East Central Iowa Transportation Safety Plan

A PLAN FOR 58 CITIES THE DUBUQUE IOWA-ILLINOIS METROPOLITAN AREA AND THE COUNTIES OF CLINTON, DELAWARE, DUBUQUE, AND JACKSON

Plan Outline - Main Plan Document

1) Leadership Commitment
2) Introduction
3) Planning Process
4) Goal Setting
5) Engagement
6) Key Issues

6) Analysis
   a) Areawide Analysis
   b) City Segment Analysis Summary
   c) City Intersection Analysis Summary
   d) Vulnerable Road User Analysis Summary
   e) Road Reconfiguration Analysis Summary
7) Implementation
   a) Implementation Strategies
   b) Countermeasures
   c) Funding Sources

Leadership Commitment and Goal Setting

Required element for SS4A Comprehensive Safety Action Plans

The plan needs to have BOTH of the following:

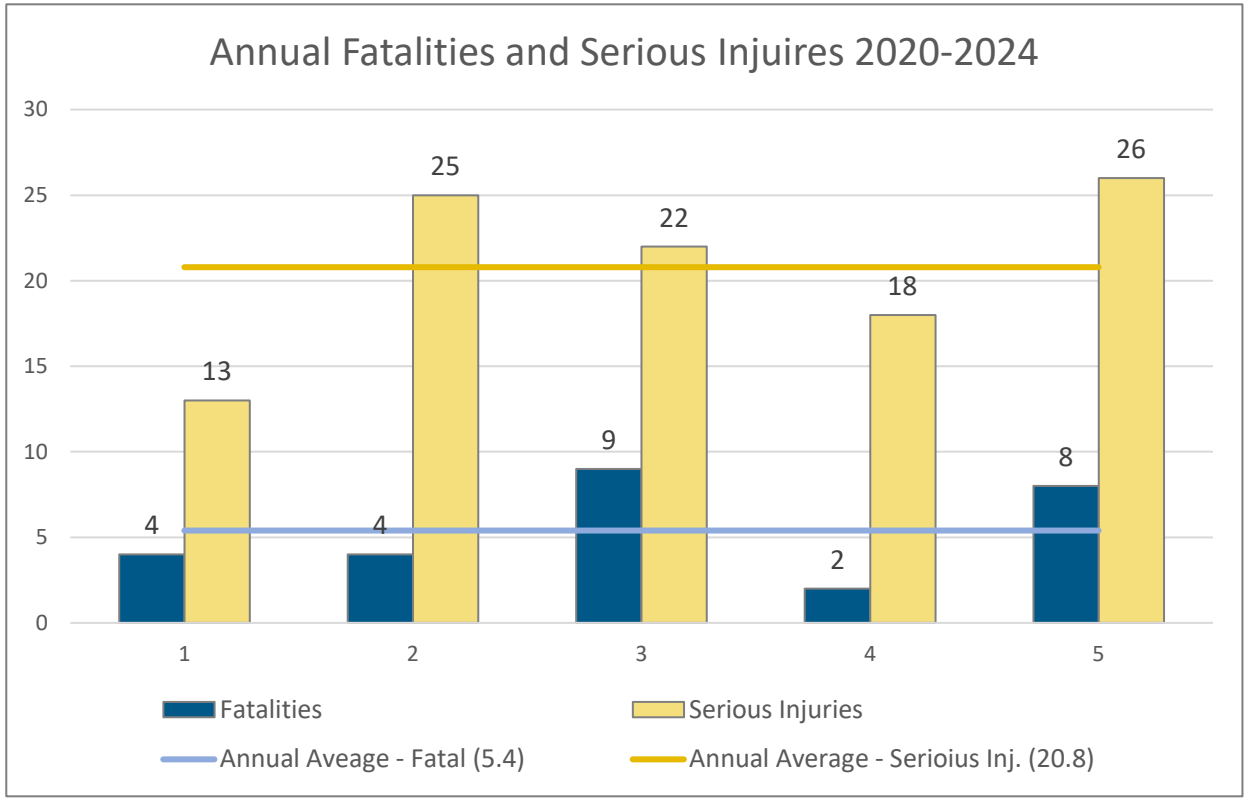
- A high-ranking official and/or governing body in the jurisdiction publicly committed to an eventual goal of zero roadway fatalities and serious injuries; and
- The commitment includes either setting a target date to reach zero OR setting one or more targets to achieve a reduction in roadway fatalities and serious injuries by a specific date.

For our plan, the DMATS and RPA Board chairpersons will be the “high ranking officials.”

Goal Setting

The goal of the plan is a 50% reduction in roadway fatalities and serious injuries by 2050.

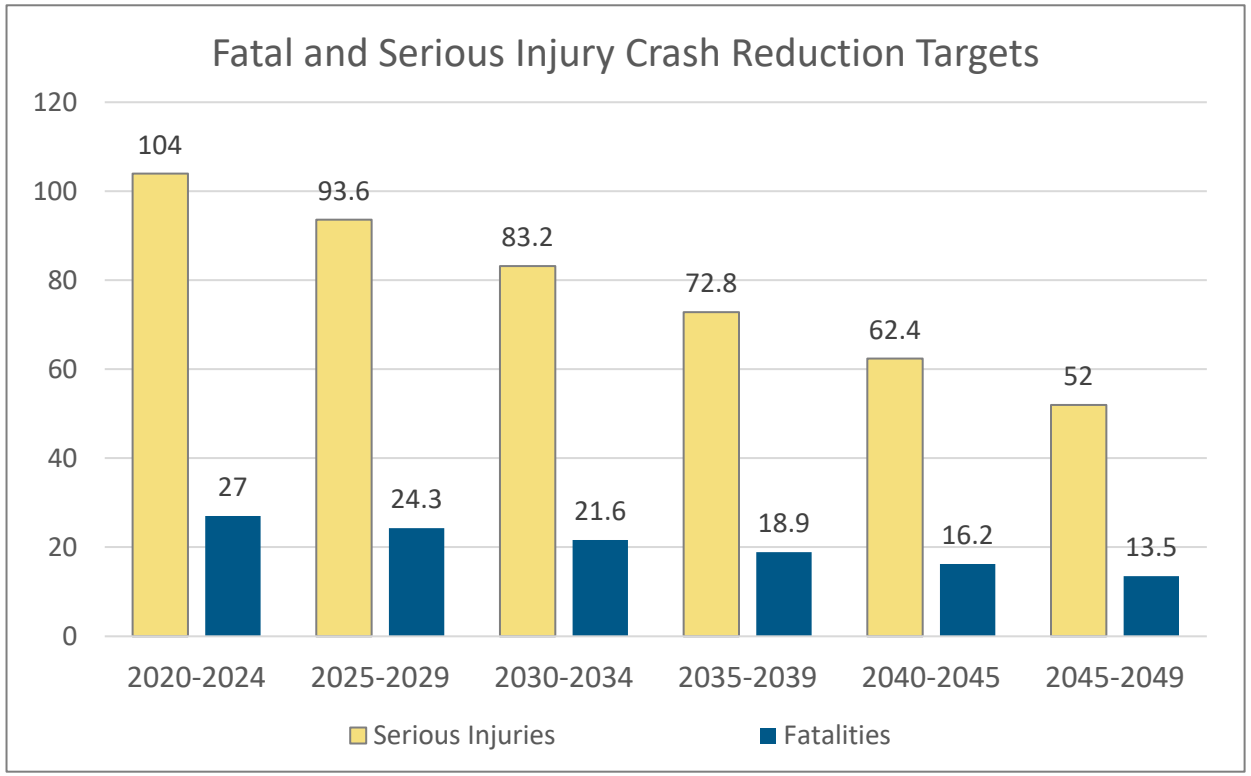
Baseline period 2020-2024



Fatal and Serious Injury Crash Reduction Targets

50% Reduction

- Annual Average
  - Serious Injures 20.8 > 10.4
  - Fatalities 5.4 > 2.7
- Five Year Period
  - Serious Injuries 104 > 52
  - Fatalities 27 > 13.5



Key Issues – Key Emphasis Areas

- Identifying key issues ensures that efforts and resources are focused on the most critical safety issues.
- The plan will incorporate the Iowa DOT's 2024–2028 Strategic Highway Safety Plan (SHSP) Emphasis Areas to support the shared state and regional goal of eliminating roadway fatalities and serious injuries.

Safer People

- Bicyclists
- Distracted Driving
- Occupant Protection
- Older Drivers
- Pedestrians
- Impairment Involved
- Younger Drivers

Safer Roads

- Intersections
- Lane Departures
- Local Roads
- Roadside Collisions
- Winter Road Conditions
- Work Zones

Safer Vehicles

- Heavy Trucks
- Other Special Vehicles
- Motorcycles
- Trains

Safer Speeds

- Speed-Related

Key Issues – Local Safety Priorities

The plan will also include locally identified emphasis areas developed through the planning process

- Excessive Speed
- Walking and Biking
- Reckless / Careless Driving
- Hidden High-Risk Areas
- Funding
- Public Transit and Taxi Service
- Arterial and Collector Roads and Intersections
- ATV and UTV Safety

Implementation Strategies

1. High-Injury Network Safety Projects

2. Systemic Safety Treatments

3. Policy and Program Implementation

Countermeasures

- Countermeasures are strategies that can be implemented to reduce risks from roadway hazards.
- The plan will list a wide range of countermeasures designed to address a wide range of safety issues
- Locations and roadway segments identified through the crash analysis will be matched with appropriate countermeasures based on the nature of crash history at each location.
- Countermeasures can also be applied systemically across the region to address dispersed crash patterns with proactive solutions.
- **Example**: Install Pennants or Flashing Beacons
- This strategy, which can be used in conjunction with warning signs or stop signs, involves the installation of metal pennants or flashing beacons to increase conspicuity and driver awareness or the approaching condition. A general cost range for metal pennants is $50 to $100 for each pennant and mounting hardware, while beacons are $500 to $1,700.

Plan Outline – Appendices

Appendix A – DMATS City Reports

1) City Reports
    a) City overview
    b) Key Projects and Initiatives
    c) Segment Site Plans
    d) Intersection Site Plans
    e) Vulnerable Road User Site Plans
    f) Road Reconfiguration Plans

Appendix B - RPA Cities

1) City Reports
    a) City overview
    b) Key Projects and Initiatives
    c) Segment Site Plans
    d) Intersection Site Plans
    e) Vulnerable Road User Site Plans
    f) Road Reconfiguration Plans

Appendix C - Community Engagement Results

1) General Survey Results
2) Map Survey Results
3) Public Input Materials
4) Public Input Events
5) Comment Follow Up

Appendix D – Resolutions

1) DMATS Resolution
2) RPA Resolution

Appendix E – Iowa and Illinois KABCO Definitions

Network Screening

- **PCR**
- **VRU**
- **Road Reconfiguration**

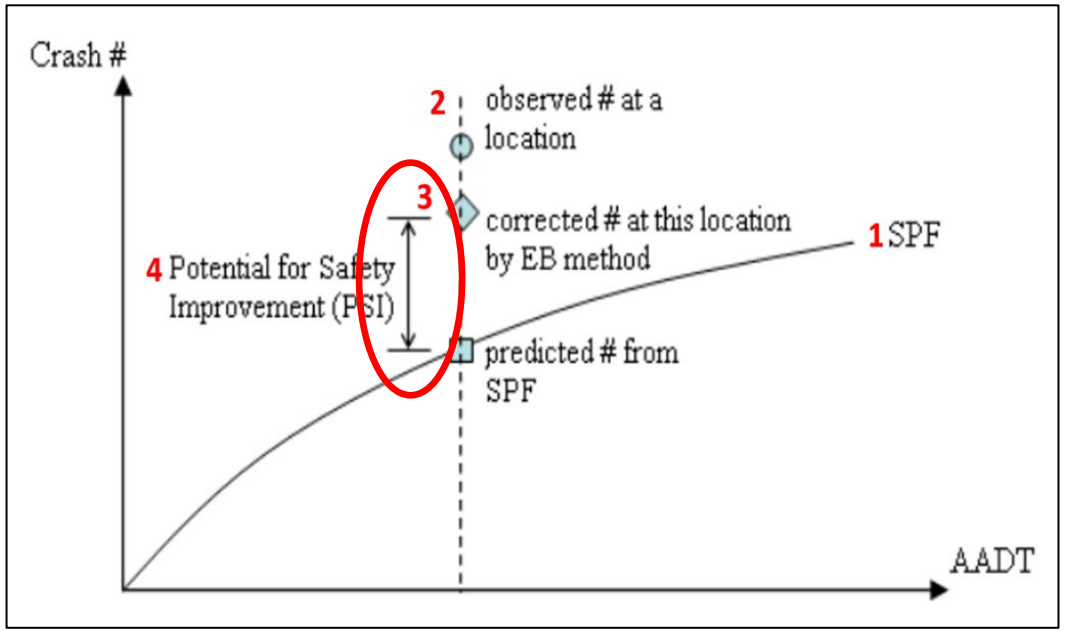
Site Evaluation

Agency Review

Safety Analysis

Network Screening: Potential for Crash Reduction (PCR)

Potential for Crash Reduction



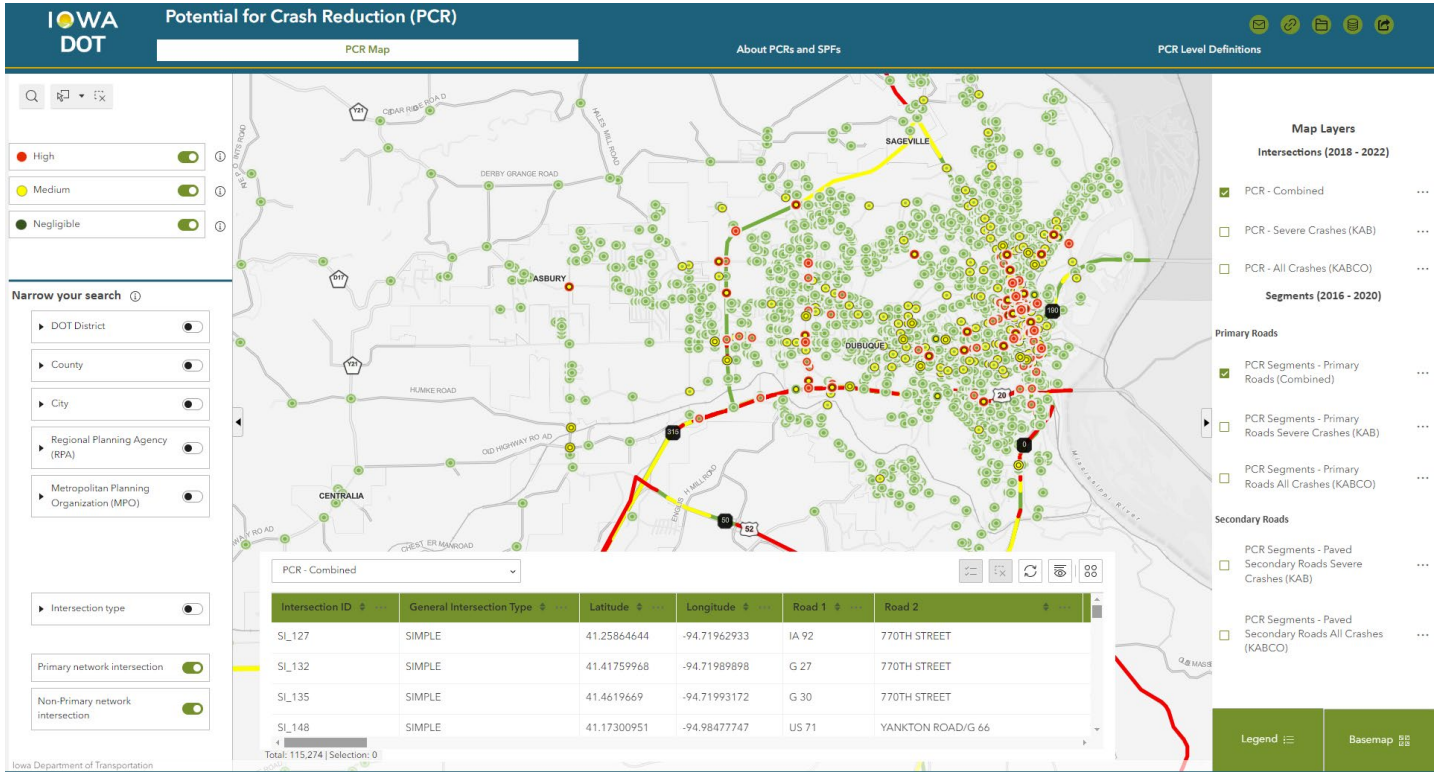
Difference between:
Predicted crashes and expected crashes

Based on:
- **Observed crashes**
- **Similar locations**
- **Traffic**

Paved Intersections: 2018 – 2022

Paved Road Segments: 2019 – 2023

Crash Severities
- **Fatal, Major Injury, Minor Injury (KAB)**
- **All (KABCO)**



Network Screening: PCR

Considered 57 cities.

High Injury Network (KAB Annual PCR)

Intersections

- High: ≥ 0.25
- Medium: ≥ 0.05 and < 0.25

Segments

- ≥ 0.5

High Crash Network (KABCO Annual PCR)

Intersections*

- High: ≥ 1
- Medium: ≥ 0.2 and < 1

Segments

- ≥ 1

* Dubuque: >5 KABCO crashes, >1 KAB (5 years)

IOWA DOT

Potential for Crash Reduction (PCR)

PCR Map | About PCRs and SPFs | PCR Level Definitions

Example: Recently Treated Site

- High
- Medium
- Negligible

Narrow your search

- DOT District
- County
- City
- Regional Planning Agency (RPA)
- Metropolitan Planning Organization (MPO)
- Intersection type
- Primary network intersection
- Non-Primary network intersection

Intersection: ASBURY ROAD and SEIPPEL ROAD

Zoom to

PCR Value All Crashes (KABCO): 1.707839 crash/year for all crashes
PCR Value Severe Crashes (KAB): 0.107166 crash/year for severe crashes

Category Ranking
Undivided, Low Speed, Partial Stop Control

KABCO 123 out of 50690
KAB 124 out of 50690

PCR - Combined

Intersection ID	General Intersection Type	Latitude			
SI_127	SIMPLE	41.25864644			
SI_132	SIMPLE	41.41759968	-94.71989898	G 27	770TH STREET
SI_135	SIMPLE	41.4619669	-94.71993172	G 30	770TH STREET
SI_148	SIMPLE	41.17300951	-94.98477747	US 71	YANKTON ROAD/G 66

Total: 115,274 | Selection: 1

Map Layers

Intersections (2018 - 2022)

- PCR - Combined
- PCR - Severe Crashes (KAB)
- PCR - All Crashes (KABCO)

Segments (2016 - 2020)

Primary Roads

- PCR Segments - Primary Roads (Combined)
- PCR Segments - Primary Roads Severe Crashes (KAB)
- PCR Segments - Primary Roads All Crashes (KABCO)

Secondary Roads

- PCR Segments - Paved Secondary Roads Severe Crashes (KAB)
- PCR Segments - Paved Secondary Roads All Crashes (KABCO)

Legend | Basemap

Esri, USDA FSA | Iowa Department of Transportation

Site Evaluation

Loras Blvd and Alta Vista St

- High Crash Network
  - KABCO PCR = 1.47
- 15 crashes (2018-2022)
  - 3 KAB
  - 12 CO
- Predominant crash types
  - Rear-end
  - Broadside
  - Non collision

Site Evaluation

Observations

- No pedestrian warning signs
- Driver attentiveness may be an issue
- Rear end crashes suggest unexpected stopping/slowed vehicles
- Steep upgrade/downgrade on Loras

Countermeasures

- Install ped. signage and crosswalks
- Pennants or beacons on Stop signs
- Provide pvt. marking messages
- Install RRFB
- Convert to All Way Stop

Network Screening: VRU

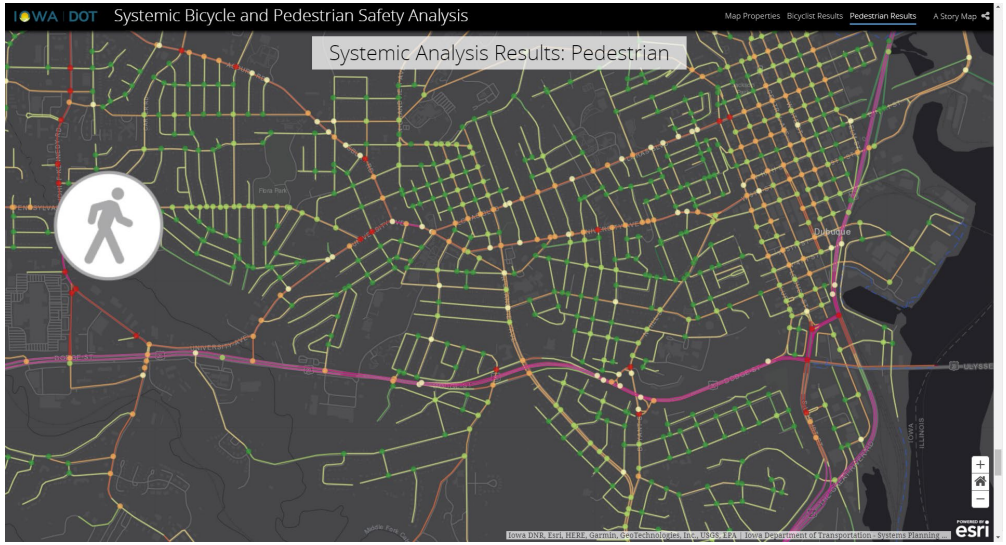
Network Screening: VRU

Considered 57 cities.

Criteria

- Fatal crash
- High urban intersection composite risk – pedestrians
- High urban intersection composite risk – bicyclists
- High urban segment composite risk – pedestrians
- High urban segment composite risk – bicyclists
- Part of crash grouping (ten-year analysis period)
- Part of crash grouping (five-year analysis period)
- Proximity to public school – 0.25 miles
- Proximity to public school – 0.5 miles
- Proximity to private school – 0.25 miles
- Proximity to private school – 0.5 miles

- Agency feedback
- Other observations



Site Evaluation

Crash History

- Frequency, severity
- VRU types, ages
- Spatial proximity
- Characteristics
- Contributing circumstances

Location Characteristics

- Site, corridor
- Land use
- Presence/absence of safety features
- Visual obstructions

Possible Countermeasures

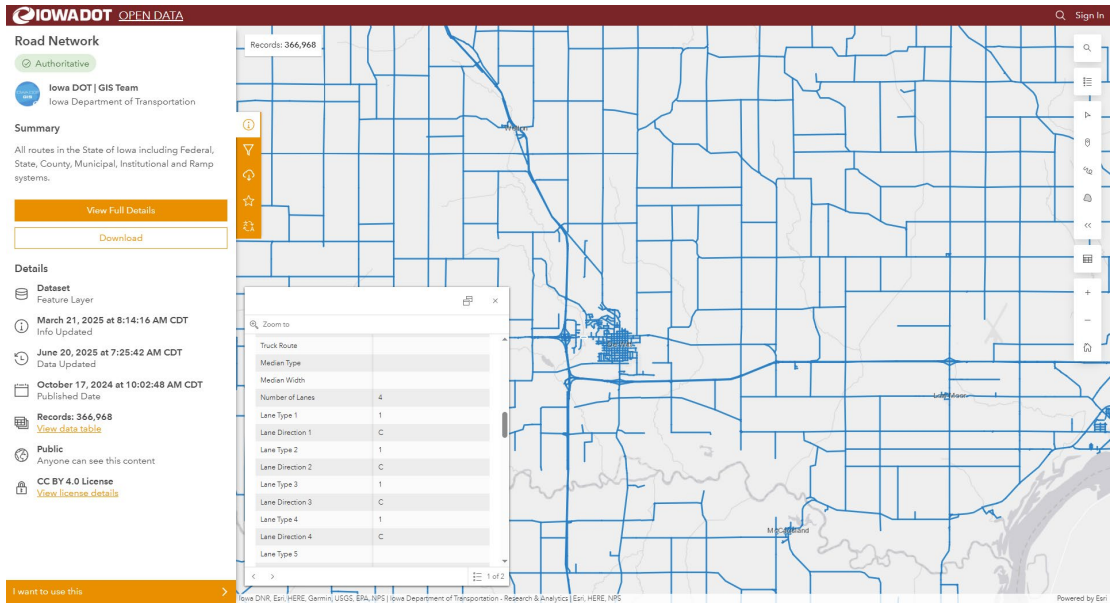
Network Screening: Possible Road Reconfiguration

Network Screening: Possible Road Reconfiguration, 2→3 & 4→3

Considered 57 cities.

Criteria

- **Existing road cross section**
- **Traffic volumes**



Site Evaluation

- **Continuity, length**
- **Land use**
- **Parking**
- **Surface width**
- **Access density**
- **Crash history**

Agency Review

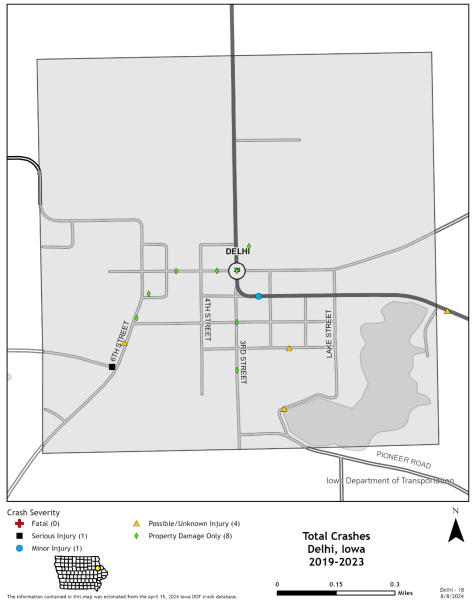
Agency Review

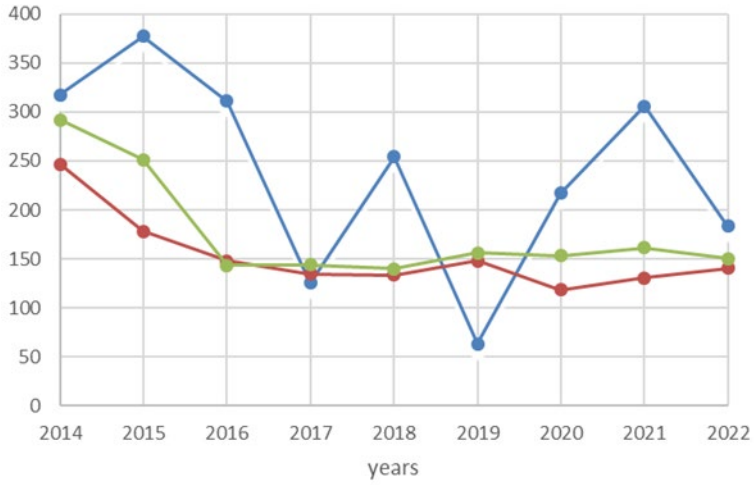
Considered 46 cities.

Crash History
- **Frequency**
- **Severity**
- **Locations**
- **Trends, comparisons**

Vehicle Miles Traveled
- **Trends**
- **Regional, statewide comparisons**

Selected Route Review
- **VRU facilities**
- **Speed limit**
- **Traffic (total, truck)**
- **Parking**
- **Surface width**





Questions

Zach Hans
David Veneziano