Safe Travel for All Roadmap

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Chicago Metropolitan Agency for Planning

STAR

Safe Travel for All Roadmap

A five-year effort to improve traffic safety in the region through innovative data analysis, compelling policy recommendations and local collaborative planning and project implementation

Traffic fatalities

Nationwide
2010–2021

Annual fatalities

5-year rolling average fatalities

Traffic fatalities

50,000
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0

2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021

32,999 32,479 33,782 32,893 32,744 35,484 37,806 37,473 36,835 36,355 38,824 42,915

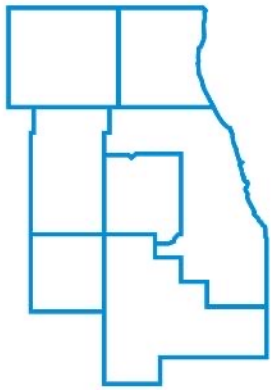
37,654 35,609 34,113 33,207 32,979 33,476 34,542 35,280 36,068 36,791 37,459 38,480

2021
11% increase over 2020
18% increase over 2019

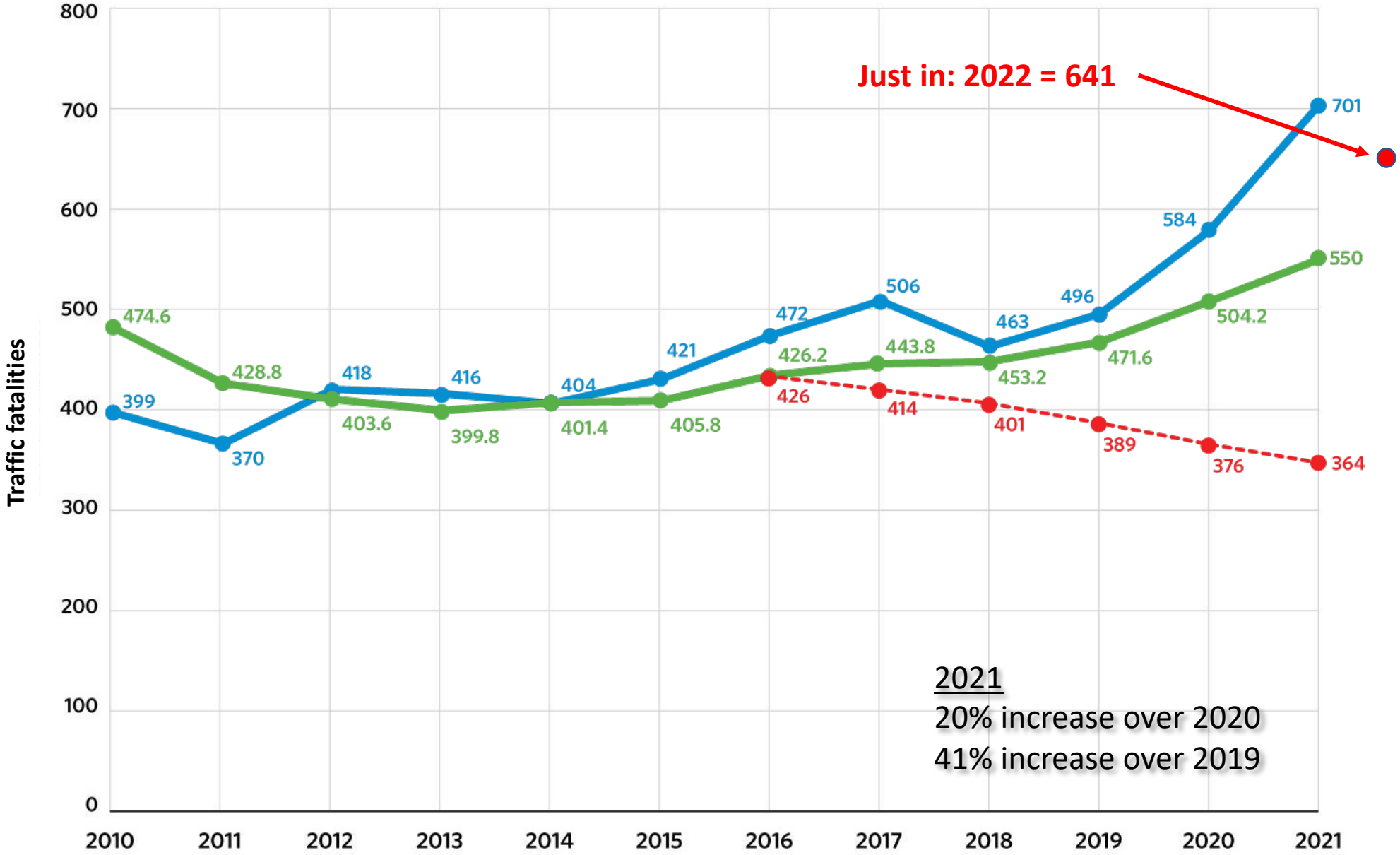
Source: Fatality Analysis Reporting System, National Highway Traffic Safety Administration Note: 2021 values are NHTSA estimates

Traffic Fatalities

CMAP region
2010–2021



- Annual fatalities
- 5-year average fatalities
- Target 5-year average



Source: CMAP analysis of Illinois Department of Transportation data

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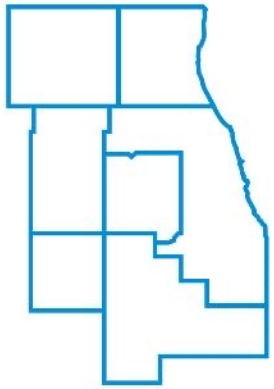
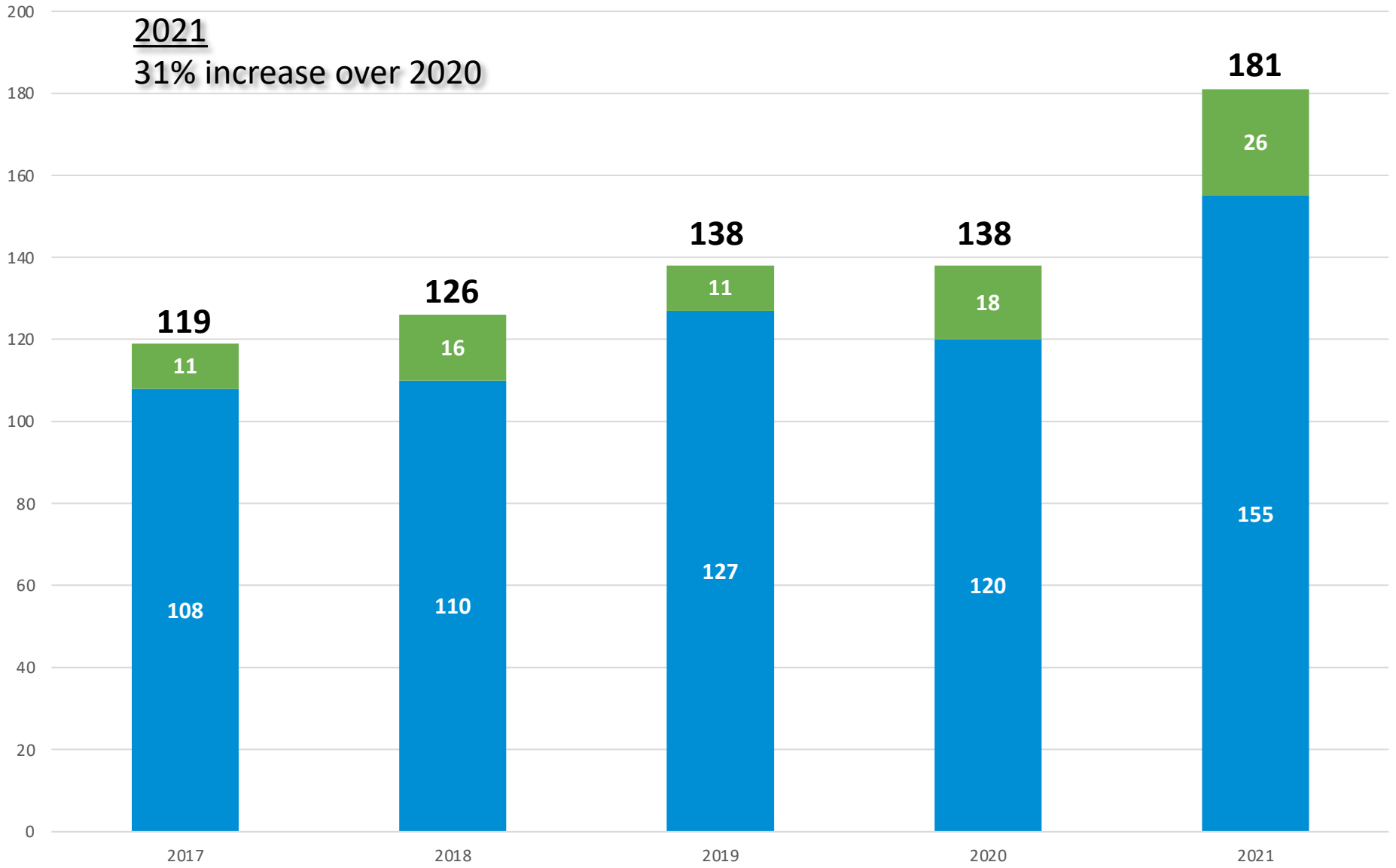
Pedestrian and bicyclist fatalities

CMAP region
2017–2021



Pedestrian

Cyclist



Source: CMAP analysis of Illinois Department of Transportation data

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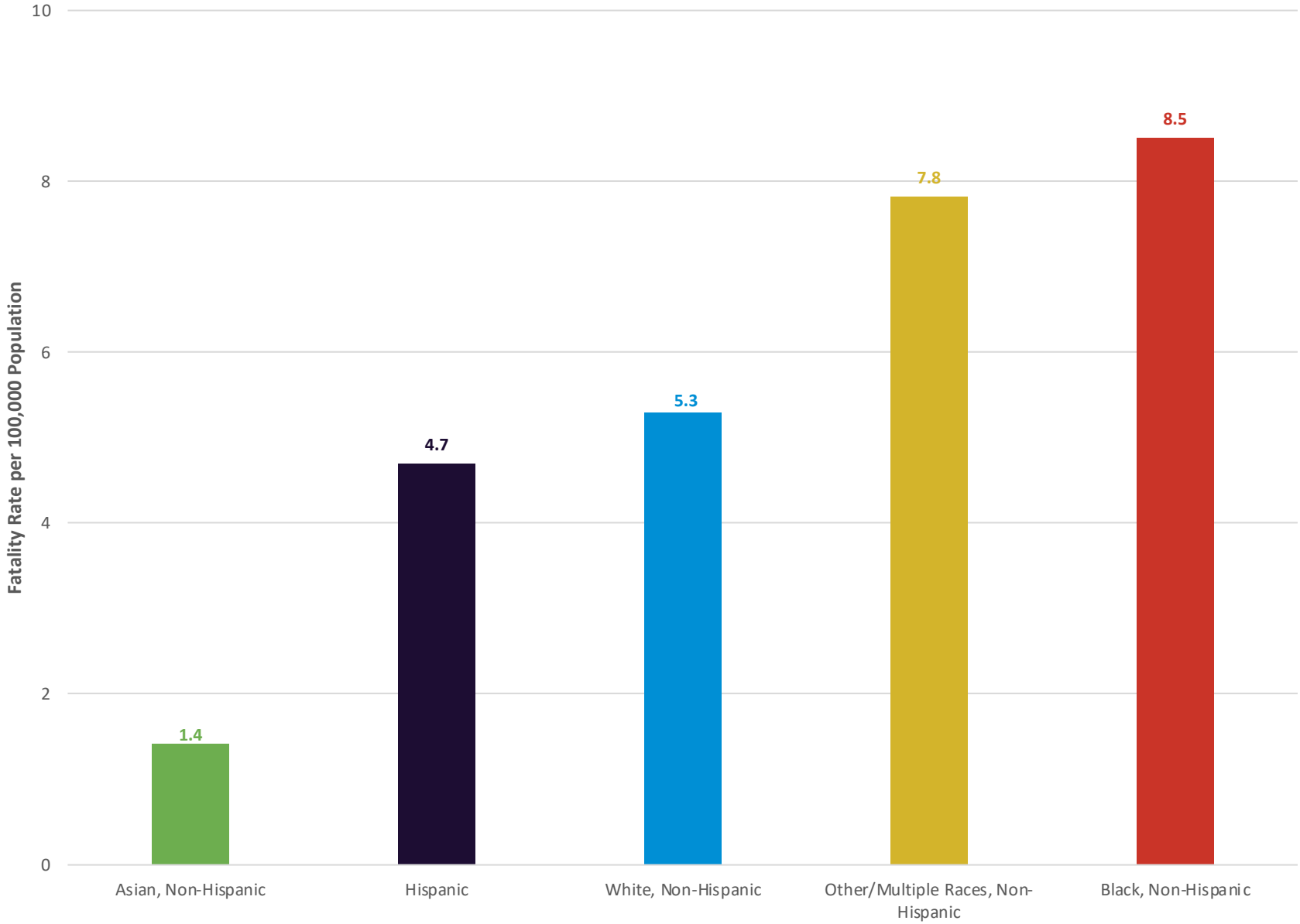
Traffic fatality rates by race, 5-year average

CMAP region
2015–2019



Note: Fatalities that did not have race information by year 2019: 23; 2018: 1;2017: 1; 2016: 5; in 2015: 3.

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Insights into the speeding epidemic

Share of fatal and serious injuries involving speeding or aggressive driving

CMAP region, 2019

Nationally, the National Highway Traffic Safety Administration reports 29% of traffic fatalities are speeding-related

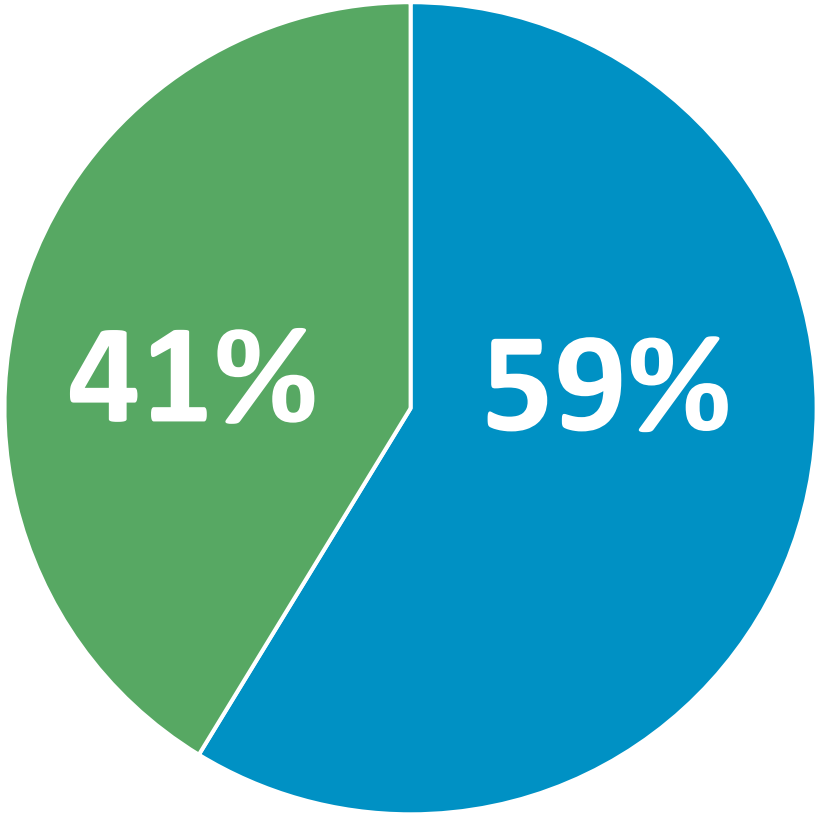

Chart reports the share of crashes involving speeding or aggressive driving where the causes of crashes are known in crash reporting.
Source: CMAP analysis of Illinois Department of Transportation data

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Where are crashes occurring?

Rate of fatal and serious injuries by road type

Speeding-related crashes per 100 million vehicle miles traveled in northeastern Illinois

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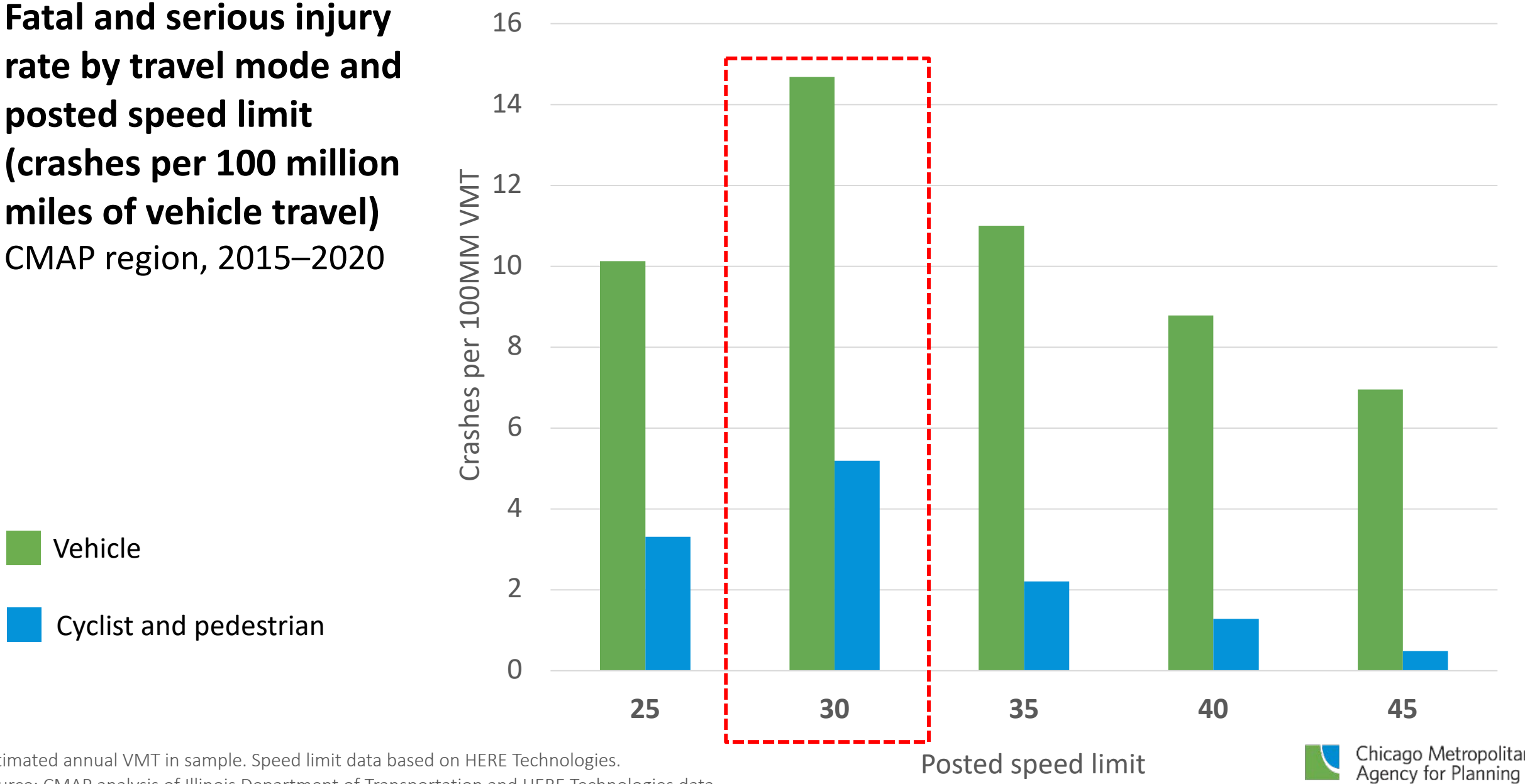
Fatal and serious injury rate by travel mode and posted speed limit (crashes per 100 million miles of vehicle travel)

CMAP region, 2015–2020



Estimated annual VMT in sample. Speed limit data based on HERE Technologies.

Source: CMAP analysis of Illinois Department of Transportation and HERE Technologies data

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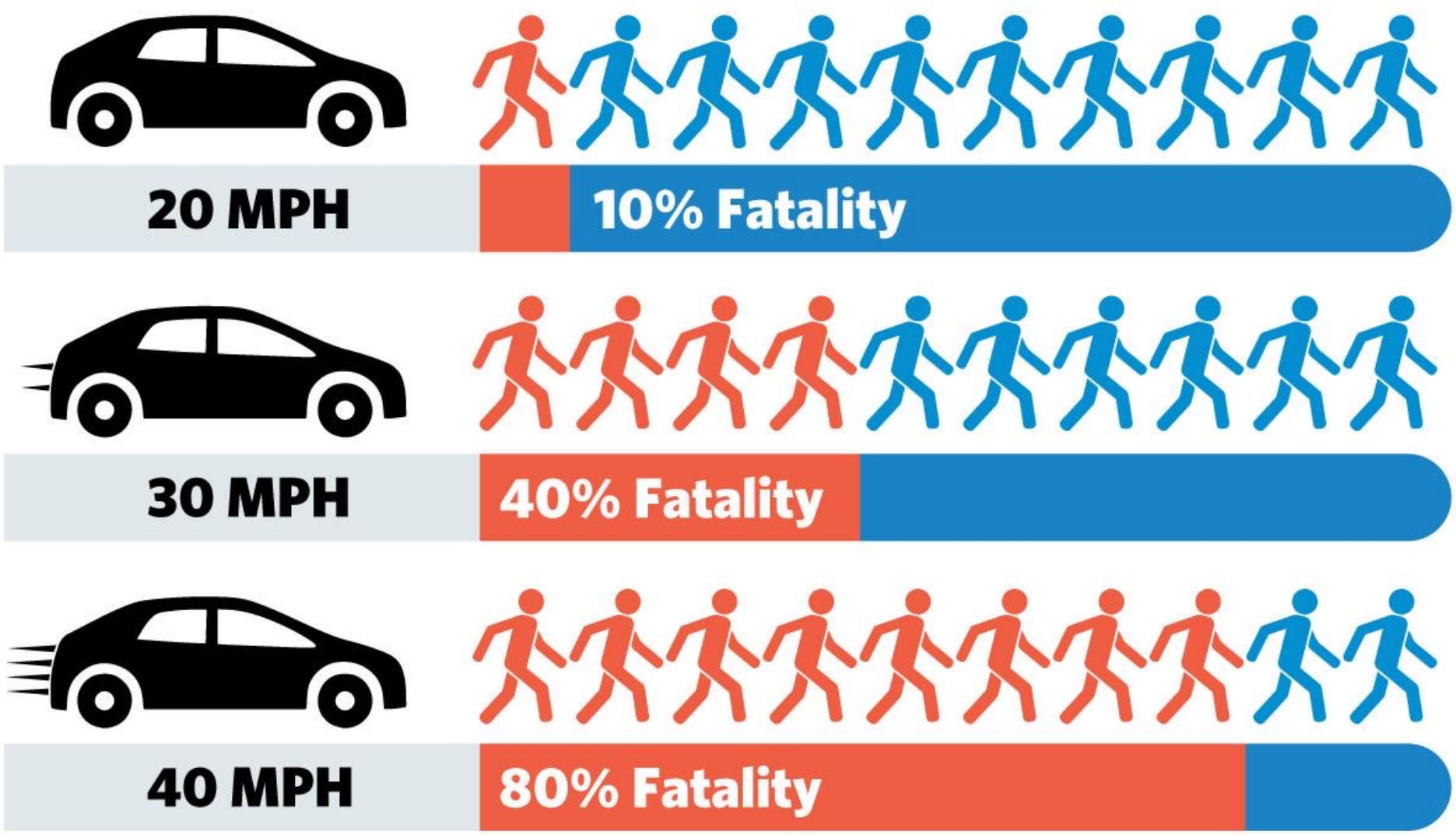
SPEED
LIMIT
30

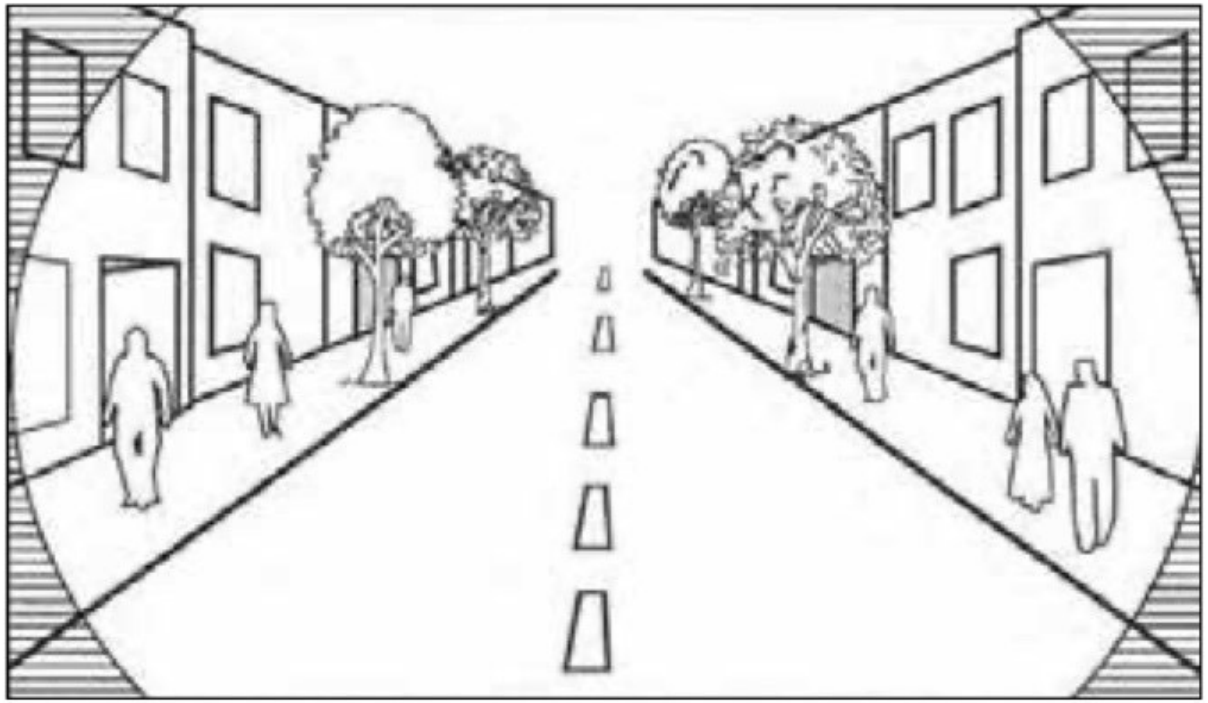
The case for managing speeds in urbanized areas

If hit by a car traveling:

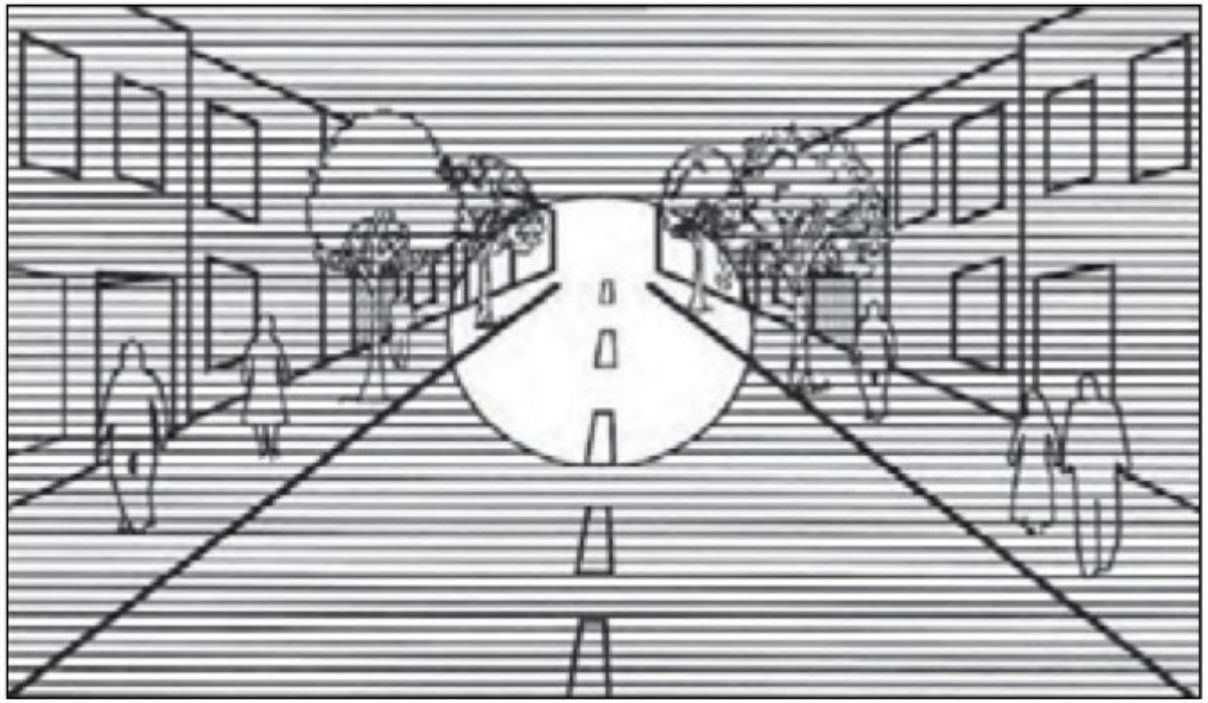


Source: U.S. Department of Transportation

Speed decreases a driver's field of vision

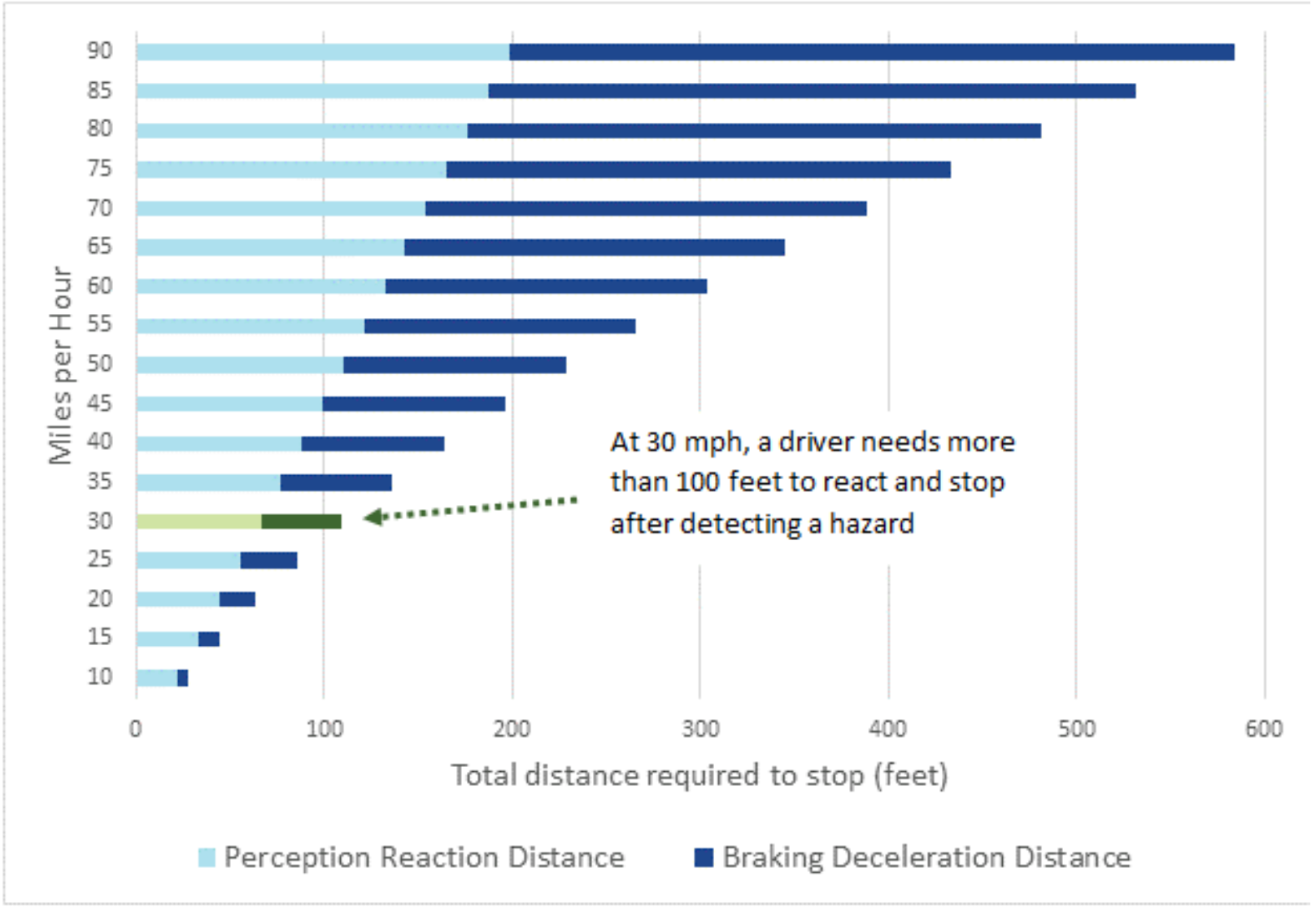


Field of vision at 15 MPH



Field of vision at 30 to 40 MPH

Higher speeds increase the distance required for a driver to stop *

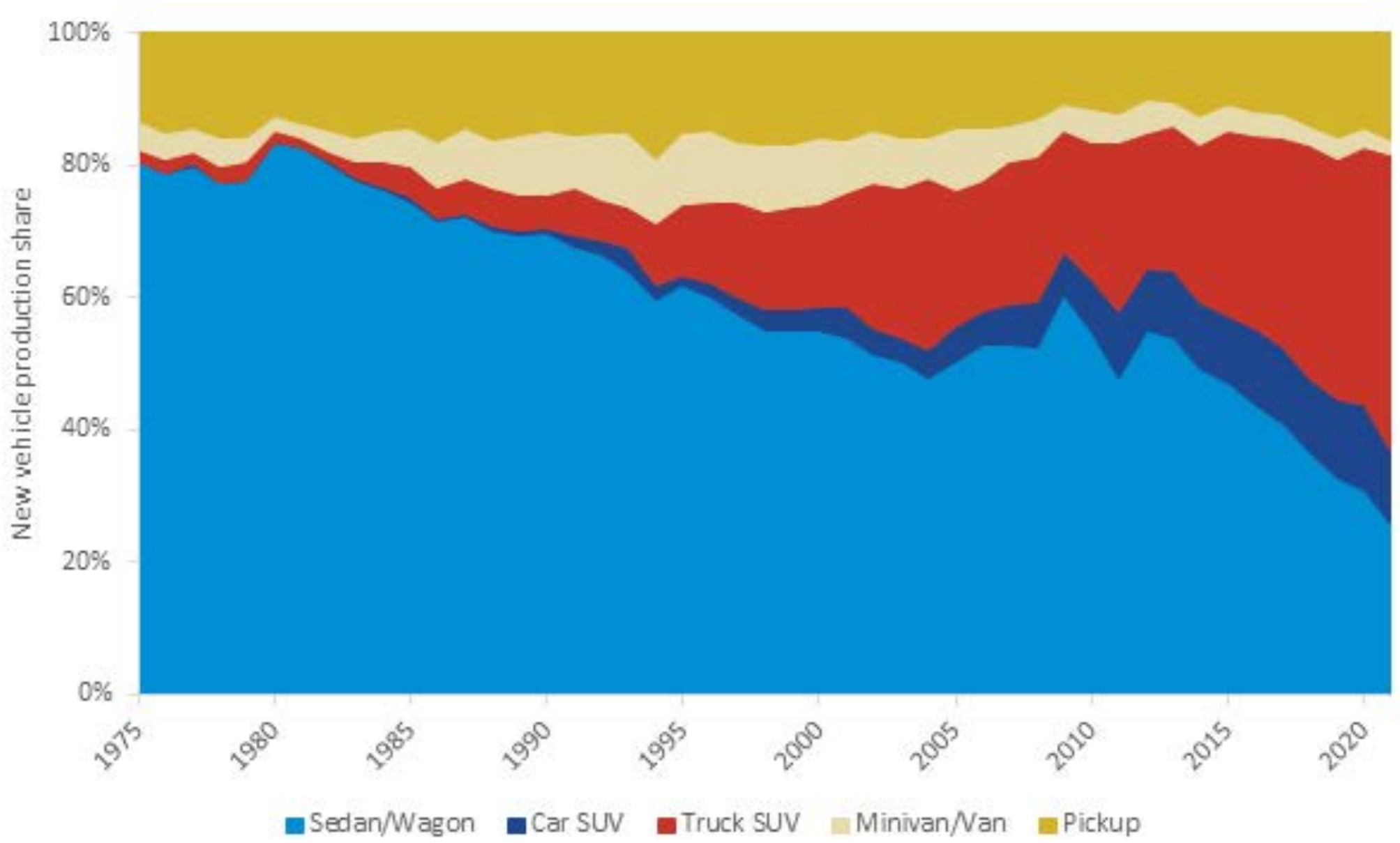


Distance required for a driver to react and stop a vehicle by travel speed.

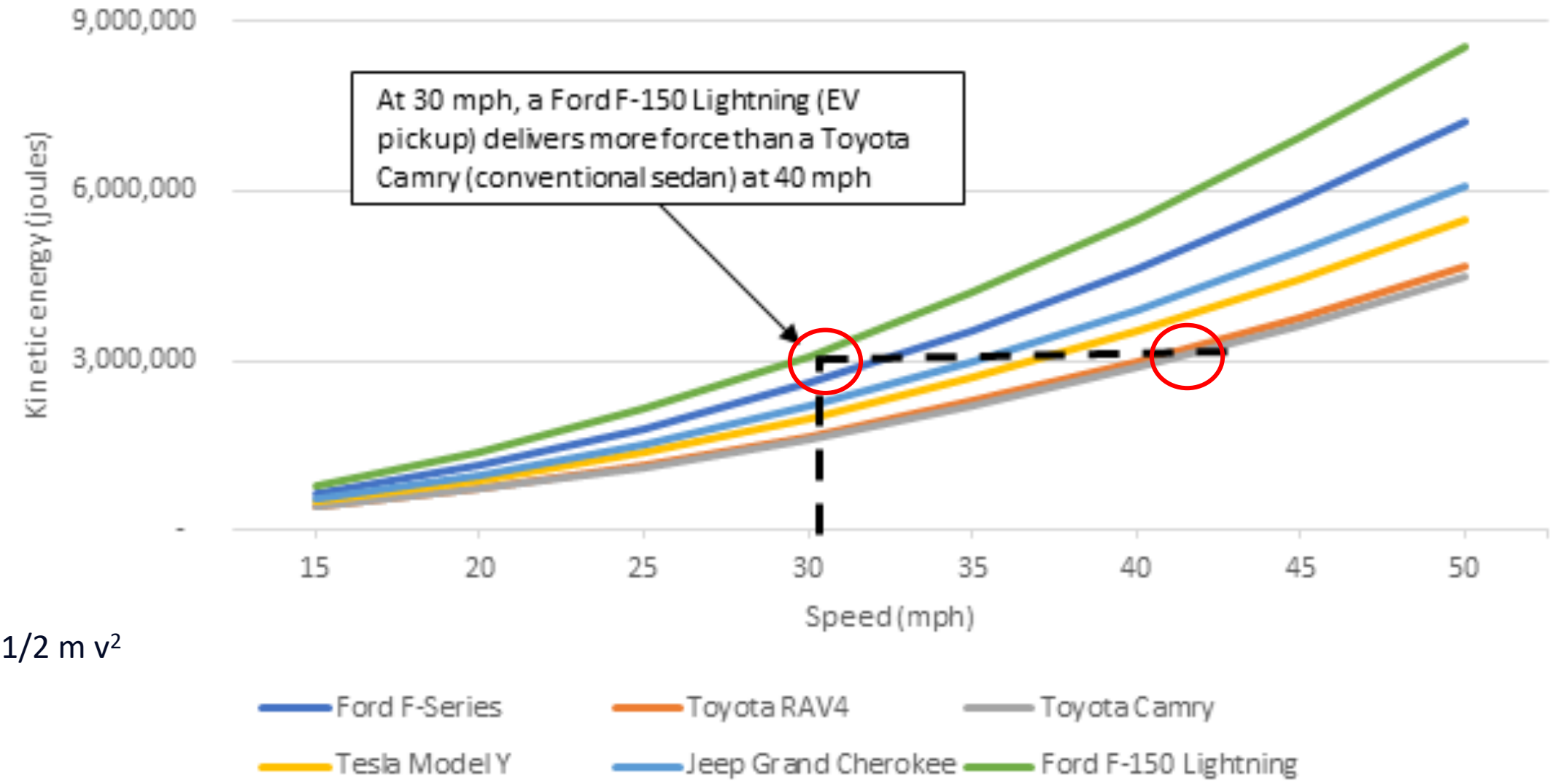
Source: CMAP analysis of NACTO report "Vehicle Stopping Distance and Time"

*average vehicle weight ~2013

Vehicles are heavier today



Heavier vehicles increase the energy in a crash and cause injury

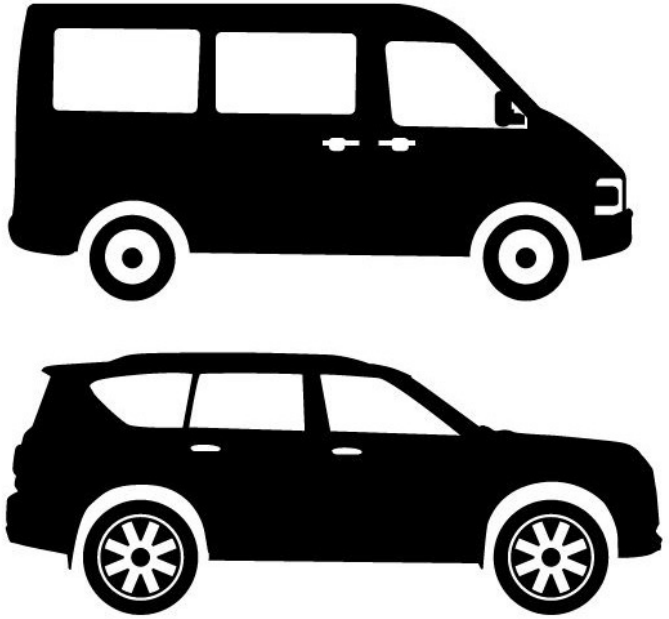


K.E. = 1/2 m v^2

Collision Kinetic Energy: 3 million joules

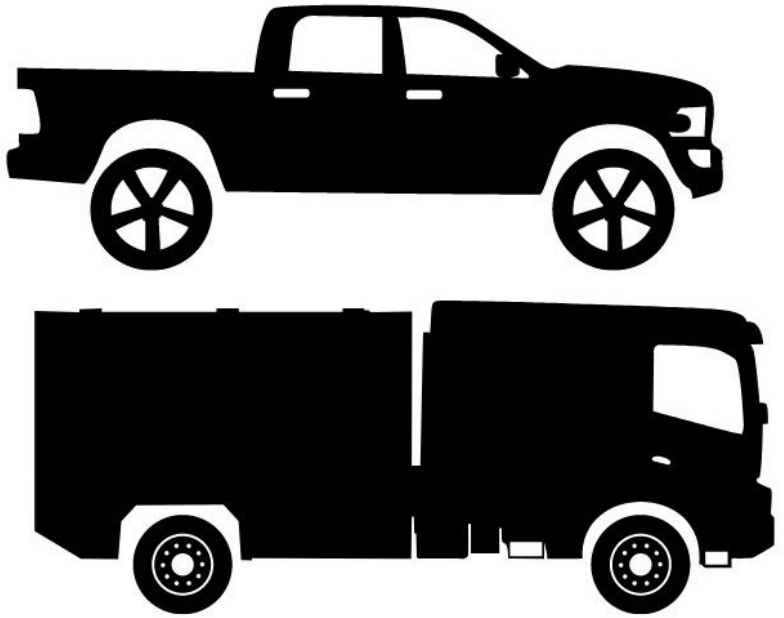
sedan

30 mph



SUV/minivan

25 mph



pickup/truck

20 mph

Vehicles are taller today

Photo credit: Smart Growth America

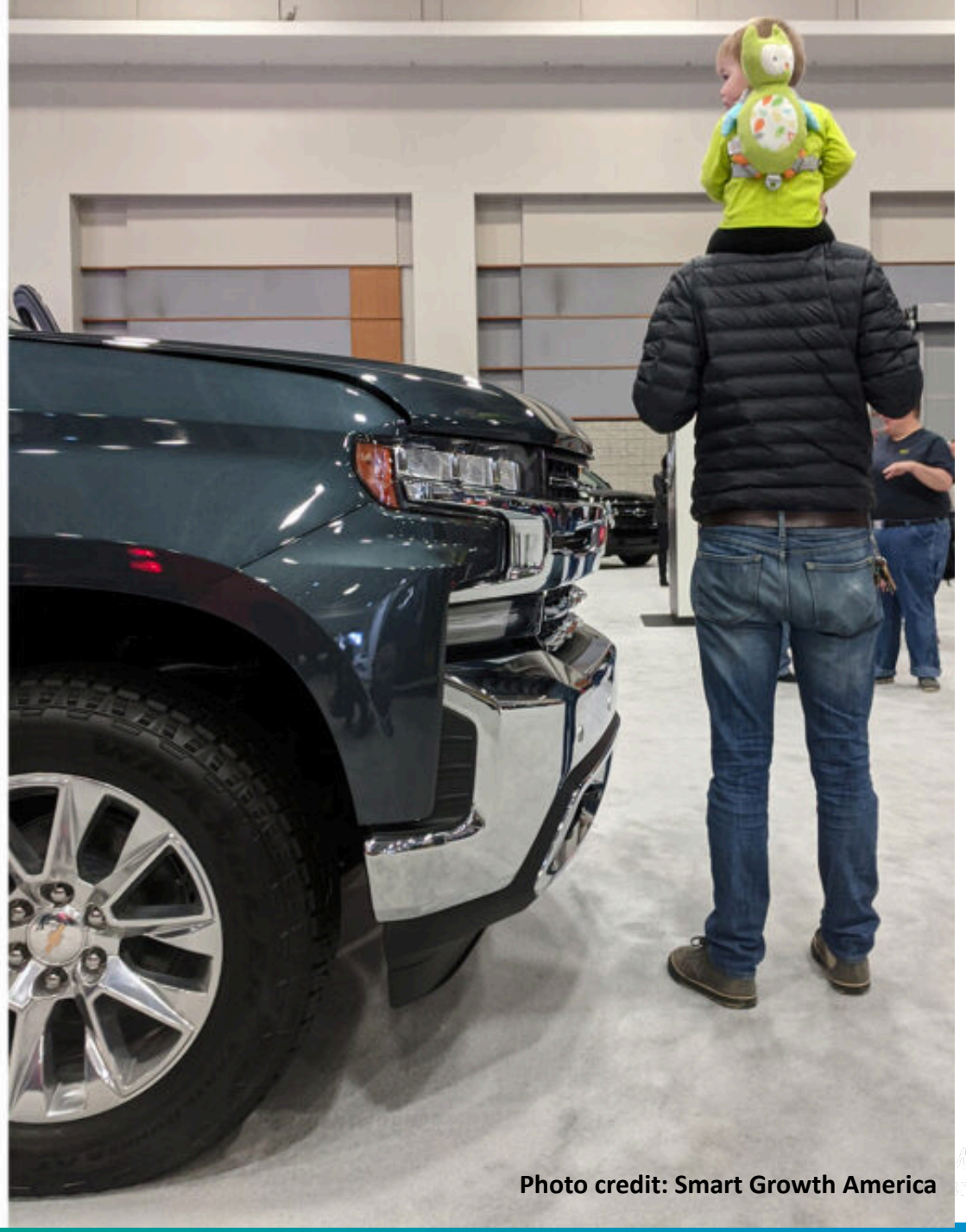
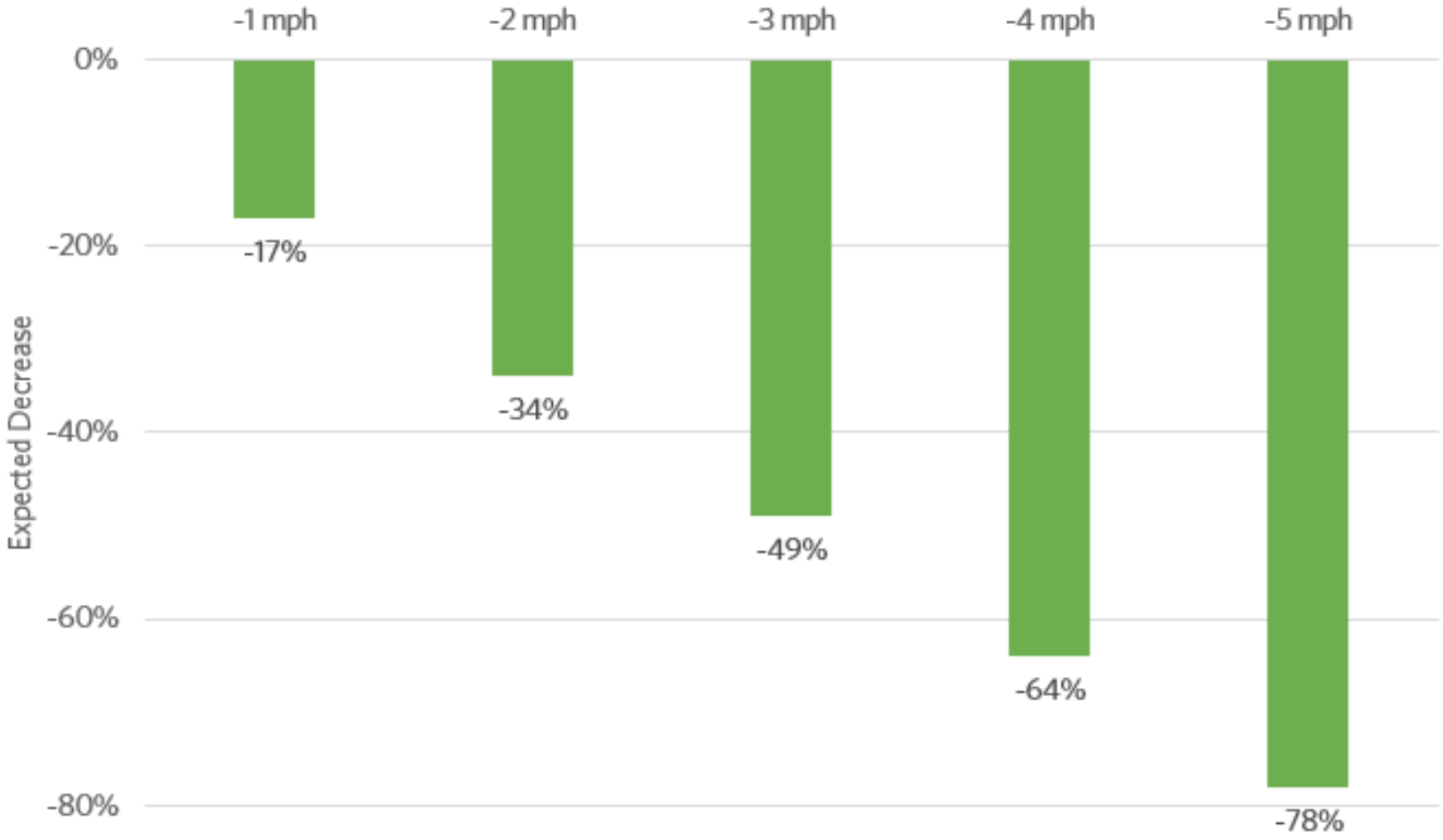


Photo credit: Smart Growth America

Speed management makes a big difference in reducing the risk of fatal crashes

Figure 10. Small reductions in operating speeds from 30mph can significantly decrease the likelihood of fatal crashes



Expected decrease in fatal crashes based on reduced operating speeds

Note: Figure based on "Crash Modification Factors for Changes in Average Operating Speed" from the Highway Safety Manual, 1st Edition. The figures show how small reductions of 1 or 2 mph in average motor vehicle speed, especially at lower initial speeds, can significantly improve safety by reducing crash rates by the estimated percent (AASHTO, 2010). Crash effects are also expressed as crash modification factors (CMFs) or multipliers of baseline crashes. So, a crash reduction factor (CRF) of 17% or 0.17 would be a CMF of 0.83 (or 1 – 0.17).

Source: Chicago Metropolitan Agency for Planning depiction of Pedestrian and Bicycle Information Center data.

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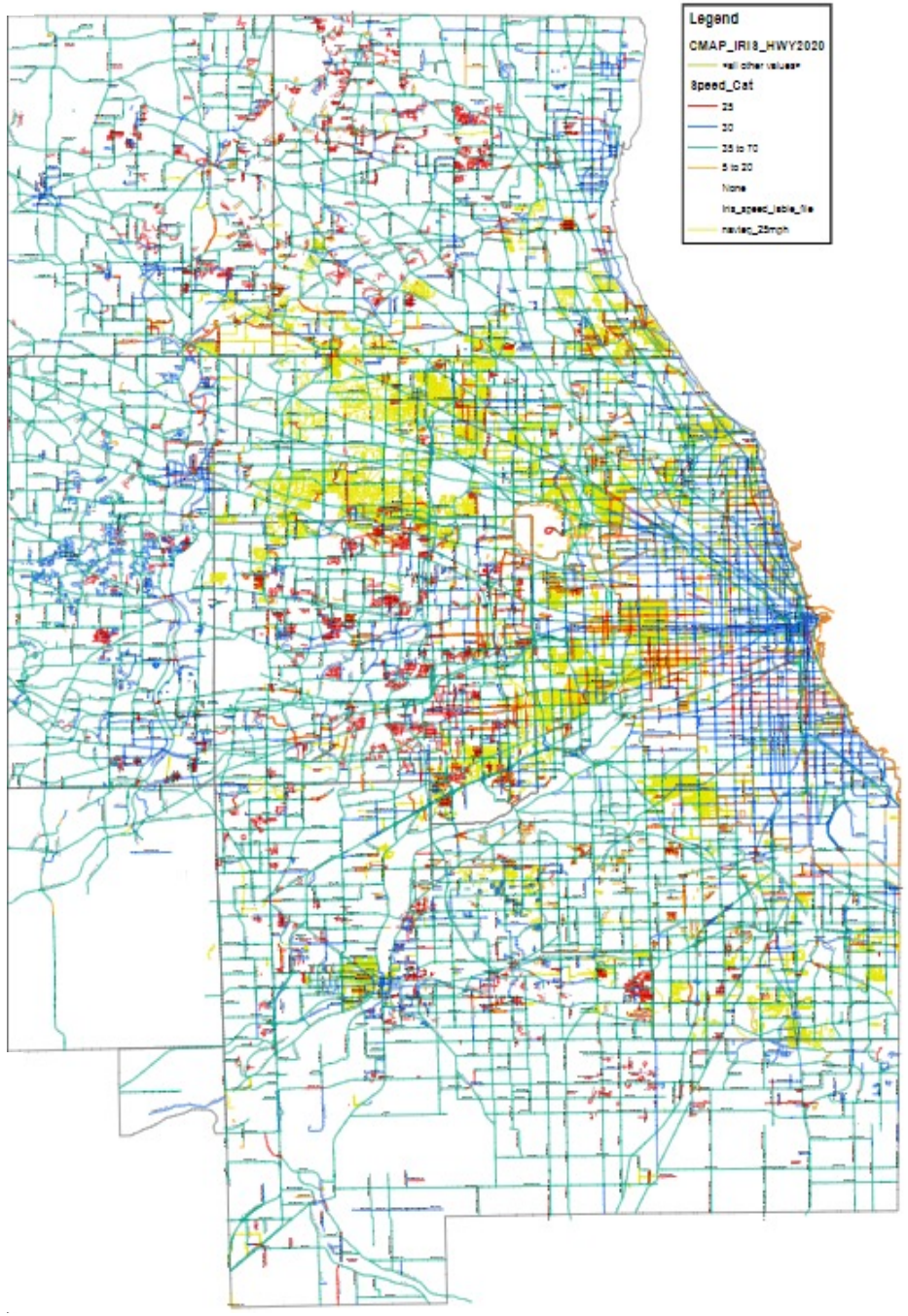
Strategies to Manage Speeding

THE SAFE SYSTEM APPROACH

Source: FHWA

Speed Management Strategies

- Improve design “self-enforcing streets”
- Reduce speed limits in dense urban areas
- Collect and provide data and information related to speeding and safety
- Create a traffic safety culture around safe speeds
- Equitable approach to enforcement, framed in *safety*



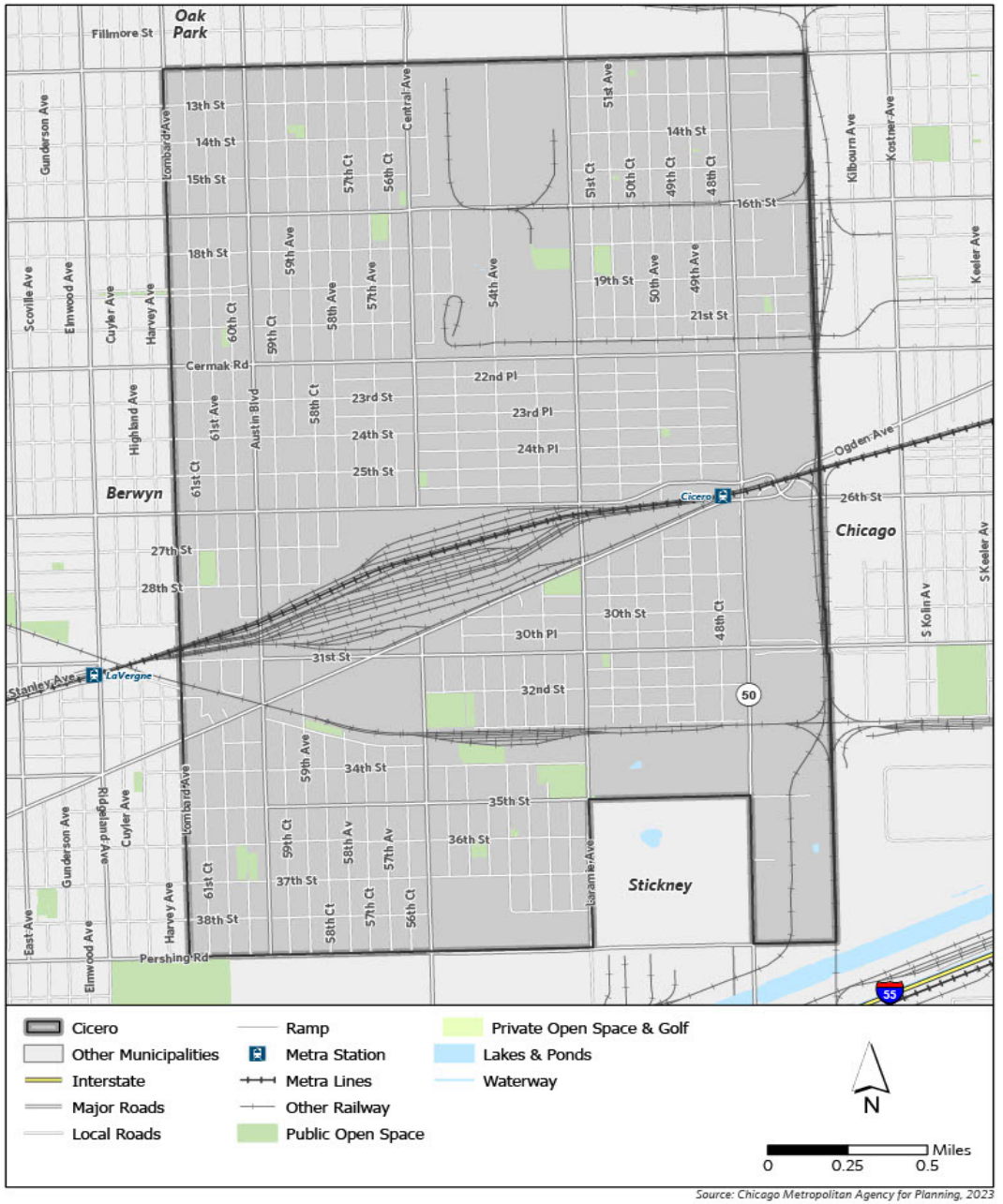
Significant data gaps in understanding speeding in the region

Regional Speed Data project to:

- Purchase extensive third-party speed probe data
- Analyze and compile that data into actionable speed insights using computer science techniques

Technical Assistance on Safety

- Cicero Safety Action Plan
- Greater Ashburn Safety Action Plan



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Safe Streets and Roads for All grant

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Safe Streets and Roads for All: Planning grant

CMAP awarded a planning grant

County-wide safety action plans based on a regional framework

- 24-month grant period, $4.87M (80/20 match)
- Designed to meet SS4A implementation eligibility
- Regional framework and equitable engagement and Justice 40 approach
- Build on existing work
- Strong engagement program

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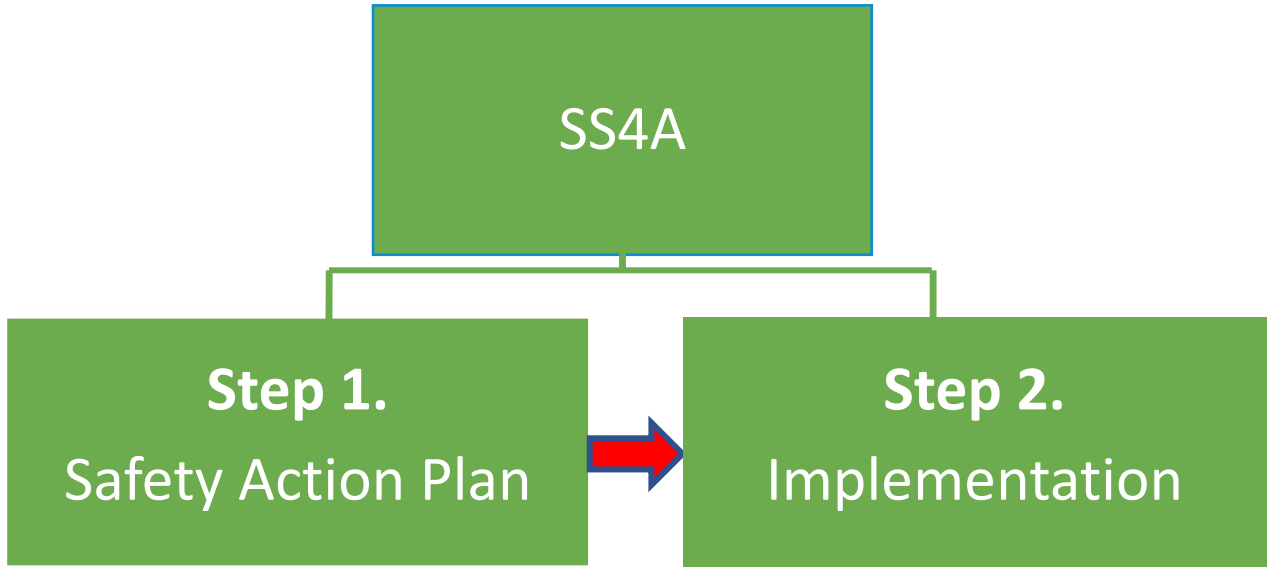
Safe Streets and Roads for All

$1 billion/year for 5 years



Safety Action Plans:

1. Commitment to reduce/eliminate traffic deaths
2. Leadership by Steering Committee
3. Equitable Engagement Program
4. Safety Analysis
5. Equity Considerations
6. Projects and Strategies
7. Policy and Process Changes
8. Progress Monitoring and Tracking

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Thank you!

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