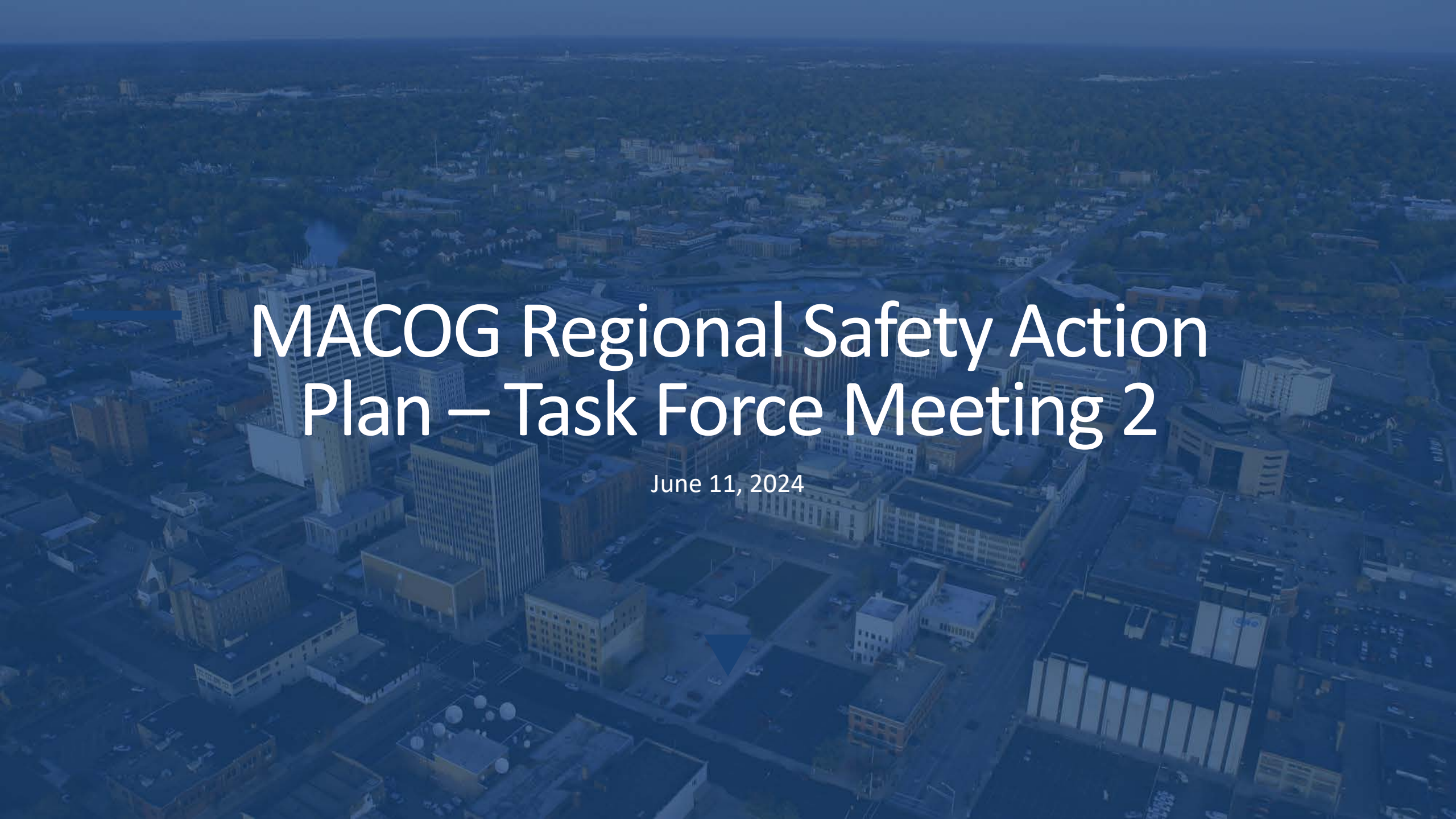


An aerial photograph of a city, likely Chicago, with a blue overlay. The image shows a dense urban area with various buildings, including a prominent tall skyscraper on the left. A small blue triangle points downwards in the lower center of the image.

MACOG Regional Safety Action Plan – Task Force Meeting 2

June 11, 2024

Hello!

Why are we here?



Our Current Reality

Traffic fatalities are a public health crisis *affecting all road users*.

1.3M

Lives lost globally each year from traffic crashes

Source: [UN Decade of Action for Road Safety 2021-2030](#)

40,990

Lives lost on US roads in 2023

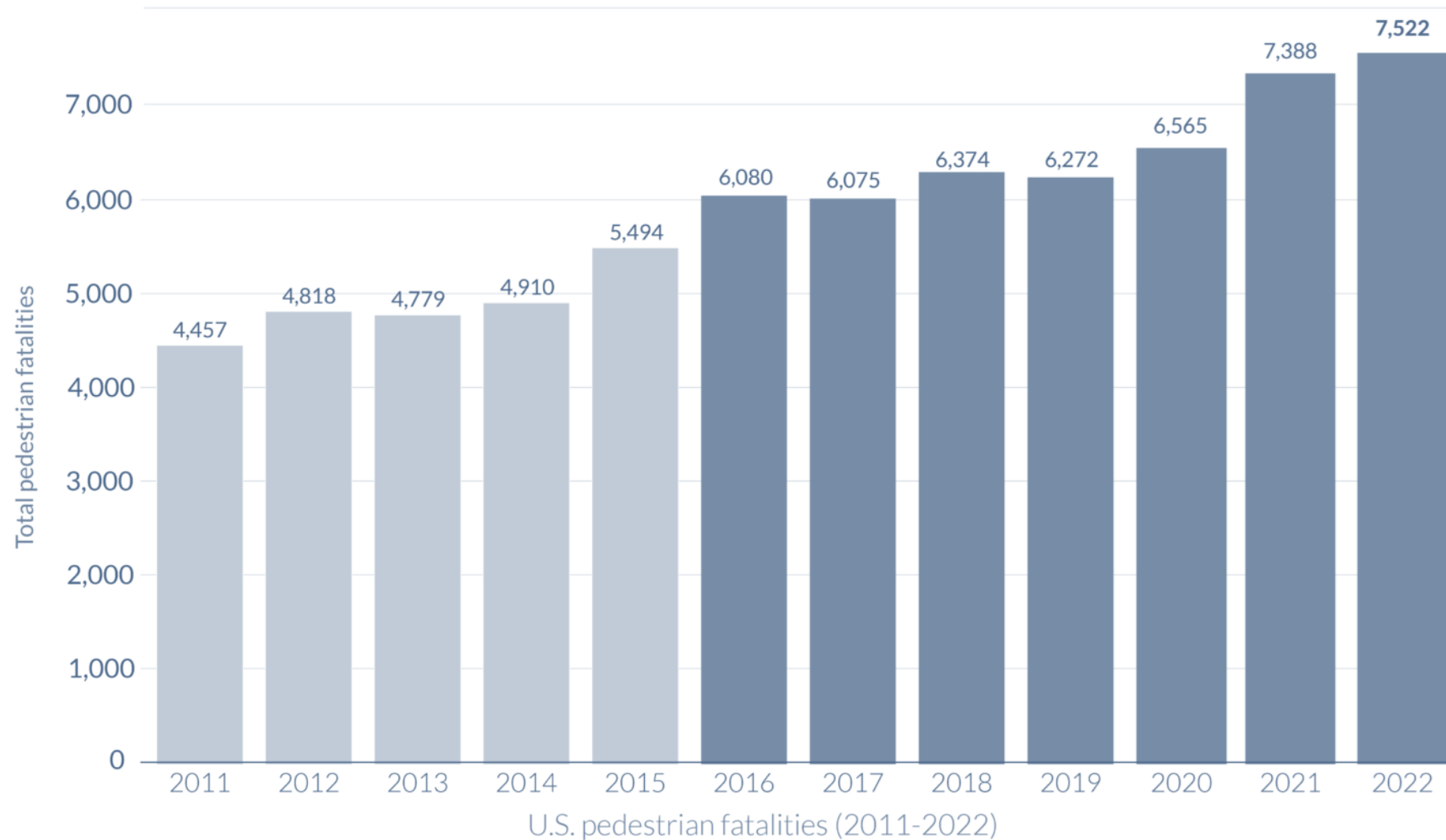
Source: [NHTSA Early Estimate of Motor Vehicle Traffic Fatalities in 2023](#)

↑ 7,500+

Pedestrians killed on roads in 2022. The most since 1981.

Source: GHSA [Pedestrian Traffic Fatalities by State: 2022 Preliminary Data](#)

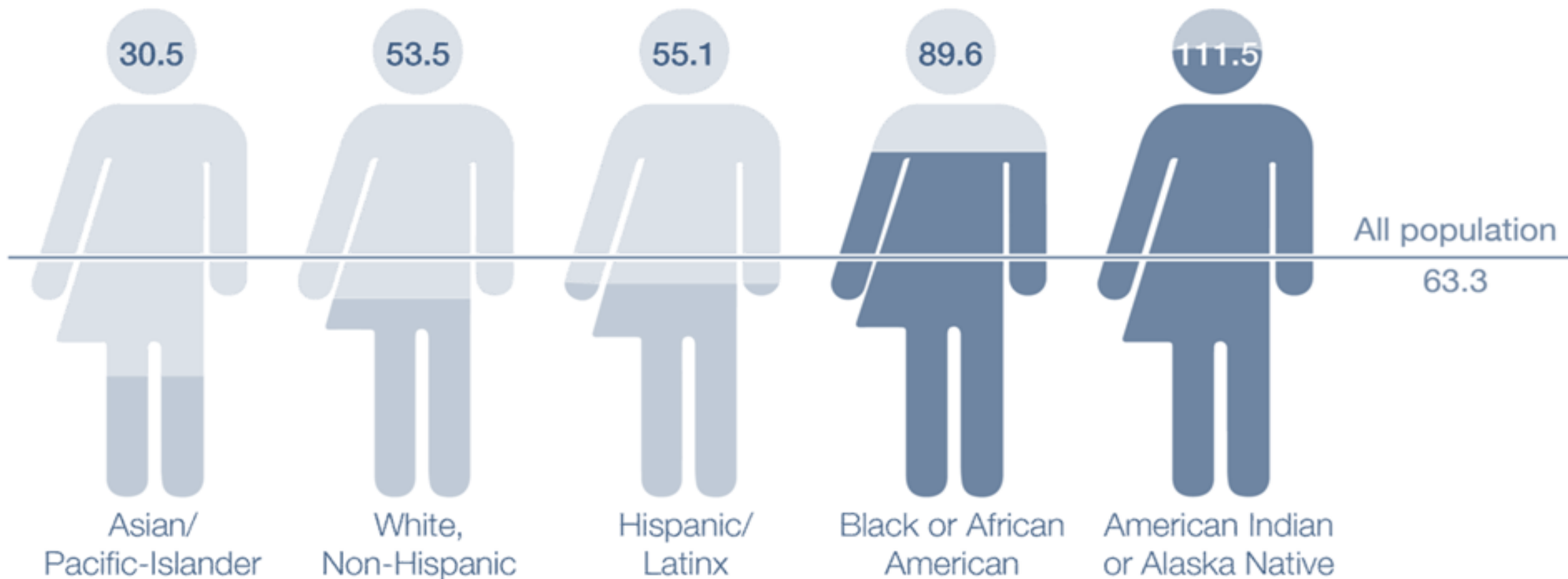
The deaths of people struck and killed while walking are up **68 percent** since 2011



2011-2021 final fatality numbers were sourced from FARS on April 2, 2024. 2022 data from NHTSA press release

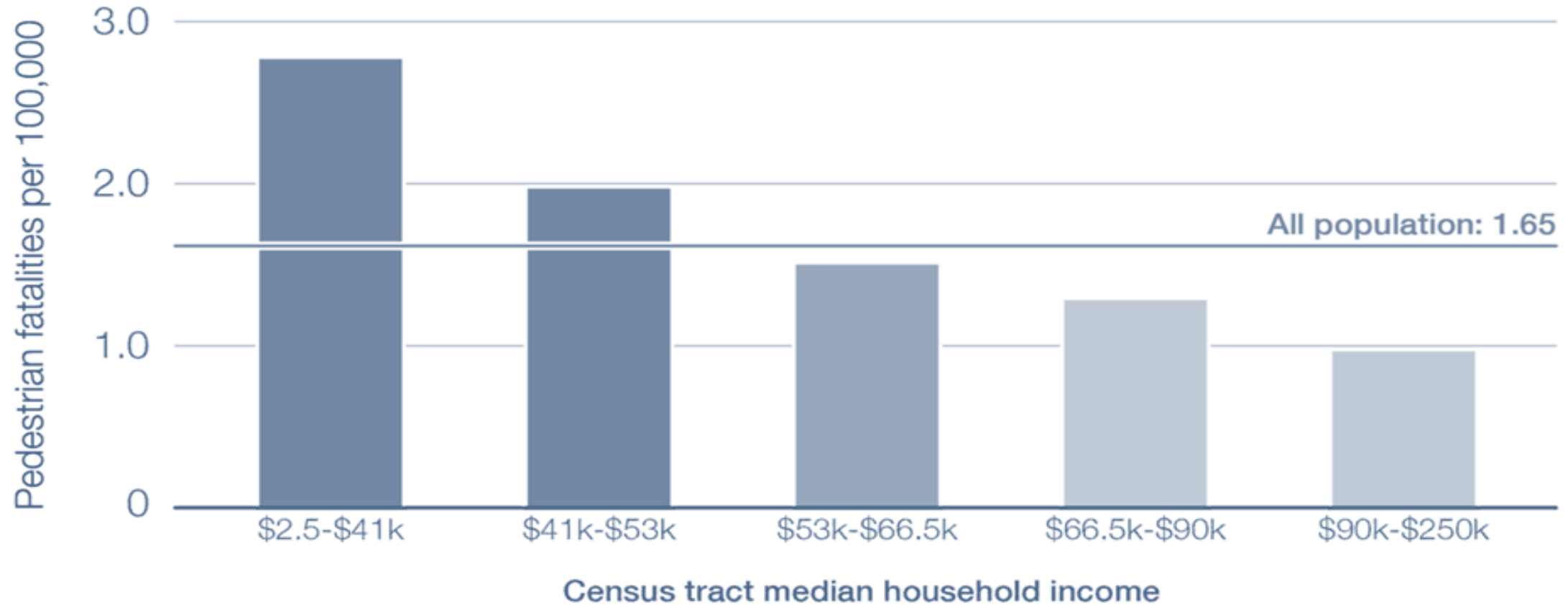
The burden is not shared equally

Relative pedestrian danger by race and ethnicity
(2010-2019)



Source: Smart Growth America and the National Complete Streets Coalition, *Dangerous by Design 2021*. <https://smartgrowthamerica.org/dangerous-by-design/>

People walking in lower-income areas are struck and killed at much higher rates. People walking in wealthier neighborhoods are killed at far lower rates

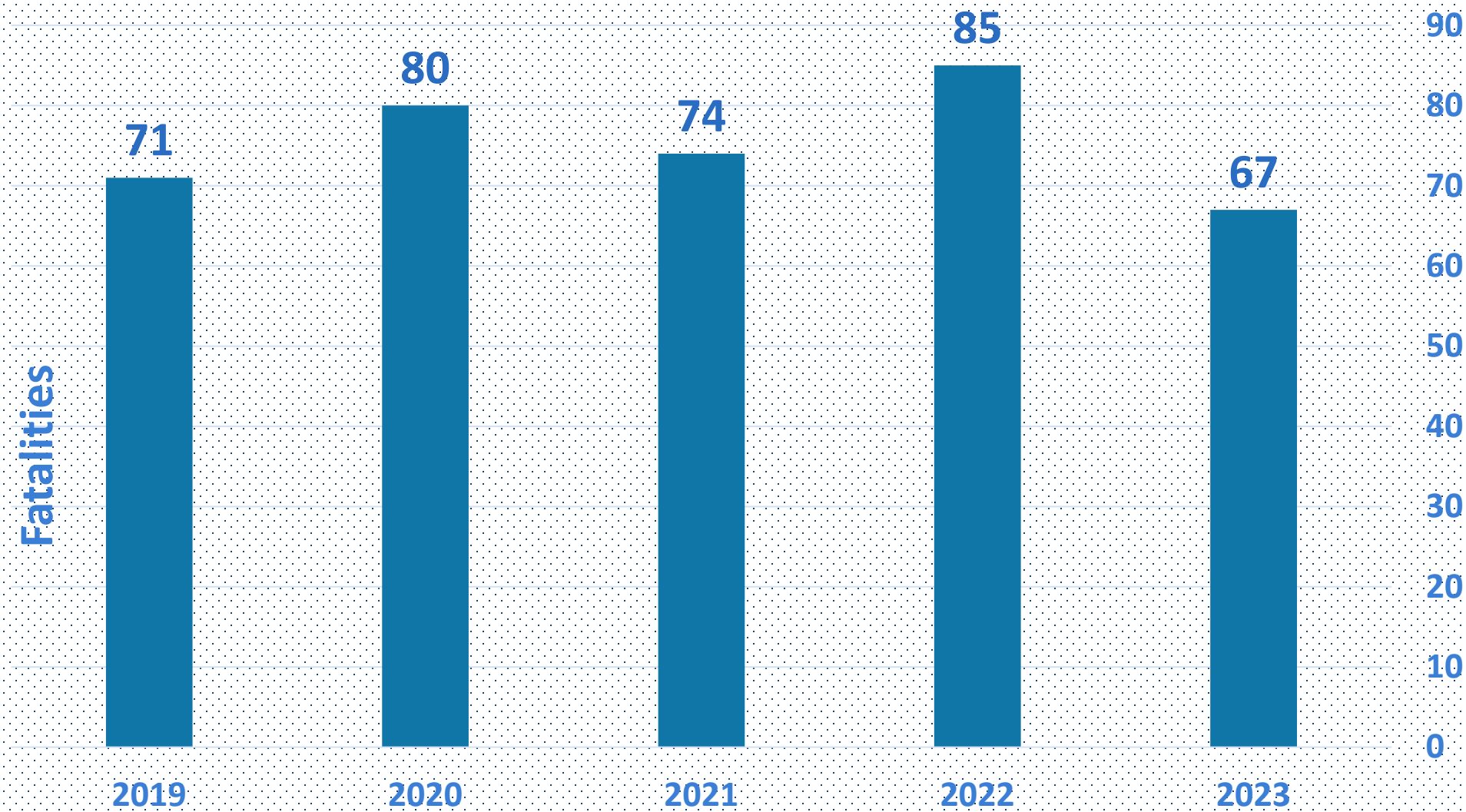


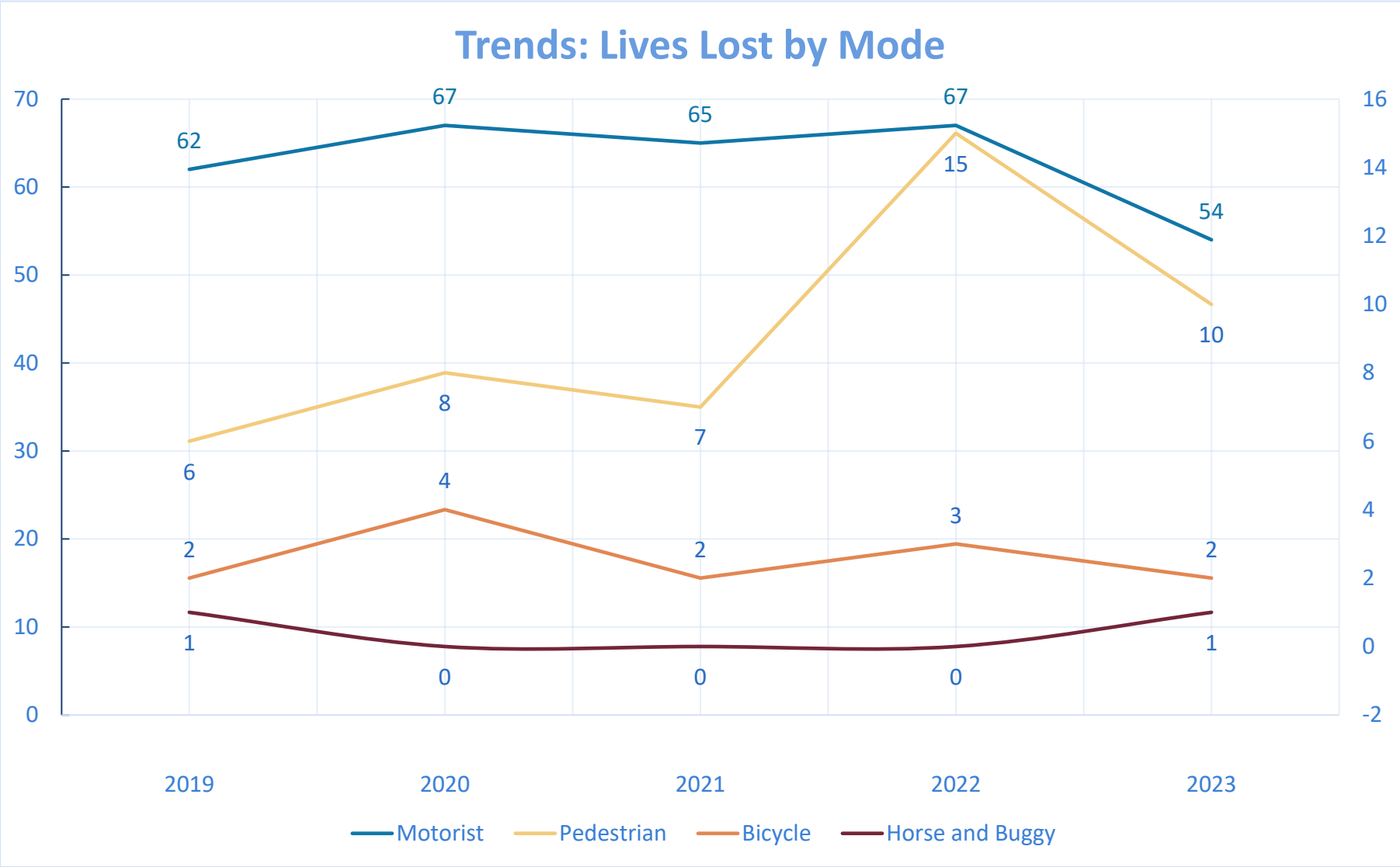
Sources: Smart Growth America and the National Complete Streets Coalition, Dangerous by Design 2021. <https://smartgrowthamerica.org/dangerously-by-design/>

#2

Leading cause of death of
children (ages 1-19)

Fatal Crashes by Year – MACOG Region





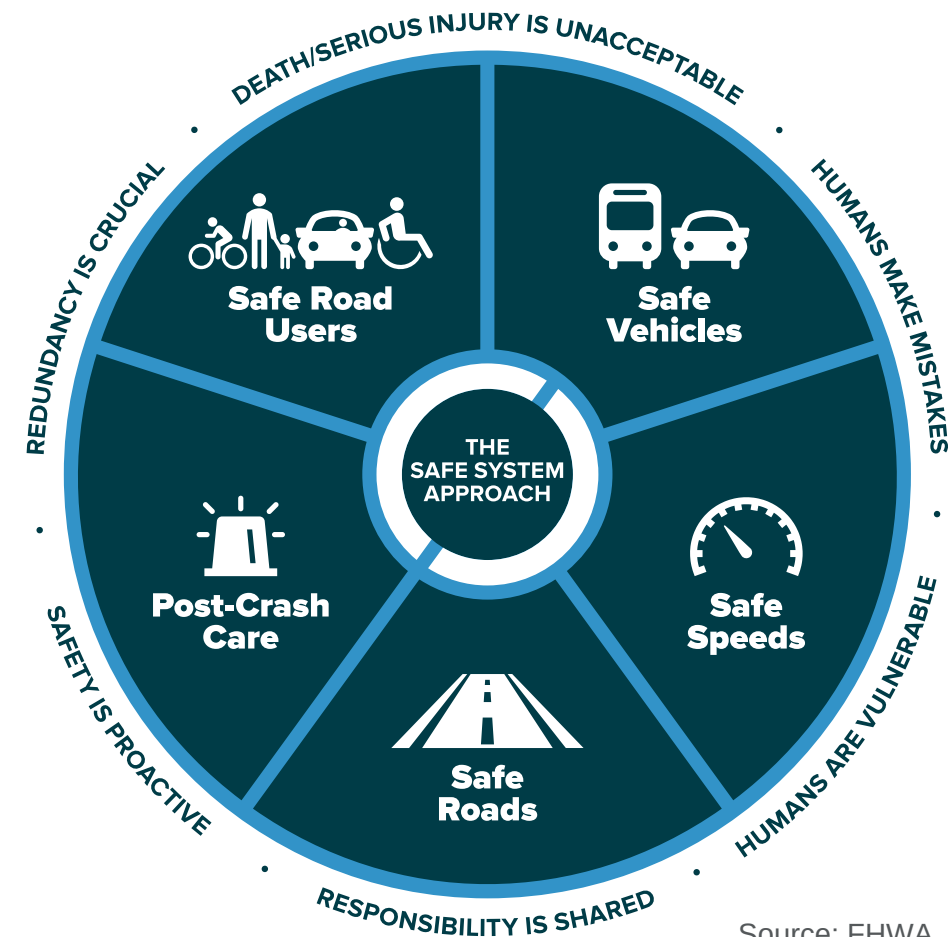
What is a Safety Action Plan?

- Guide to eliminating fatal and serious injury crashes on streets by a target year
- Recommendations for projects, practices, policies, and programs
- Achieved through the Safe System Approach



The Safe System Approach

- Aims to eliminate fatal and serious injuries for all road users by:
 - accommodating human mistakes
 - keeping impacts on the human body at tolerable levels



An aerial photograph of a city skyline, likely New York City, featuring prominent skyscrapers like the Empire State Building. The image is overlaid with a semi-transparent blue filter. The text "Safety Data Overview" is centered in a white, sans-serif font. There are also two small blue arrow icons: one pointing left on the left side and one pointing down in the lower center.

Safety Data Overview

What are we looking for?

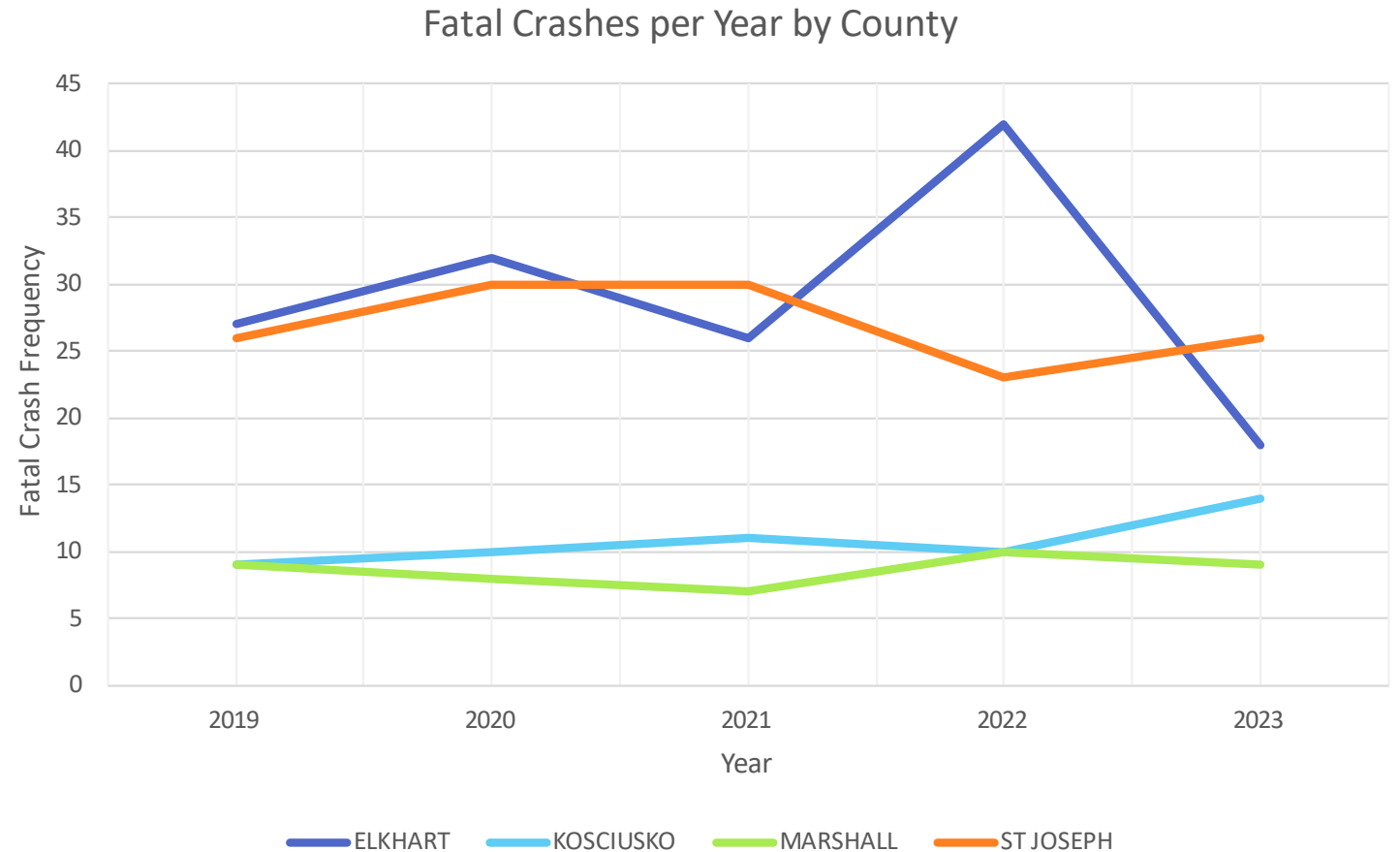
- Patterns in crashes...
 - **Over time** – is safety performance changing?
 - **Crash type** – what do our crashes look like?
 - **Context** – when, where, why are they happening?
 - **Local insights** – help us understand these patterns through your eyes!

Things to keep in mind...

- Data helps us tell the story, but **it doesn't capture everything.**
- What do these numbers mean to **you and your community?**
- What **makes sense** and what is **surprising?**
- What more would you **want to know?**

Are crashes increasing?

- Fatal crashes are fairly stable
- What were the impacts of COVID?
- **How do we get this to zero?**

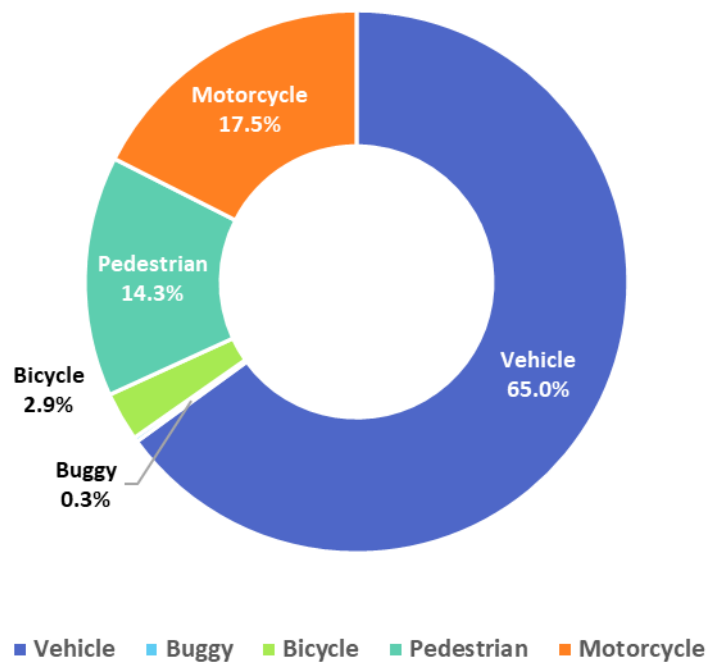


An aerial photograph of a city at dusk, with a blue color overlay. The text "What do these crashes look like?" is centered in white. A blue arrow points from the text to a specific location in the city, and another blue arrow points from the left edge of the image towards the text.

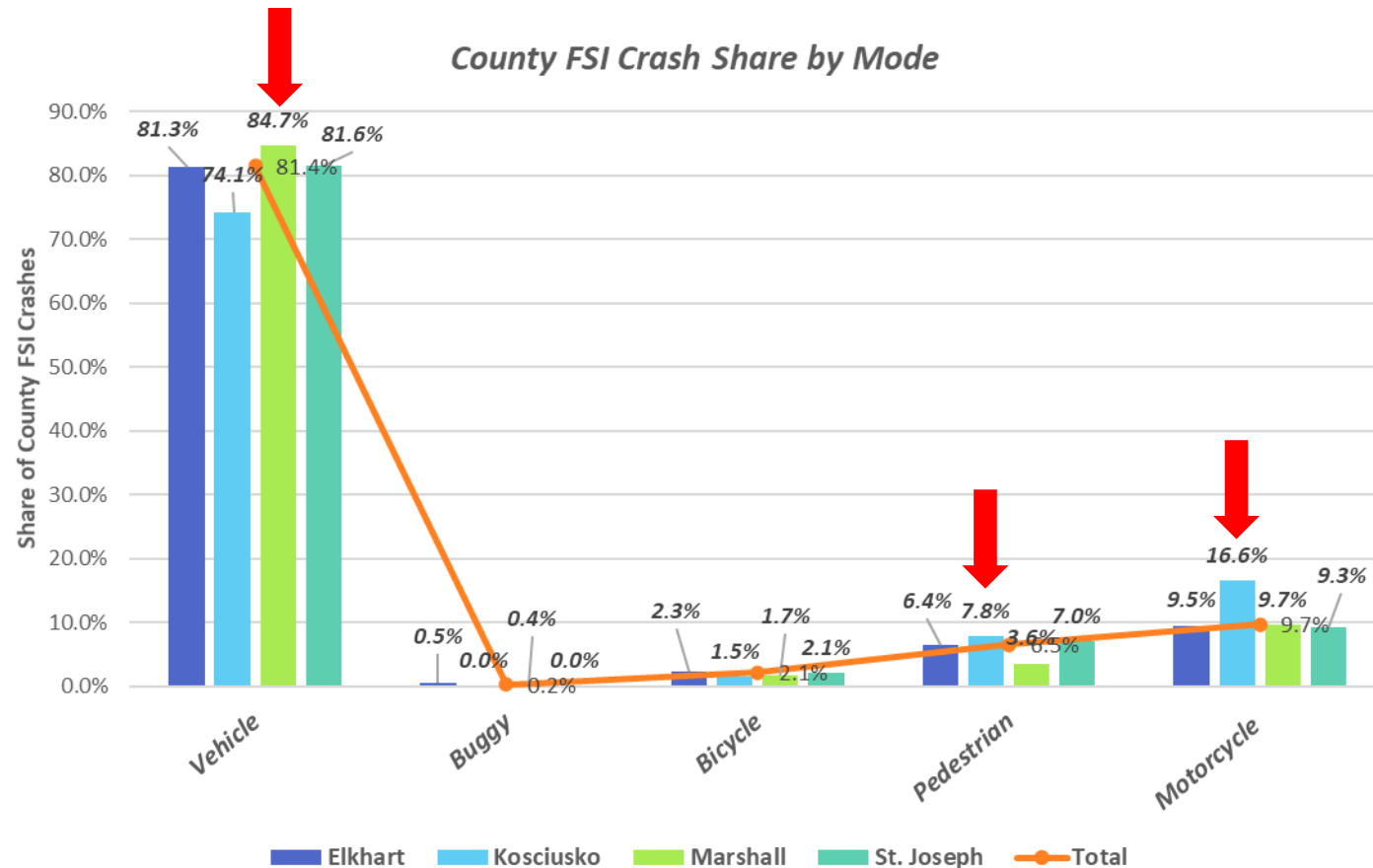
What do these crashes look like?

What do these crashes look like?

Fatal Crash Share by Mode

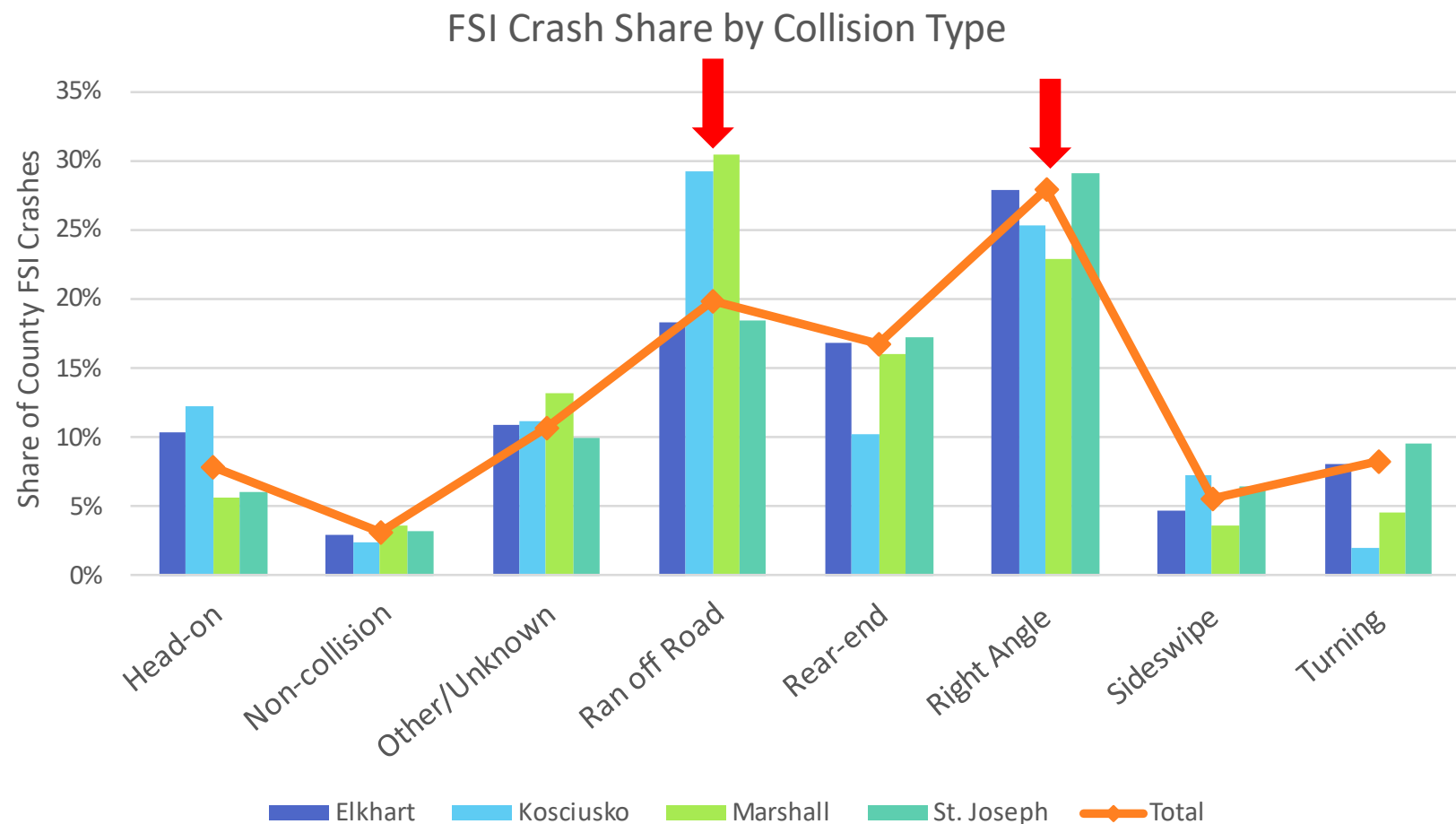


County FSI Crash Share by Mode



What do these crashes look like?

- Most common types
 - Right angle
 - Run off road
 - Rear-end
- Higher severity
 - Head-on
 - Run off road
- What impacts collision type most?

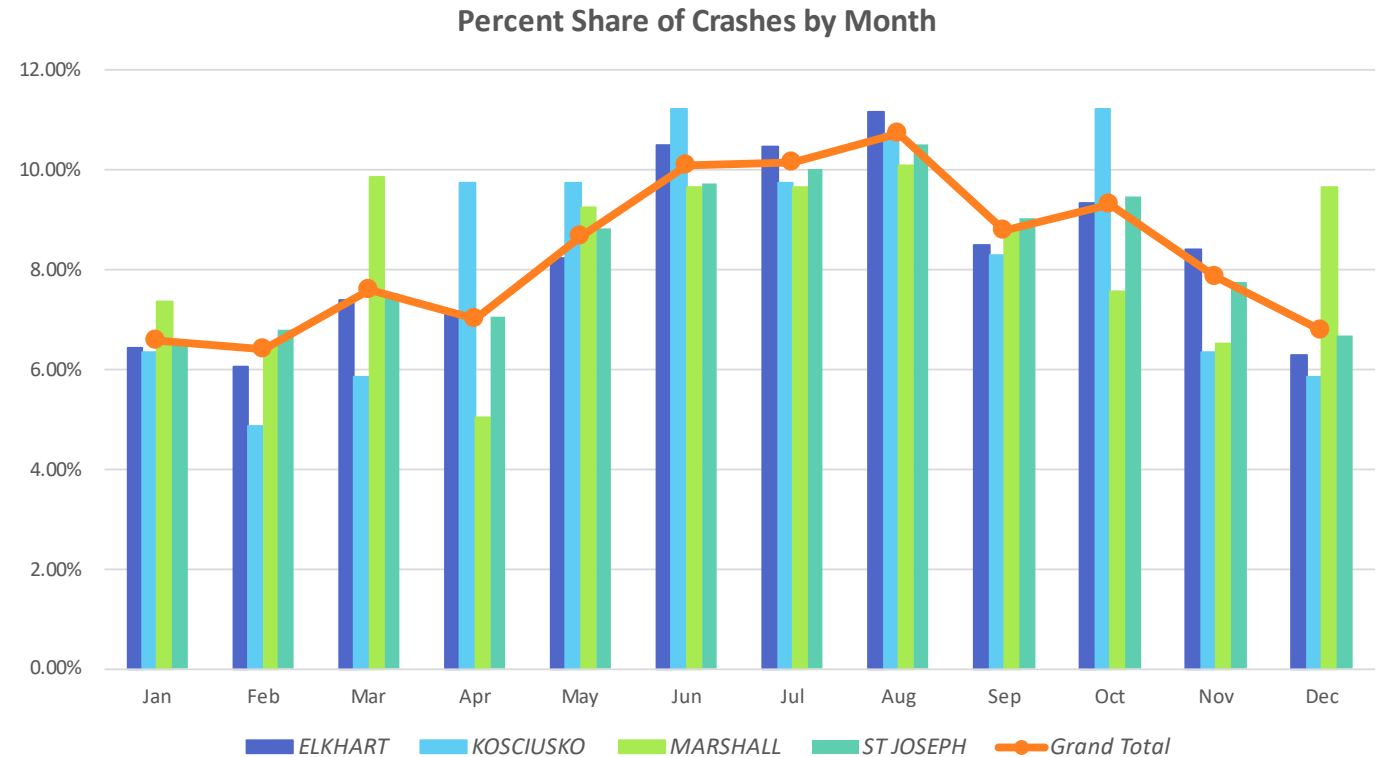




When are these crashes
happening?

Seasonal Shifts

- Summer spikes across the region
- Slight spikes in different months
- **What seasonal patterns does the region see?**



By Day & Time

- PM Commute
- Lunch Hours
- Early mornings

	MACOG Region	Time of Day								
		12AM - 3AM	3AM - 6AM	6AM - 9AM	9AM - 12PM	12PM - 3PM	3PM - 6PM	6PM - 9PM	9PM - 12AM	
Day of week	Monday	54	94	112	114	134	169	83	52	Weekday
	Tuesday	46	121	103	121	152	160	80	42	
	Wednesday	45	99	108	108	128	148	73	38	
	Thursday	43	116	100	94	126	167	88	41	
	Friday	54	104	124	152	128	144	106	55	
	Saturday	73	85	64	130	126	119	98	70	Wknd
	Sunday	92	98	58	71	82	85	67	45	
		Dark Conditions		AM Peak	Light Conditions		PM Peak	Dark Conditions		

By Day & Time

	Elkhart County	Time of Day									
		12AM - 3AM	3AM - 6AM	6AM - 9AM	9AM - 12PM	12PM - 3PM	3PM - 6PM	6PM - 9PM	9PM - 12AM		
Day of week	Monday	17	47	43	41	59	57	35	19	Weekday	
	Tuesday	19	64	34	45	62	74	34	14		
	Wednesday	21	41	48	45	63	61	27	11		
	Thursday	17	57	37	39	60	78	28	12		
	Friday	15	57	51	67	53	63	29	19		
	Saturday	21	23	19	57	53	43	34	27	Wknd	
	Sunday	26	36	20	28	36	28	15	11		
		Dark Conditions		AM Peak	Light Conditions		PM Peak	Dark Conditions			
	Kosciusko County	Time of Day									
		12AM - 3AM	3AM - 6AM	6AM - 9AM	9AM - 12PM	12PM - 3PM	3PM - 6PM	6PM - 9PM	9PM - 12AM		
Day of week	Monday	1	1	7	6	3	7	2	1	Weekday	
	Tuesday	3	2	8	4	3	6	2	4		
	Wednesday	1	3	1	5	4	4	1	1		
	Thursday	2	5	1	6	4	6	1	1		
	Friday	3	5	4	6	6	3	4	2		
	Saturday	5	6	6	6	4	3	3	2	Wknd	
	Sunday	8	5	2	5	4	3	4	0		

By Day & Time

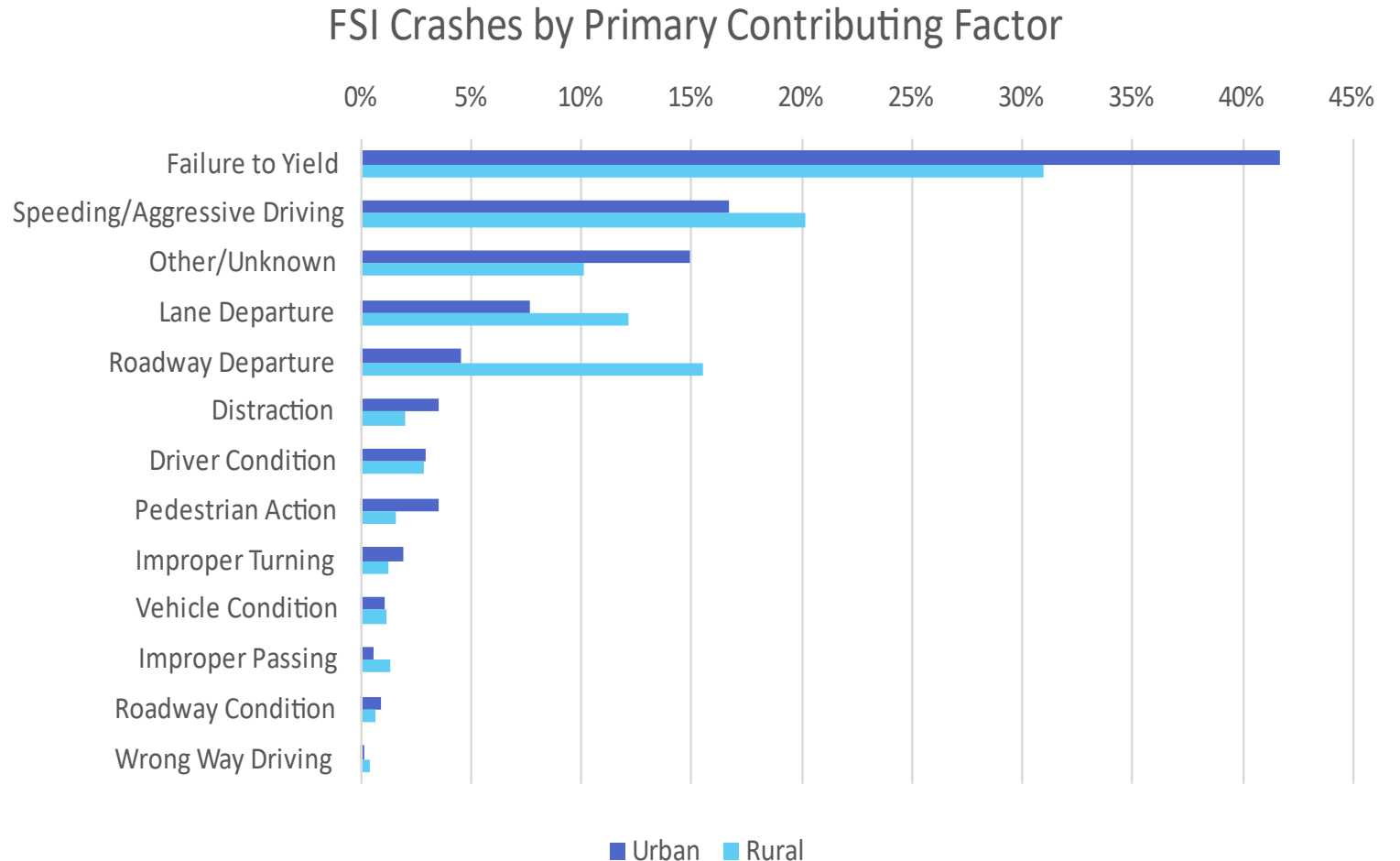
	Marshall County	Time of Day									
		12AM - 3AM	3AM - 6AM	6AM - 9AM	9AM - 12PM	12PM - 3PM	3PM - 6PM	6PM - 9PM	9PM - 12AM		
Day of week	Monday	4	10	12	12	17	23	9	5	Weekday	
	Tuesday	4	14	11	12	11	13	3	4		
	Wednesday	5	13	4	8	10	9	5	5		
	Thursday	2	14	7	8	4	9	7	4		
	Friday	1	5	13	14	12	9	14	8		
	Saturday	5	6	4	7	13	9	5	8	Wknd	
	Sunday	6	13	6	3	7	15	9	6		
		Dark Conditions		AM Peak	Light Conditions		PM Peak	Dark Conditions			
	St. Joseph County	Time of Day									
		12AM - 3AM	3AM - 6AM	6AM - 9AM	9AM - 12PM	12PM - 3PM	3PM - 6PM	6PM - 9PM	9PM - 12AM		
Day of week	Monday	32	36	50	55	55	82	37	27	Weekday	
	Tuesday	20	41	50	60	76	67	41	20		
	Wednesday	18	42	55	50	51	74	40	21		
	Thursday	22	40	55	41	58	74	52	24		
	Friday	35	37	56	65	57	69	59	26		
	Saturday	42	50	35	60	56	64	56	33	Wknd	
	Sunday	52	44	30	35	35	39	39	28		



What is contributing to these
crashes?

Contributing Factors

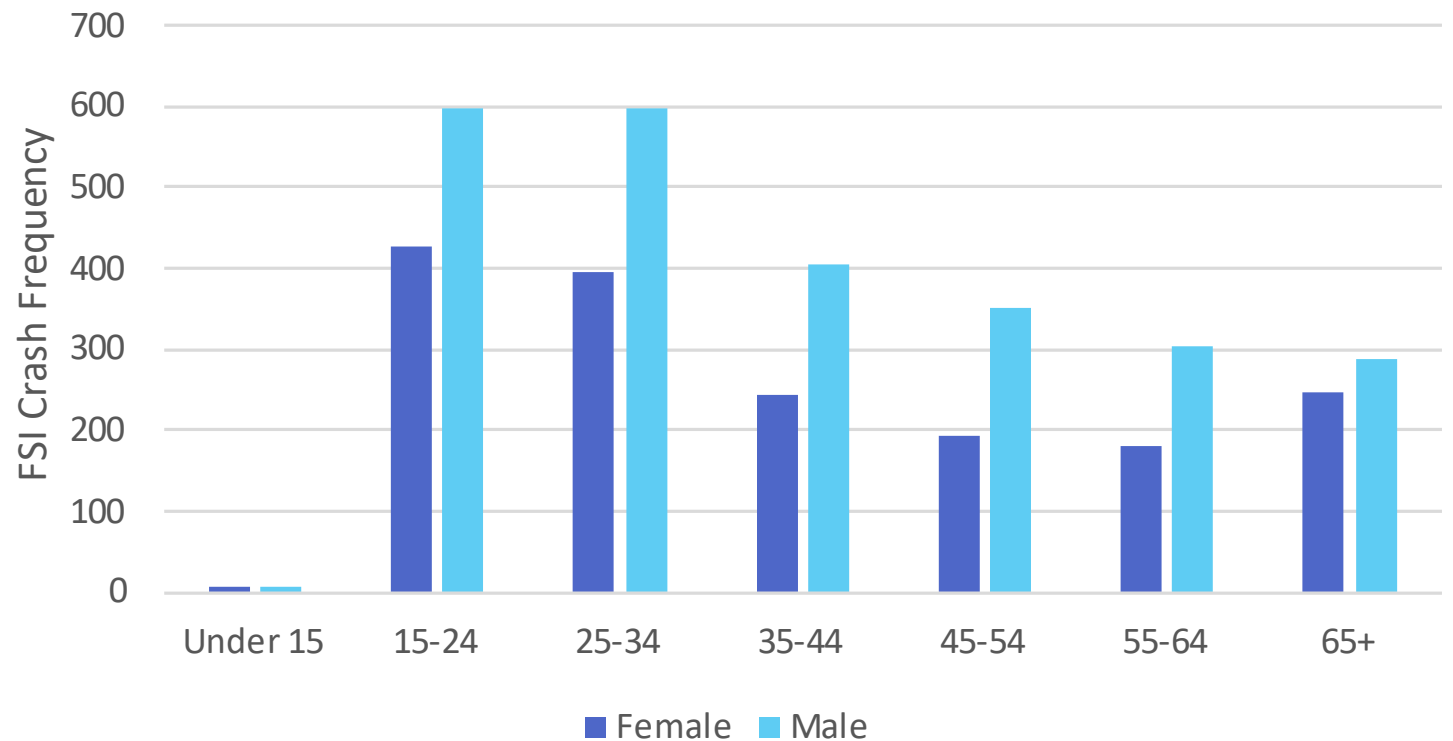
- Behavioral factors
 - Failure to yield, especially in urban areas
 - Speeding and aggressive driving
- **How do we provide a safe system for fallible humans?**



Demographics

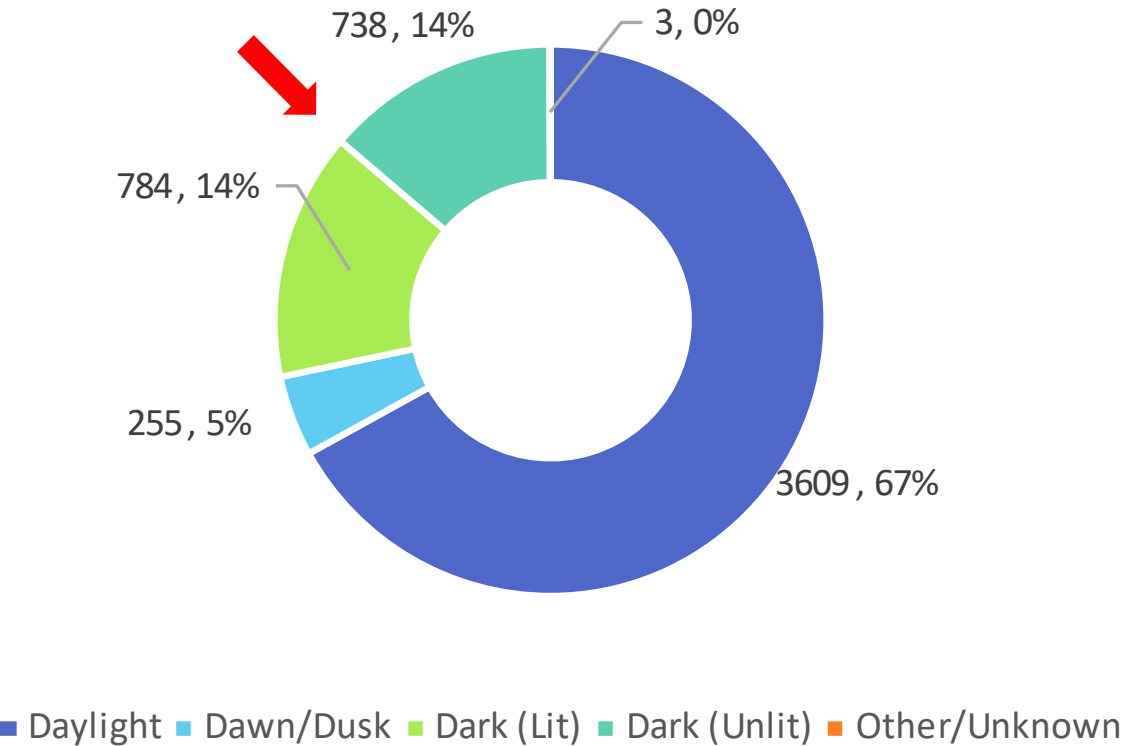
- Younger drivers, especially males
- Still many older drivers as well
- **What are the unique needs, experiences of our road users?**

FSI Crashes by Age and Gender

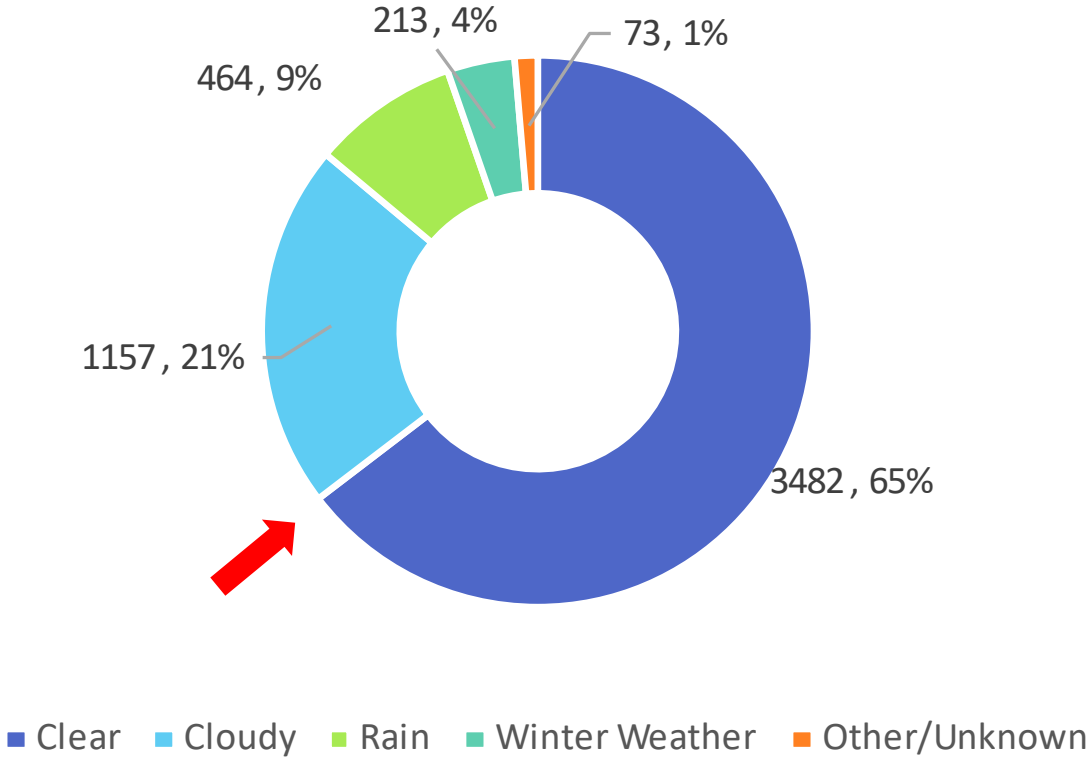


Lighting and Weather

FSI Crashes by Lighting Condition



FSI Crashes by Weather Condition



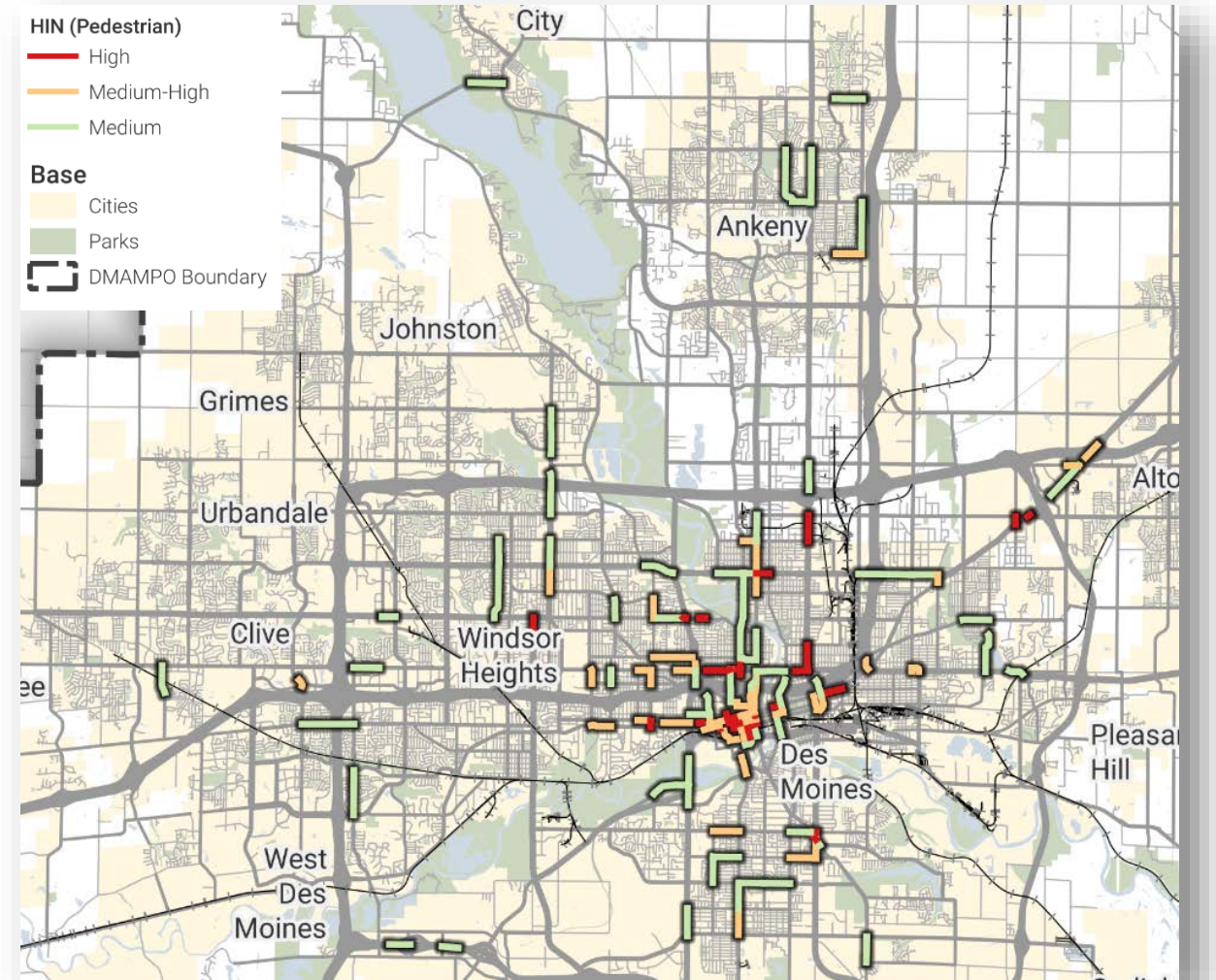


What comes next?

High-injury Network Analysis

- **Where are these crashes occurring?**
- Helps us identify our strongest opportunities for safety improvement
- What locations do you have in mind?*

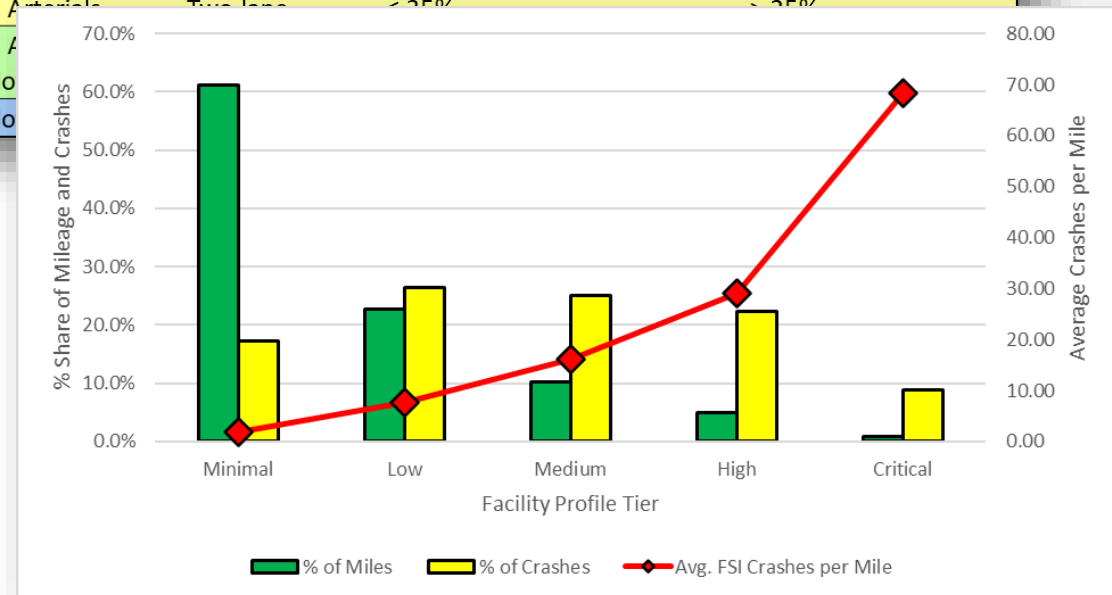
**You'll have the chance to share shortly!*



Systemic Safety Analysis

- Where might crashes happen next?
- What roadway, contextual attributes correlate with crashes?
- Proactive, low-cost investments

Facility Profile Tier	Facility Profile Definition					
	Functional Class	Lane Configuration	Disability Households	Population Below 18	Population Below 2X Poverty Level	AADT
Critical	Arterials	Multilane	> 35%	> 25%		
High	Arterials	Multilane	> 35%	≤ 25%		
	Arterials	Two-lane	> 35%		> 25%	
Medium	Arterials	Multilane	≤ 35%		≤ 25%	
	Not Arterials		> 35%			> 1,000
Low	Arterials	Two-lane	≤ 35%		> 25%	
Minimal	Arterials	Two-lane	≤ 35%			





Breakout: Crash Scenarios

Crash Scenarios

- Understanding real world patterns
- What can we learn?
- What role can we play?

Scenario 1: When?

- Early Mornings (3-6 AM)

- Who is traveling at this time?
- Where are they going?

- PM Commute (3-6 PM)

- What are the key commuting routes?
- What do you experience on your commute?
- How did things change during COVID?

- Increased Summer Travel

- What are the summer destinations?
- Does your community grow or shrink during the summer?
- Are people coming from outside the region?

Scenario 2: Where?

- Inter-county Travel

- What are the destinations around the region?
- Where are the freight routes?

- Types of Travel

- What modes, trips are most common in your community?
- Unique modes and trips? (farm equipment, buggies, inter-modal)

- Accessibility

- Who does and doesn't have safe access to what they need in your community?

Scenario 3: Who?

- Modes of Travel

- Where are vulnerable road users most common? (e.g., walking, biking, buggies)
- Where are unique road users most common? (e.g., farm equipment, trailers, boats)

- Drivers by Age

- Where are our younger drivers, what are their unique needs?
- Where are our older drivers, what are their unique needs?

- Rural Communities

- How are people moving about?
- Challenges for mobility?

Scenario 4: How?

- Roadway Departure

- Where are these high-severity crashes occurring?
- How do we improve safety along long, high-speed, two-lane rural roads?

- Intersection Crashes

- Right-angle (T-bone) crashes at signalized intersections
- Safer intersection designs

- Unsafe Driving

- How can we account for unsafe driving behaviors? (e.g., speeding, intoxication)
- How do we approach distracted road users?

Equity Definition

Transportation planning that:

- Accounts for current and past inequality;
- Provides for current needs;
- Produces an overall improvement in the system; and
- **Ensures everyone has transportation access and options that allow them to participate fully in society.**

Dr. Crum

Demographic Mapping: Methodology & Key Populations

The key populations for the MACOG Regional Safety Action Plan equity analysis are:

- People of Color, including Hispanic or Latino people
- Households in Poverty
- Limited English Proficiency (LEP)
- Elderly over 65 years of age
- Carless households
- Households with Disabilities
- People without a high school diploma
- Unemployment
- Youth under 18 years of age

Demographic Mapping: Methodology & Key Populations

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Highway Construction, Urban Renewal, and Auto-oriented Development

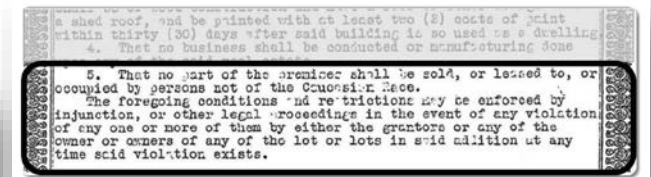
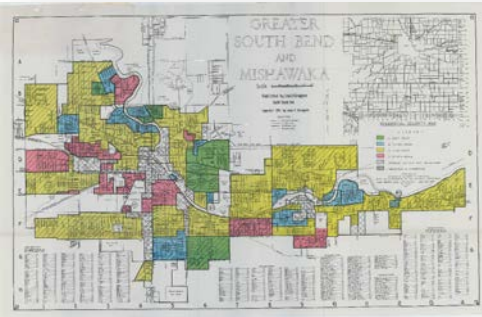


Demographic Mapping: Methodology & Key Populations

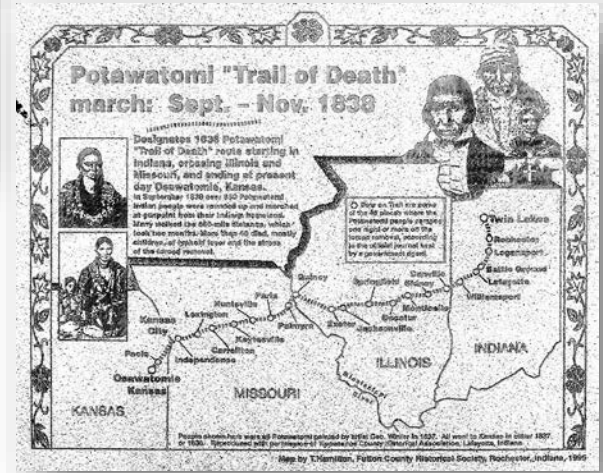
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Redlining, Restrictive Covenants, and Indian Removal Acts



Example of a racially restrictive covenant: St. Joseph County Recorder of Deeds, 1939



Demographic Mapping: Methodology & Key Populations

The key populations for the MACOG Regional Safety Action Plan equity analysis are:

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**MARSHALL COUNTY
COUNCIL ON AGING**



Transit, Multimodal Investment Strategies, and Active Transportation



Equity Analysis Approach

Information Gathering

- Document historical context
- Include community engagement findings

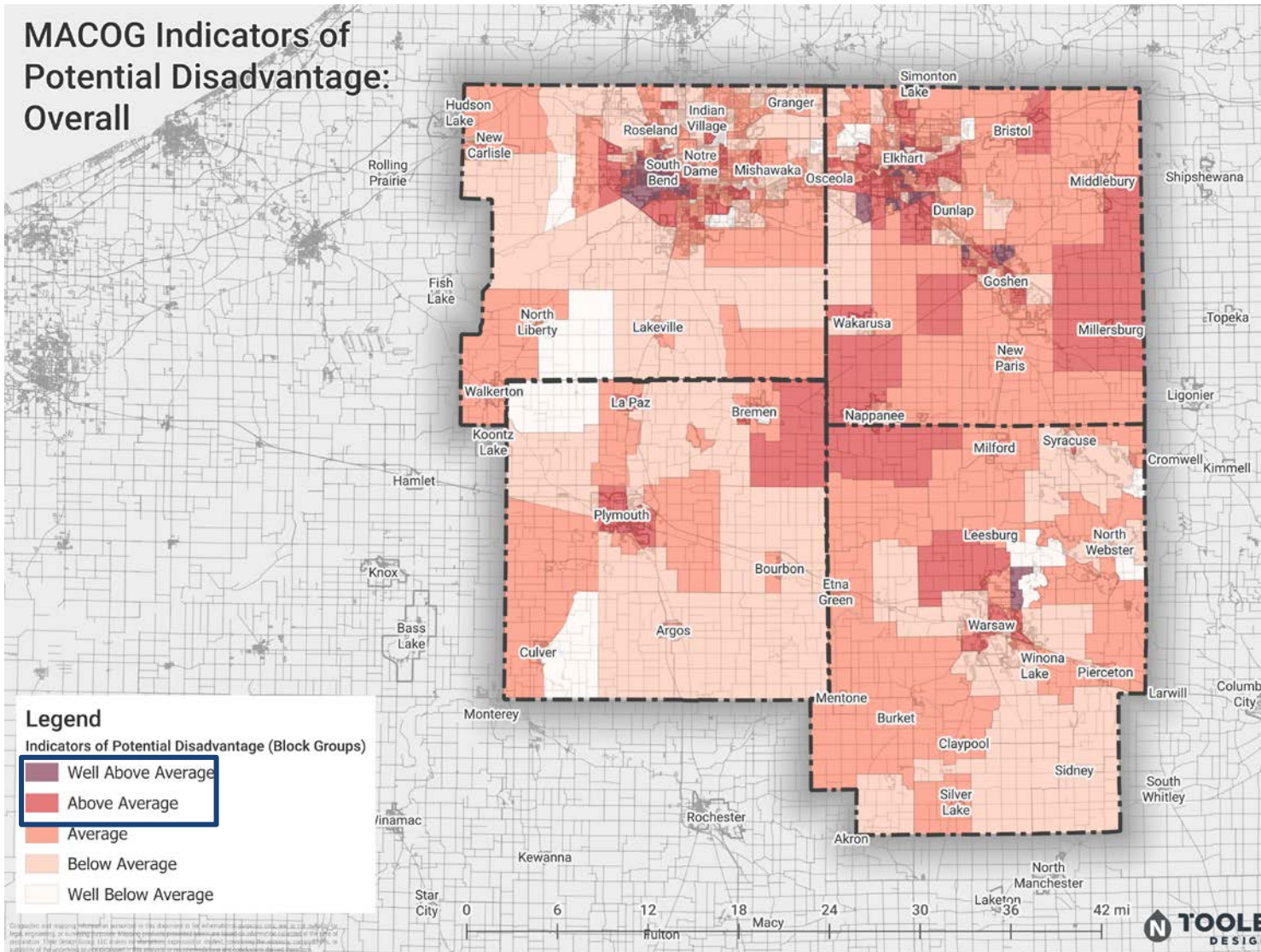
Demographic Mapping

- Define key populations
- Delineate focus areas

Map Interpretation

- Identify geographic priorities
- Determine impacts for key populations

Map Interpretation: MACOG Safety Action Plan – Equity Focus Areas



Are there populations
we've missed in this
analysis?

Are there areas on map
that you expected to see?

Recommendations for Advancing Equity

1. Continued Assessment – continue monitoring the impact of investment decisions and prioritize investments in areas disproportionately impacted by negative outcomes
2. Qualitative Data – supplement quantitative data with qualitative data collected through community engagement
3. Storytelling – tell the story of transportation needs and disparities through relatable personalized examples, personas, etc.
4. Expanding the Reach of the Analysis – use this and other equity analysis to guide MACOG decision-making beyond this SAP (e.g., federal funding distribution)

What's Next



Tobi Otulana
Policy and Equity Analysis



Mariel Colman, PE, AICP
Lead Engineer



Tariq Shihadah, RSP2I, EI
Data Analyst



Theja Putta, PHD
Data Analyst



Marjorie Hennessey, Health by Design
Community Engagement Lead



Rahul Rajbhara, American Structurepoint
Local Engineering Lead



Katie Sieb
Tactical Urbanism Guidebook



Ayden Cohen, RSP1
Deputy Project Manager



Catherine Girves
Project Manager
cgirves@tooledesign.com
617-407-9122 x459