zero plan and a commitment to the target year of 2040. This action also includes several key steps such as branding and the creation of the Vision Zero (technical) advisory group (VZAG).

City staff has also been part of the Des Moines Area Metropolitan Planning Organization's (DMAMPO) Vision Zero initiative. A region wide Comprehensive Safety Action Plan is expected to be completed by the end of 2024.

The City applied for Safe Streets and Roads for All (SS4A) implementation grants each year since the Vision Zero Transportation Action Plan was adopted. The first grant submittal, in 2023 was unsuccessful. However, the City was awarded a $13 million implementation grant in 2024. More information on this grant and its impacts will be included in the 2024 Annual Report.

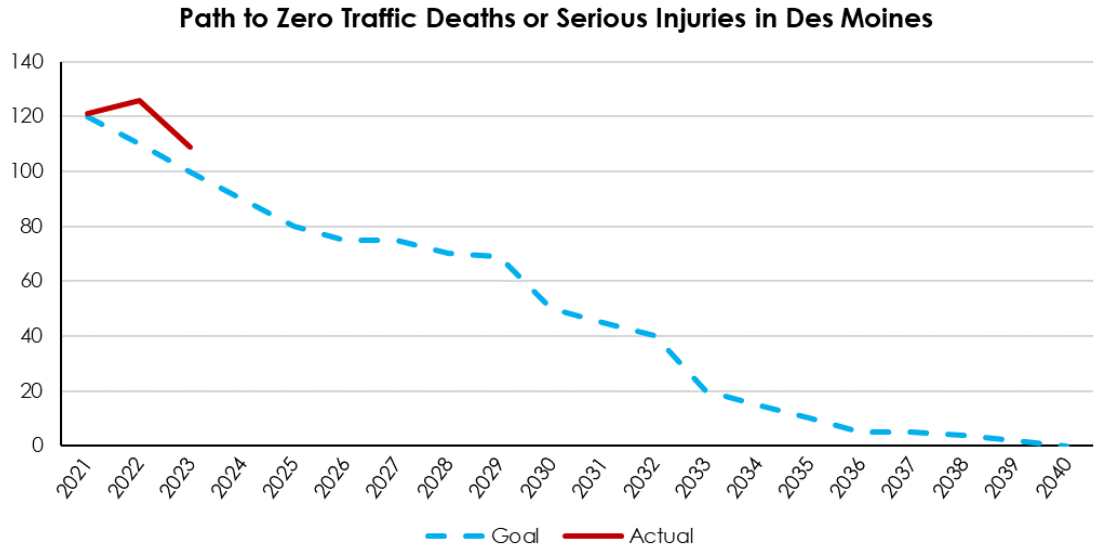
While the award of the SS4A implementation grant allows the City to start work on several safety projects, City funding for the Vision Zero initiative continues to be a barrier to improving safety and reducing traffic deaths and serious injuries. Funding was not allocated for any of the Vision Zero initiatives requested in last year's budget cycle including establishing a permanent and dedicated Vision Zero funding source, increasing funding for long-term maintenance of street improvements (signs, markings, etc.), and a speed management study. Without a substantial shift in City funding focused on the implementation and maintenance of safety projects, the goal of eliminating traffic deaths and serious injuries by 2040 is not achievable.

Three action steps were moved to future years for various reasons. Additionally, one action step was removed from the plan. Below is a summary of those action steps and why they were adjusted to future years:

- **1.2.1: Incorporate the Action Plan by reference as an element in the City's PlanDSM and MoveDSM** – There is currently not an update to these planning documents programed. This step will be completed with future updates of these documents.
- **2.1.6: Incorporate Safe Streets Approach practices and Visions Zero principles to all projects in all locations as they arise in CIP, identified for MPO Surface Transportation Block Grant (STBG) funds, and other funding sources** – this action step will be requested in 2024 to be included in future budget cycles.
- **3.2.2: Install more automated street safety cameras on HIN corridors and near schools** – State legislation, enacted July 1, 2024, for speed enforcement cameras has delayed new camera installations within the City and postponed the City's mobile camera enforcement program until the Iowa DOT can develop the approval process required by the legislation. The Engineering Department will work with the Police Department on potential camera locations in the future.
- **4.3.3: Create insurance incentives programs for safe drivers and required trainings for those involved in crashes and/or receive multiple tickets** – The City of Des Moines does not set insurance rates and cannot require classes or provide incentive programs. Therefore, this action step will be removed from the action plan moving forward.

Crash Data and Path to Zero

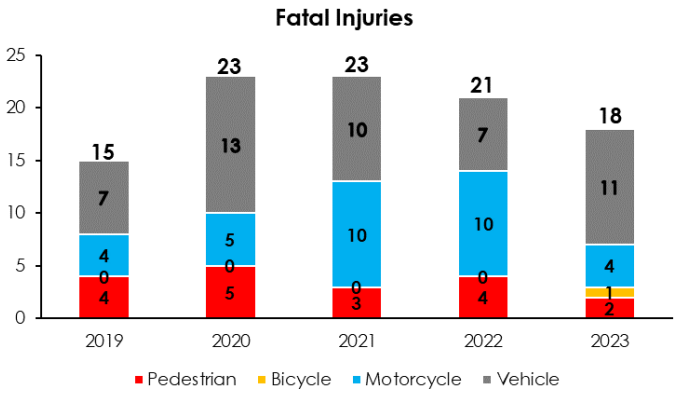
Below is an update of the City of Des Moines' Path to Zero Traffic Deaths and Serious Injuries.

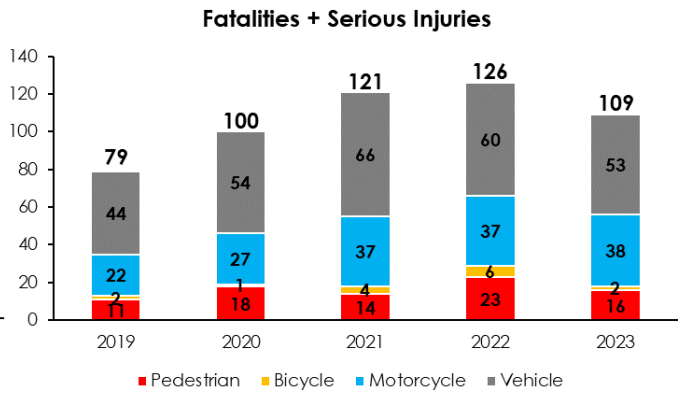


MoveDSM analyzed data from a five-year window from 2012 to 2016. The benchmark established was an average of 156 people killed or seriously injured each year. Recent years have seen lower totals. Those killed or seriously injured (KSI) rose in 2019-2021but decreased in 2022-2023. In 2023, there were 17 fatal crashes resulting in 18 fatalities Vehicle crashes represent more than 95% of all crashes. However, while only 2% of all crashes involved a pedestrian or bicyclist, 19% of those killed or seriously injured in 2023, were people walking or biking.

Nine of the fatal crashes were speed related. Ten crashes involved drivers under the influence of drugs (seven) or alcohol (three). Below is a summary of the vulnerable road user fatalities in 2023. Note that motorcycles are not considered vulnerable road users by the Iowa DOT but were included as a separate category as part of Des Moines' Vision Zero Transportation Safety Action Plan.

- Two pedestrian fatalities – both walked into traffic on a state highway
- One bicycle fatality – struck by a vehicle that failed to stop at a stop sign
- Four motorcycle fatalities:
    - One struck by an object dropped from a pickup truck
    - One was speed-related
    - One in a multi-vehicle crash involving a disabled vehicle
    - One struck by a vehicle that failed to stop at a stop sign





Some additional crash trends related to all crashes in 2023 in the City of Des Moines (not just KSI crashes) are:

- Bicycle crashes have remained level for three years
- Motorcycle crashes are trending higher
- Vehicle crashes are trending lower, down 10% over five years
- 12 of 18 fatalities within the City limits occurred on state highways or the federal interstate system

An increase in the number of fatalities involving younger and older drivers occurred in 2023. Future monitoring will be necessary to determine if this indicates an emerging pattern or trend.

Engineering and road design play an important part in reducing KSI crashes. However, data shows behavioral choices are the root cause of many of the crashes listed above. As Des Moines works to eliminate fatal and serious injury crashes on all streets by 2040, it will take effort and cooperation from all sectors to reach this ambitious goal.

According to a report by the National Complete Streets Coalition and Smart Growth America, The Des Moines metro is ranked as the 5th safest for pedestrians out of America's 101 largest metropolitan areas. approximately one person per 100,000 people dies each year walking in the Des Moines Metropolitan Area. However, 2018-2022 saw a 6% increase in pedestrian fatalities over 2013-2017. While this data is encouraging, more work is needed to reach the goal of eliminating traffic deaths and serious injuries by 2040.

Safety Intervention Highlights

Although many of the following projects listed below were planned and constructed prior to the adoption of the Vision Zero Action Plan, they reflect how the goals of Vision Zero can be implemented into a variety of projects.

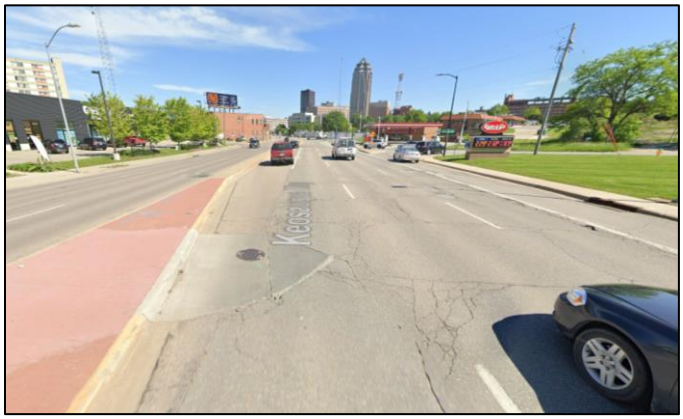
Traffic Signal Backplates with Retroreflective Borders (Action 2.1, Step 4): New traffic signal backplates with yellow retroreflective borders were added to traffic signals at 5 locations: 19th Street & Forest Avenue, 19th Street & University Avenue, 19th Street and I-235N, MLK Jr. Parkway and I-235S, and 7th Street and I-235S. Reflective backplate borders are a treatment where yellow reflective tape is added around the traffic signal head. Signal heads that have backplates with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions. This improvement is an FHWA Proven Safety Countermeasure with an expected 15% reduction in total crashes.

The initial locations were chosen due to a history of red-light running crashes. This treatment will be a standard for all signal projects in the future.

Retroreflective backplates at 19th Street and Forest Avenue

Keosauqua Way and Crocker Street Turn Restrictions and Pedestrian Crossing Improvements (Action 2.1, Step 4, Action 2.2, Step 2): Keosauqua Way is currently a seven-lane arterial street entering downtown Des Moines from the north. Near Crocker Street there are several convenience stores and restaurants but limited designated pedestrian crossing locations. Additionally, there has historically been a high number of crashes involving Crocker Street traffic trying to make a left turn or through movement onto Keosauqua Way.

As part of this project, left turns and through movements were restricted with a median extension at the intersection. This improvement also allowed for a Pedestrian Hybrid Beacon (PHB)crossing at the intersection. This work was completed in 2021. A before and after study was conducted in early 2024. In the five years prior to construction (2015-2019) there were over seven crashes per year at this intersection with five minor injury crashes. In the two years (2022-2023) since the completion of the project, there as only been a total of four crashes (two/year) with no injuries reported. Additional improvements on Keosauqua Way to reduce the number of travel lanes and vehicle speeds are planned for 2025 as well as a potential future traffic study to identify additional potential safety improvements.



BEFORE

AFTER

Western Ingersoll Sewer Separation Phases 1-3 (*Action 2.2, Step 1)*: This project included critical sanitary sewer infrastructure. It also included raised protected bike lane on Ingersoll Avenue from 35th Street to 41st Street (north) and uphill conventional bike lane/downhill sharrows on 35th Street from Ingersoll Avenue to University Avenue.

University Avenue Rehabilitation from 31st Street to 39th Street (Action 2.2, Step 1, Action 2.2. Step 2): This project included a five-lane to three-lane conversion, buffered bike lanes and passive pedestrian crosswalk with median refuge at 35th Street.

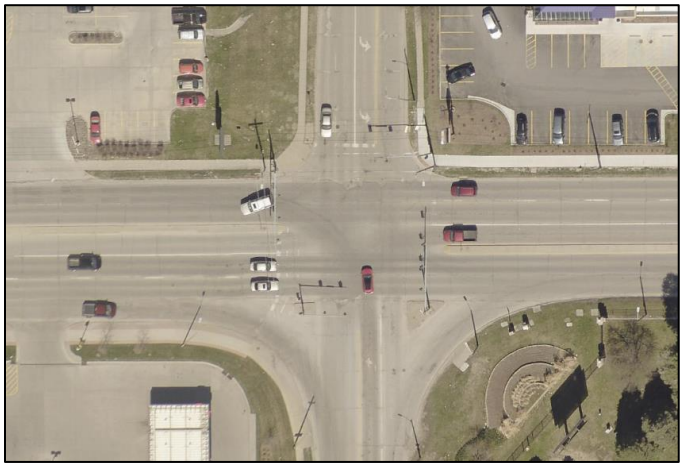
2nd Avenue Bridge over the Des Moines River (Action 2.2. Step 2): This rehabilitation project included space reallocation to accommodate an 11' trail on the east side, connecting the Neal Smith and the (future) Central Place Levee Trails.

BEFORE

AFTER

E 30th Street and University Avenue Intersection Improvements (Action 2.1, Step 4, Action 2.2, Step 2): This intersection was ranked 12th overall on the Iowa DOT's Statewide Improvement Candidate List (SICL) in 2020. This ranking system preceded the DOT's Potential for Crash Reduction (PCR) which now ranks all the intersections in the state based on safety. The leading manners of crash at this intersection were rear-end and angle/broadside crashes from the left turn lanes. The left turn included a median between the turn lane and through lane which created poor sight lines to oncoming traffic. Right turn lanes on the south leg of the intersection were channelized which allowed for high speed, sweeping right turns. Additionally, there were insufficient pedestrian accommodations at the intersection as well as traffic signal poles on medians within the intersection. This project received $500,000 in Transportation Safety Improvement Program (TSIP) funding from the Iowa DOT in 2020.

This project included modifying the medians and creating positive offset for the left turns, which provides better sight lines for turning traffic. The channelizing islands were removed, and the curb radii were tightened to slow vehicle turning speeds. Additionally, the signal was rebuilt, the timings were updated, and the pedestrian crossings were shortened and the ramps improved. The construction of this project was completed in 2022. In the five-years prior to the construction (2017-2021) there were 81 crashes (16/year) at this intersection including five serious injuries. In 2023, all crashes were reduced by 63%.



BEFORE

AFTER

5th Avenue (Cherry Street to Grand Avenue) & Grand Avenue (2nd Avenue to 5th Avenue) One-Way to Two-Way Conversion (Action 2.2, Step 1): Along with the one-way to two-way conversion, this project included curb bumpouts to narrow pedestrian crossings, sidewalk improvements, improved bus stops, and buffered bike lanes to connect existing bike lanes on 5th Avenue and Grand Avenue.

BEFORE

AFTER

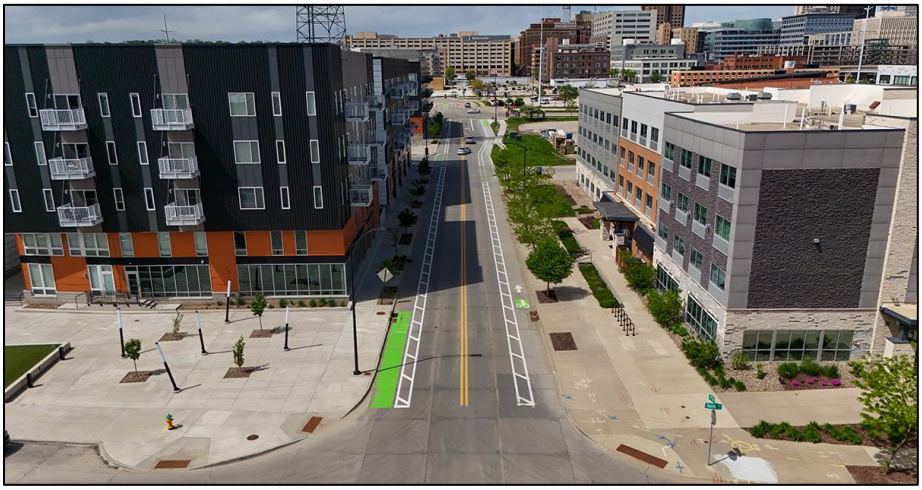
Ingersoll Avenue from 14th Street to Martin Luther King Jr. Parkway (Action 2.2, Step 1): Five-lane to three-lane conversion of Ingersoll Avenue from 14th Street to ML King Jr Parkway, introducing parking to both sides of an evolving commercial and entertainment corridor, and creating buffered bike lanes.

Guthrie Avenue Sidepath from E 21st Street to Hubbell Avenue (including I-235 interchange) (Action 2.2, Step 1, Action 2.2. Step 2): Prior to this project, Guthrie Avenue had no sidewalk accommodations on the south side of the roadway. This project created a safe mobility option in an underserved area. Future plans for this corridor include rehabilitation of the existing railroad viaduct to the west, which includes a 10' shared use path as well as another project to extend the sidepath to Glenbrook Drive (0.75 miles).

BEFORE

AFTER

SW 11th Street Complete Streets Project (Action 2.2, Step 1): This project included a three-lane to two-lane conversion of SW 11th Street from W ML King Jr Parkway to DART Way, adding buffered bike lanes. This bikeway fills a critical gap in the bike network and connects existing facilities on SW 12th Street north of W ML King Jr Parkway, the existing sidepath on the south side of W ML King Jr Parkway, a cycle track on Tuttle Street and a cycle track on Grays Parkway.



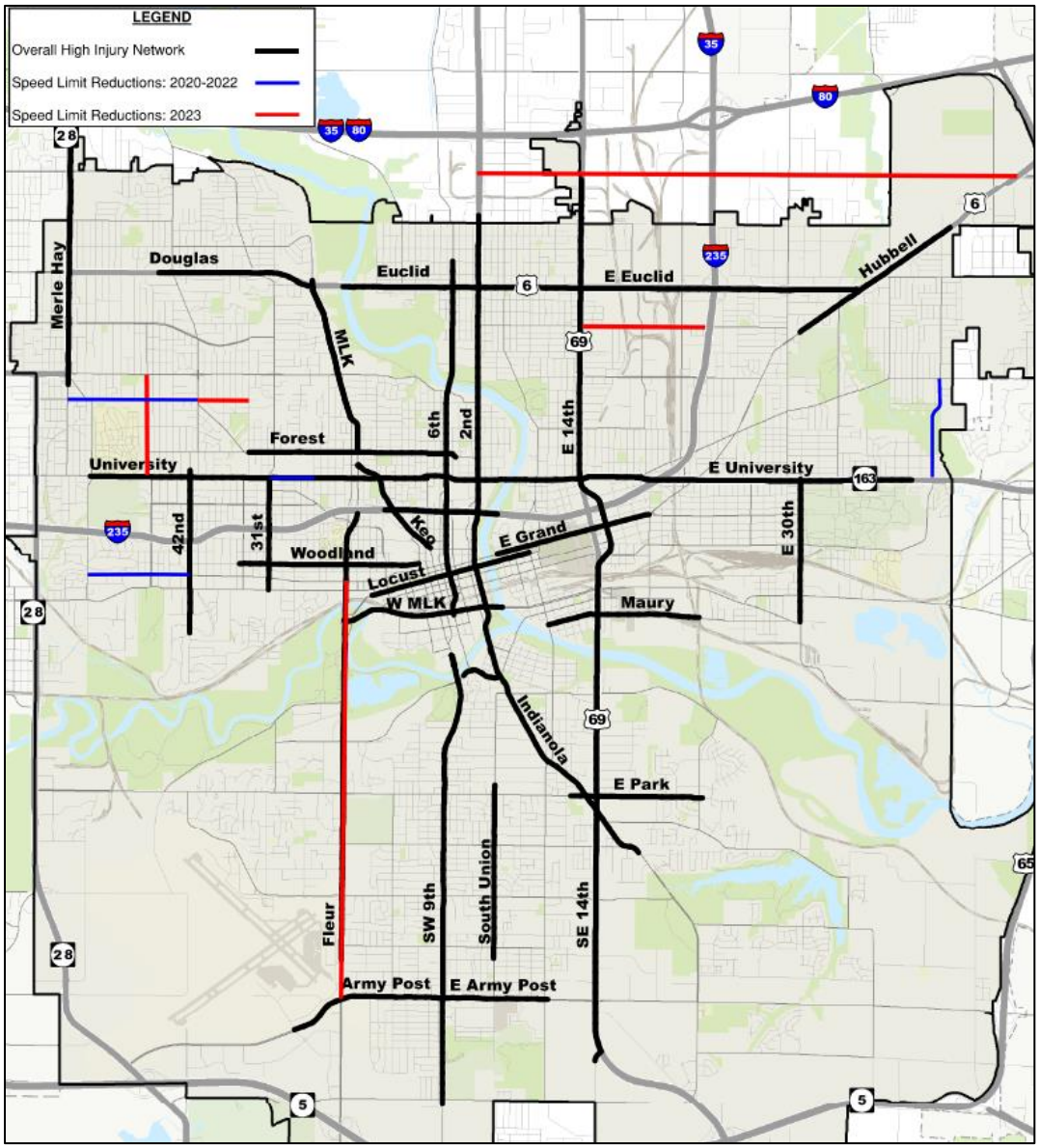
SW 11th Street looking north near Tuttle Street

Sidewalk Gaps (Action 2.2, Step 2): MoveDSM, the City's Transportation Master Plan, identified 180 miles of "Priority 1" sidewalk gaps. These gaps in the sidewalk network were prioritized based on proximity to schools, bus stops, commercial nodes, and connectivity. In 2023, 11.22 miles of "Priority 1" sidewalk gaps were filled.

Speed Limit Reductions (Action 3.1): The City currently does not have funding for a city-wide speed management program: however, speed limits are evaluated as part of the design process for planned roadway projects. The City evaluates speed limits using three, context sensitive, speed analysis tools:

Credible Urban Speed Zone Model, USLIMITS2, and NCHRP 17-76: Guidance for the Setting of Speed Limits. Credible speed limit analysis resulted in reduced speed limits on the following streets:

- Hull Avenue from E 14th Street to Delaware Avenue (30 mph to 25 mph)
- Franklin Avenue from 34th Street to Beaver Avenue (30 mph to 25 mph)
- E Broadway Avenue from the West City Limits to Hubbell Avenue (45 mph to 35 mph)
- Fleur Drive from Army Post Road to Martin Luther King Jr. Parkway (40 mph to 35 mph)
- Martin Luther King Jr. Parkway from Fleur Drive to Ingersoll Avenue (40 mph to 35 mph)
- 48th Street from University Avenue to Hickman Road (30 mph to 25 mph)



Speed Limit Reductions Overview

Summary

While engineering-based measures and road design are important in reducing KSI crashes, data shows behavioral choices are the root cause of many crashes. Without dedicated funding, the elimination of traffic deaths and serious injuries will likely not be realized by 2040. It will take effort and cooperation from all sectors to reach this ambitious goal.