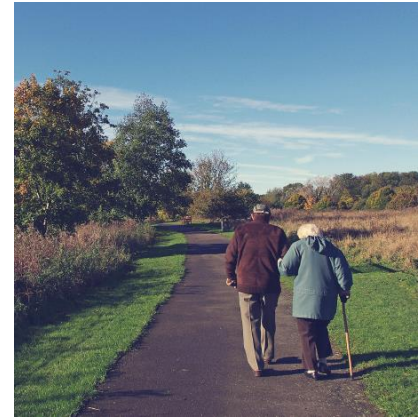
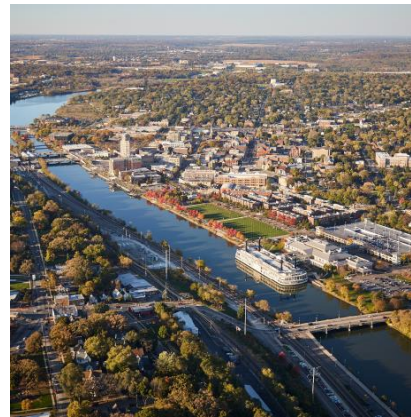
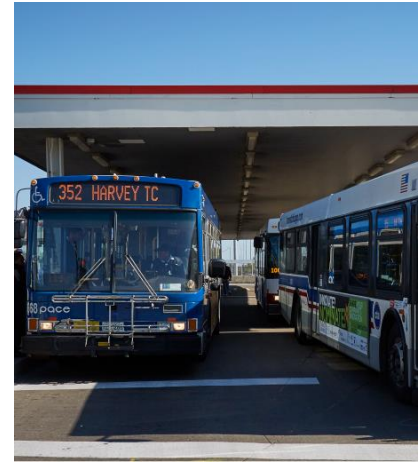


# Transportation Technology and Operations Coalition

**August 3, 2023**

**9:30 – 11:30 a.m.**

*When you are not speaking, please mute your microphone to reduce background noise.*



# 1.0 Welcome

Stephen Zulkowski, KDOT (Chair)

# 2.0 Agency updates

Open discussion among TTOC members regarding current work projects, topics of interest for upcoming meetings, etc.

# 3.0 CMAP announcements

Aaron Brown and Noah Harris, CMAP

New TTOC landing page on CMAP website:

<https://www.cmap.illinois.gov/forums/transportation-technology-operations-coalition>

# 4.0 Speed policy and safety, continued

Victoria Barrett, CMAP

Brian Roberts, Cook County DOTD

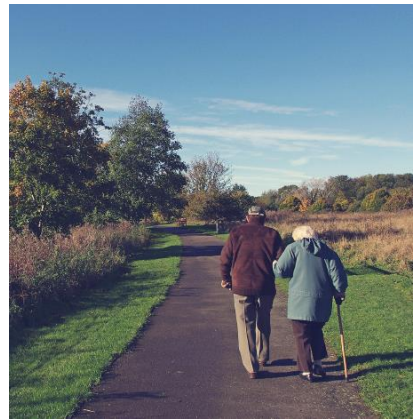
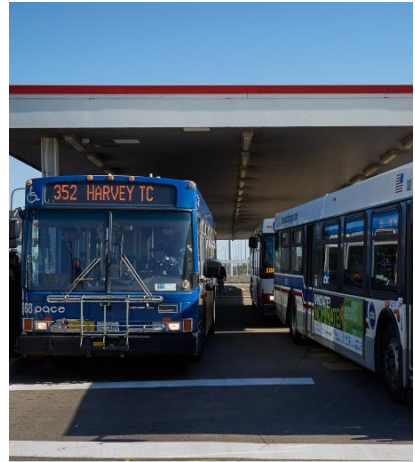


# Managing speed to improve travel safety

**Victoria Barrett**

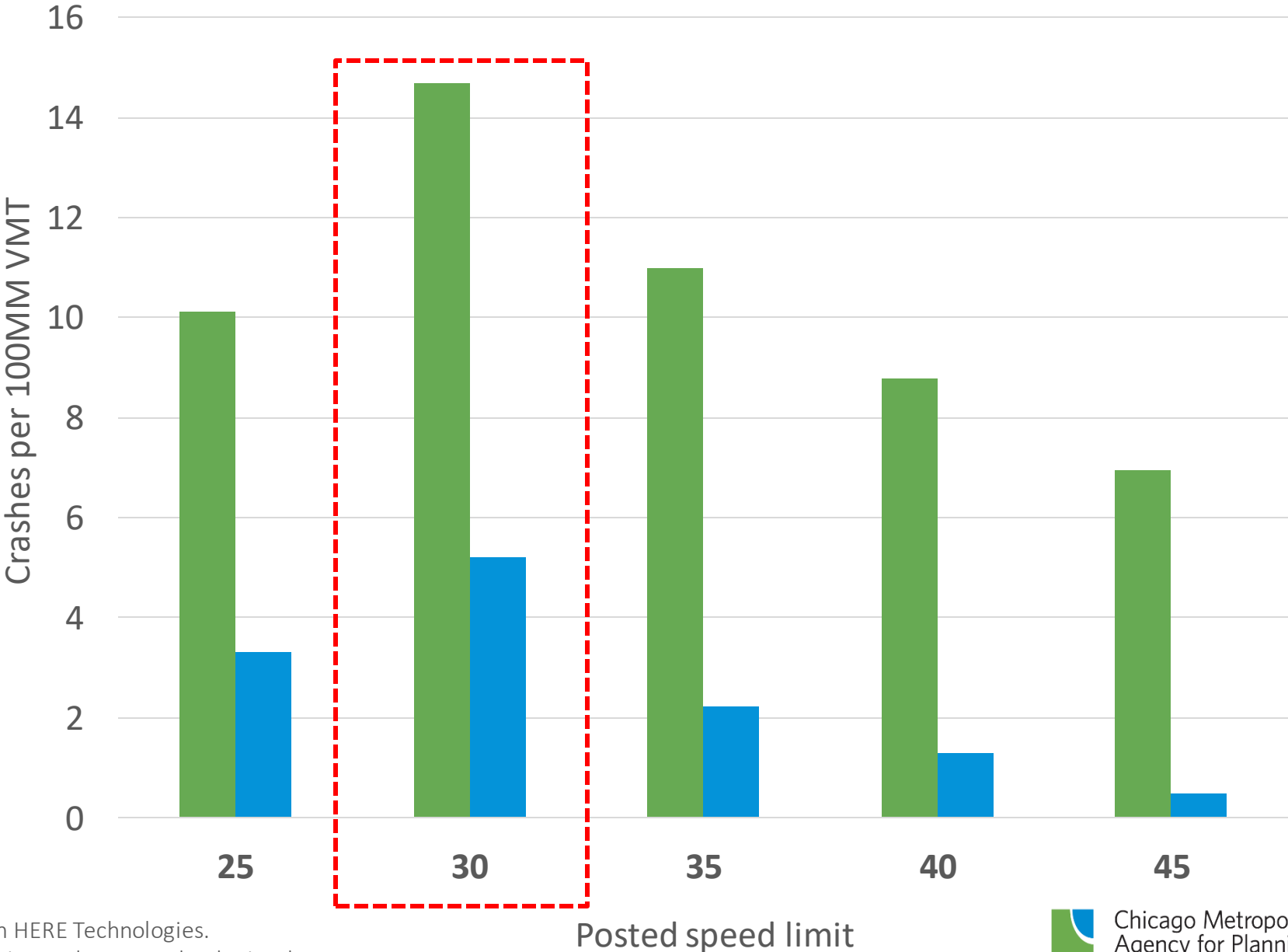
Senior Transportation Planner

@cmapillinois |    



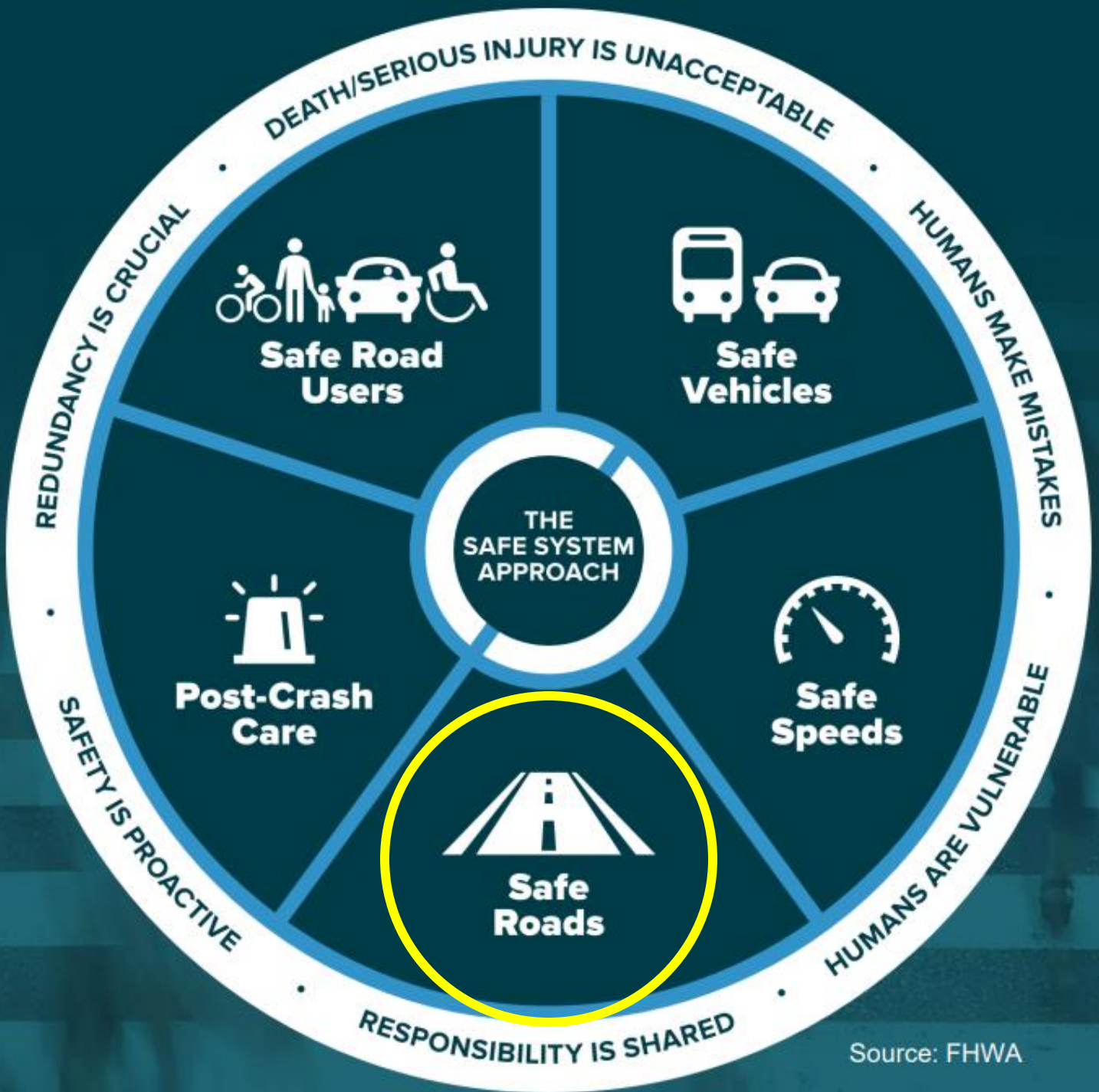
**Fatal and serious injury rate by travel mode and posted speed limit (crashes per 100 million miles of vehicle travel)**  
CMAP region, 2015–2020

■ Vehicle  
■ Cyclist and pedestrian



Estimated annual VMT in sample. Speed limit data based on HERE Technologies.  
Source: CMAP analysis of Illinois Department of Transportation and HERE Technologies data

# THE SAFE SYSTEM APPROACH



Source: FHWA



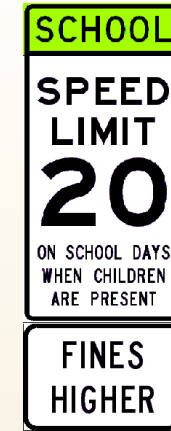
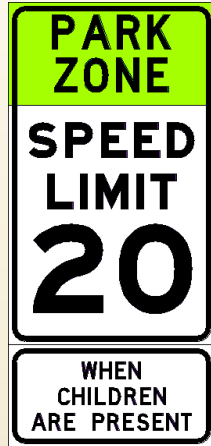
**Figure 19. A recently completed road diet in Niles has improved safety by reducing travel lanes and adding features that support lower speeds.**



Note: The intersection of Howard Street and the North Branch Trail in the Village of Niles,

Credit: Christopher Burke Engineering

# Establishing Speed Limits



# IDOT speed policy procedures (Cont.)

- 85<sup>th</sup> percentile speed
  - Based on spot speed studies with radar equipment
  - Measured as close to the middle of the zone being studied as practicable
  - Studied zones limited to 1 mile length in rural areas and ½ mile length in urban areas
  - Measurements taken during normal conditions (dry weather, daylight, outside of peak periods, no weekends)
  - At least 100 vehicles per lane per direction or after 3 hours. Trucks over 4 tons not measured

# NCHRP Project 17-76

- National research was conducted to develop updated guidelines in establishing speed limits.
- Research was published in 2021 and contains recommendations including using different percentile speeds based on the type of roadway and type of surrounding area.
- Recommendation of 50<sup>th</sup> percentile in urban core areas rather than 85<sup>th</sup> percentile.
- IDOT is reviewing this publication for potential revisions to speed limit policy including use of different percentile speeds and including bicyclists in our pedestrian reduction factor.
- <https://nap.nationalacademies.org/catalog/26200/development-of-a-posted-speed-limit-setting-procedure-and-tool>



# LEFT TURN TRAFFIC CALMING TREATMENTS IN CHICAGO

**David Smith, AICP**

**Complete Streets Director**



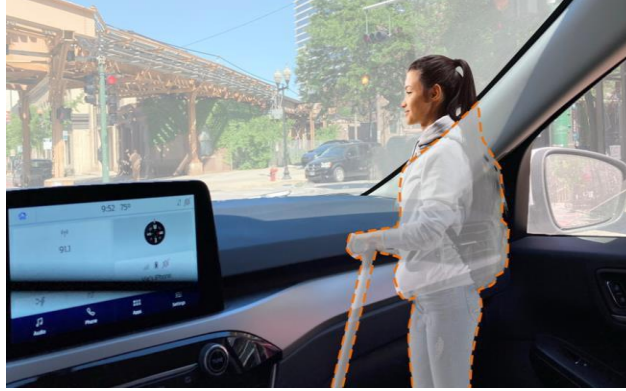
# DANGERS OF LEFT TURNS

## WIDE TURNING RADII



- Higher turning speeds compared to right turns
- Greater exposure for pedestrians in the crosswalk

## VISIBILITY



- Driver visibility is limited by the vehicle's A-pillar
- Obscures seven linear feet of the driver's view of pedestrians\*

## COMPLEX MANUEVERS



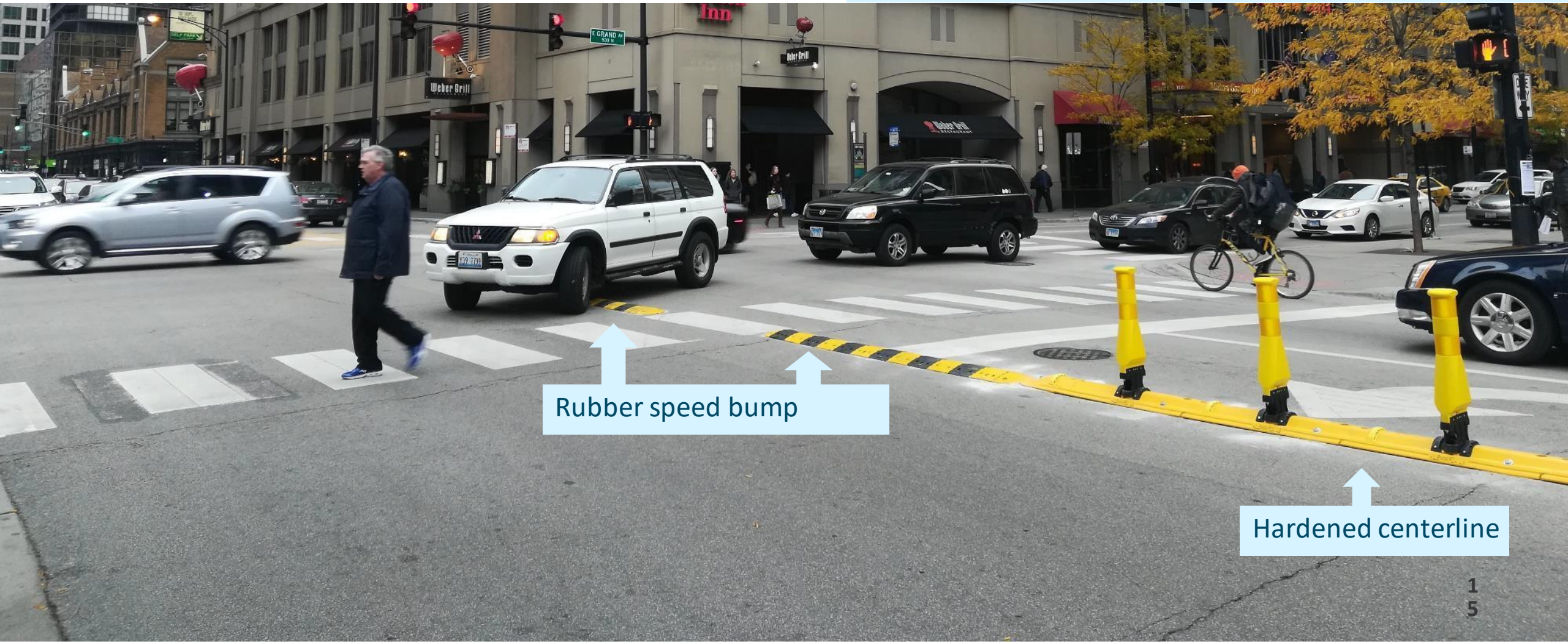
- Drivers must search for gaps in oncoming traffic (cars, bicyclists, crossing pedestrians)
- Pressure from through vehicles behind driver



# LTTC TREATMENTS

## Hardened Centerline / Rubber Speed Bumps

- **Treatment:** Rubber curb with plastic bollards often coupled with a rubber speed bump extending into the intersection
- **Benefits:** Guides approaching drivers and requires a slower turn, decreases pedestrian exposure and improves visibility



Rubber speed bump

Hardened centerline

# SAFETY RESULTS: 2022 LOCATIONS

Portion of drivers yielding to people walking:



Portion of drivers turning within the safe zone:



”

“I walk my dog across Ashland daily... With the [left turn traffic calming] improvements, I can safely step forward and look for oncoming vehicles. Also, because I am more visible crossing the street, vehicles are much more likely to slow down, and many even stop.”

*Ravenswood resident, regarding LTTC installations at N Ashland Ave & W Sunnyside Ave*



# Cook County Safety Studies

- >Countywide Crash Analysis
- >Lanes Repurposing Projects

CMAP Transportation Technology & Operations Coalition (TTOC)

May 4, 2023

**CONNECTING  
COOK COUNTY**  
Beyond Transportation



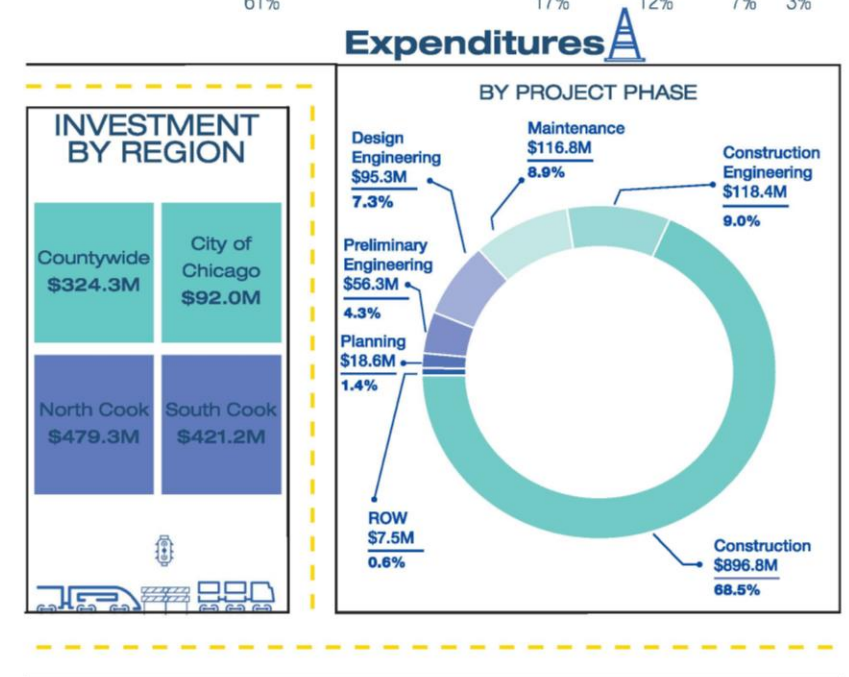
HONORABLE TONI PRECKWINKLE  
PRESIDENT, COOK COUNTY  
BOARD OF COMMISSIONERS

JENNIFER "SIS" KILLEN, P.E., PTOE, SUPERINTENDENT  
DEPARTMENT OF TRANSPORTATION & HIGHWAYS

# Study Objectives

1. Inventory current system
  - a. Segments
    - Number of Lanes
    - Posted Speed Limit
    - Access Density
  - b. Single attribute features
    - Horizontal Curves
    - Railroad At-Grade Crossings
    - Traffic Signals
    - All-Way Stop-Controlled Intersections
    - T-intersections
    - Viaducts
    - Crosswalks
    - School Zones
2. Develop predictive crash models
3. Develop ranked lists of safety performance (expected vs. observed)
  - a. Segments: Are certain roadway characteristics correlated with higher crash rates?
  - b. Other features – Create ranked lists of safety performance
4. Inform CCDOTH design practices
5. Add safety component to CCDOTH's five-year Transportation Improvement Program (TIP)

## CCDOTH Five-Year TIP (2023-2027)



# Lane Repurposing Projects - Summary

## Summary

- Many existing Cook County roadways are 52 feet wide, with four through lanes and a mountable median
- CCDOTH is actively converting four-lane cross-sections to five-lane cross-sections as opportunities arise through pavement rehabilitation projects.
- Creates opportunities for left turn lanes and pedestrian refuge islands.

Based on research, converting four-lane segments to five-lane segments results in a

**31%-57% reduction**

in all crash types.



Safer  
Pedestrian  
Crossings



Fewer  
Crashes



Improved  
Traffic Flow



Current Cross-Section (12'-12'-4'-12'-12')



Proposed Cross-Section (11'-10'-10'-10'-11')

# Prompts for discussion and feedback

1. What has your experience been with any of these efforts presented here? (Traffic calming, speed limit setting, road diets, and/or lane conversions, etc.)
2. Have you used the IDOT speed limit policy? How could it be improved?
3. What are the barriers to improving safety from your experience?
4. What is the difference between transportation professional's view on speed control versus the general public's view?



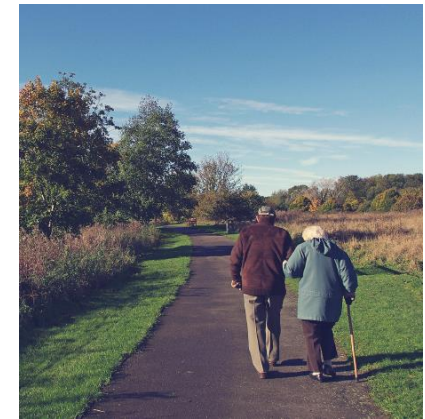
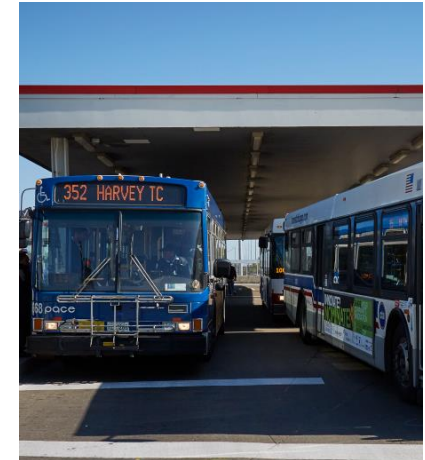
# 5.0 Congestion management process (CMP) update

Jose Rodriguez, CMAP

# Congestion Management Process Overview

Jose Rodriguez, Senior Planner, RAP

Transportation Technology and Operations  
Coalition – August 3, 2023



# CMP Definition

Systematic and regionally accepted approach to managing congestion

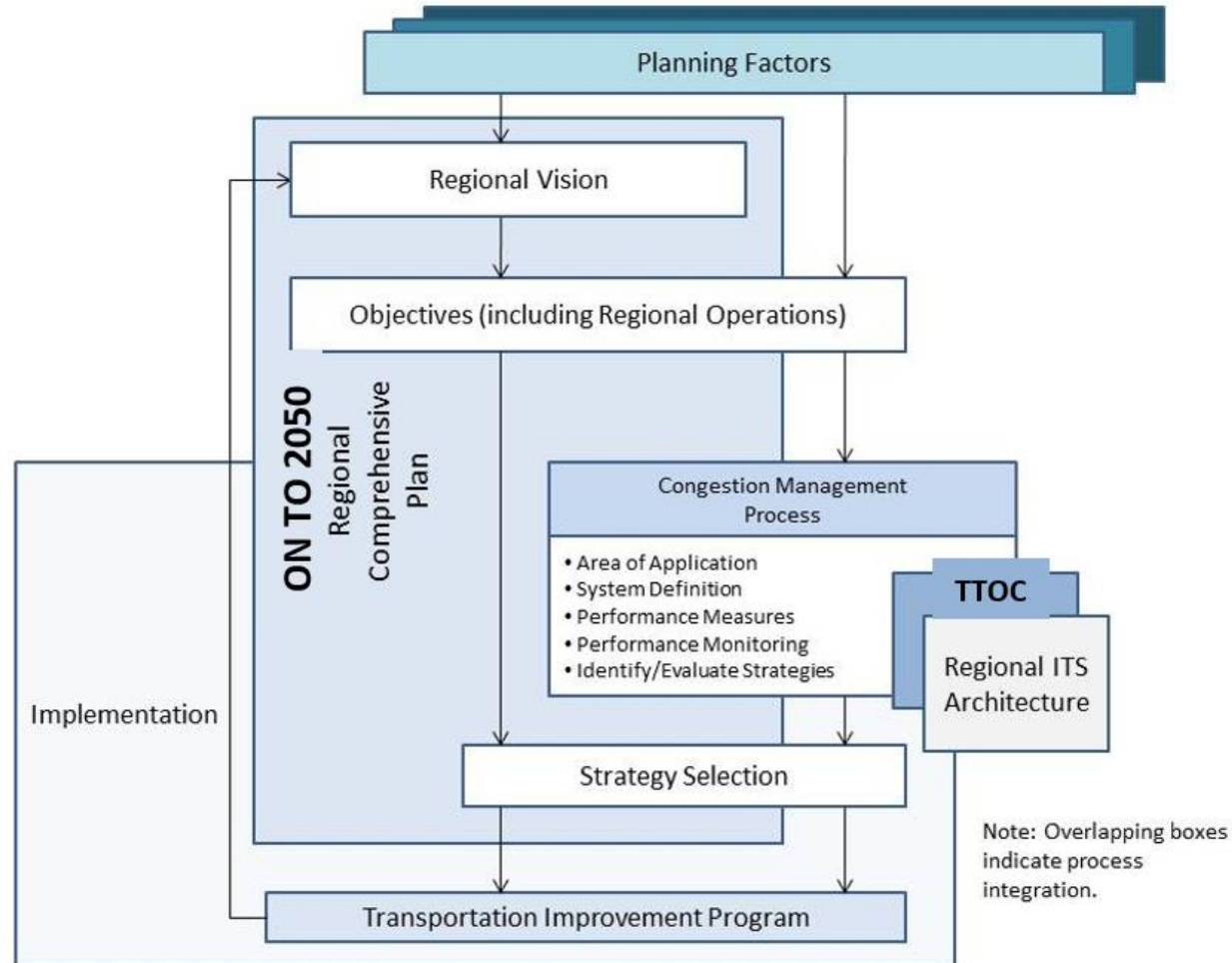
- Goal: improve transportation system performance and reliability for the movement of people and goods.

Required for metropolitan areas with 200,000+ people

Nonattainment for ozone or carbon monoxide:

- Cannot program federal funds for projects that will result in a significant increase in the carrying capacity for SOVs unless the project is addressed through a CMP

# CMP & Metropolitan Transportation Planning





# Develop Regional Objectives

## Mobility indicators

- Percentage of Highway Bridge Area in “Poor” Condition
- % of Person-Miles Traveled on the Interstate System with Reliable Travel Time
- Number of Traffic Fatalities
- Transit Asset State of Good Repair
- Annual Unlinked Transit Trips
- Motorist Delay at Highway-Rail Grade Crossings
- Chicago Terminal Carload Transit Time

# Define CMP Network

## Roadway network

- Freeways/expressways/tollways
- Strategic Regional Arterial system
- Other principal arterials
- National Highway System intermodal freight connectors
- Capital improvements in ON TO 2050

## Transit service network

- CTA, Pace, and Metra

## Freight rail network

- Railroad mainlines with more than six estimated freight trains per day
- CREATE Program corridors
- CREATE Program rail grade separations

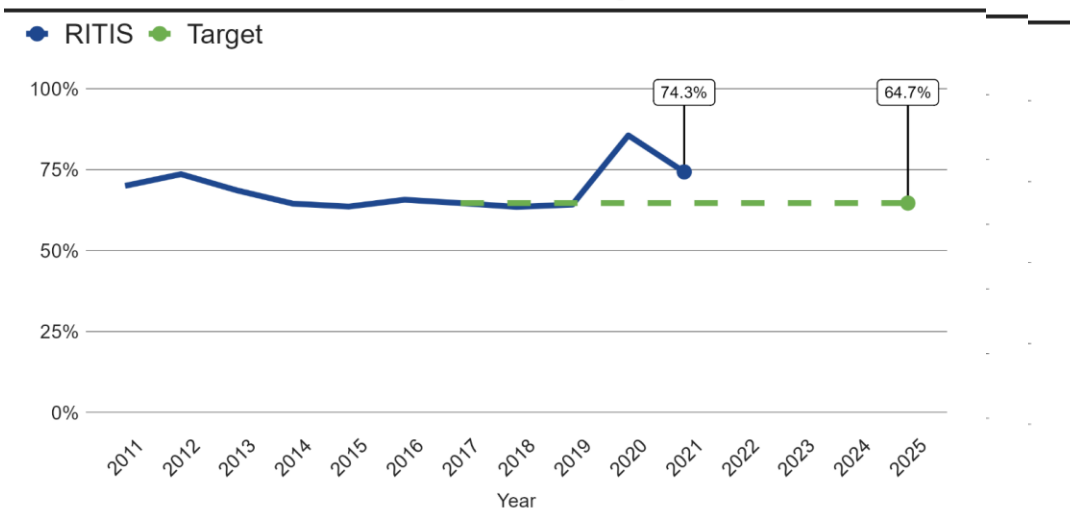
# Develop Multimodal Performance Measures

Plan indicators support performance measurement

Additional measures:

- Travel time reliability
- Detailed traffic crash measures
- Transit on-time performance
- Accessibility of walking and cycling

Annual Interstate LOTTR in CMAP Region



# Monitor, Measure & Identify Congestion Causes

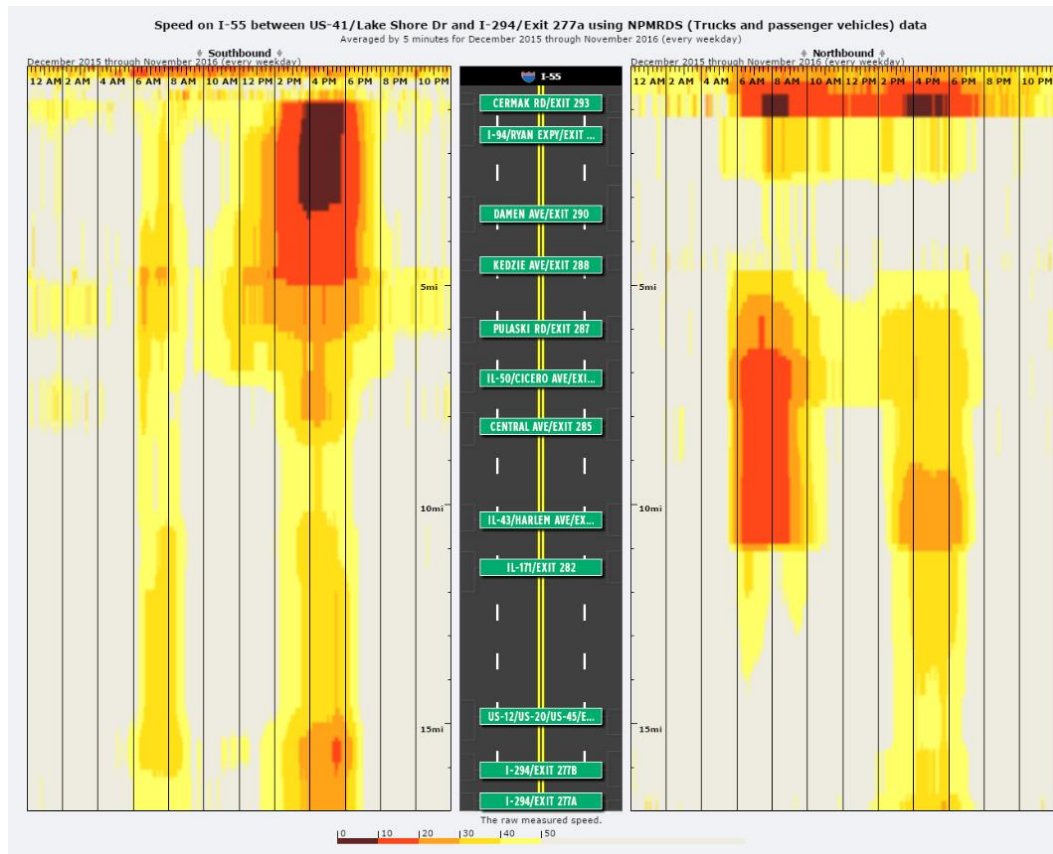
## Data collection

- Traffic counts
- Transit ridership
- Traffic crash data
- Regional Integrated Transportation Information System (RITIS)
- Freight system inventories
- Traffic signal database
- On- and off-street parking inventories
- Bicycle infrastructure
- Sidewalk inventory

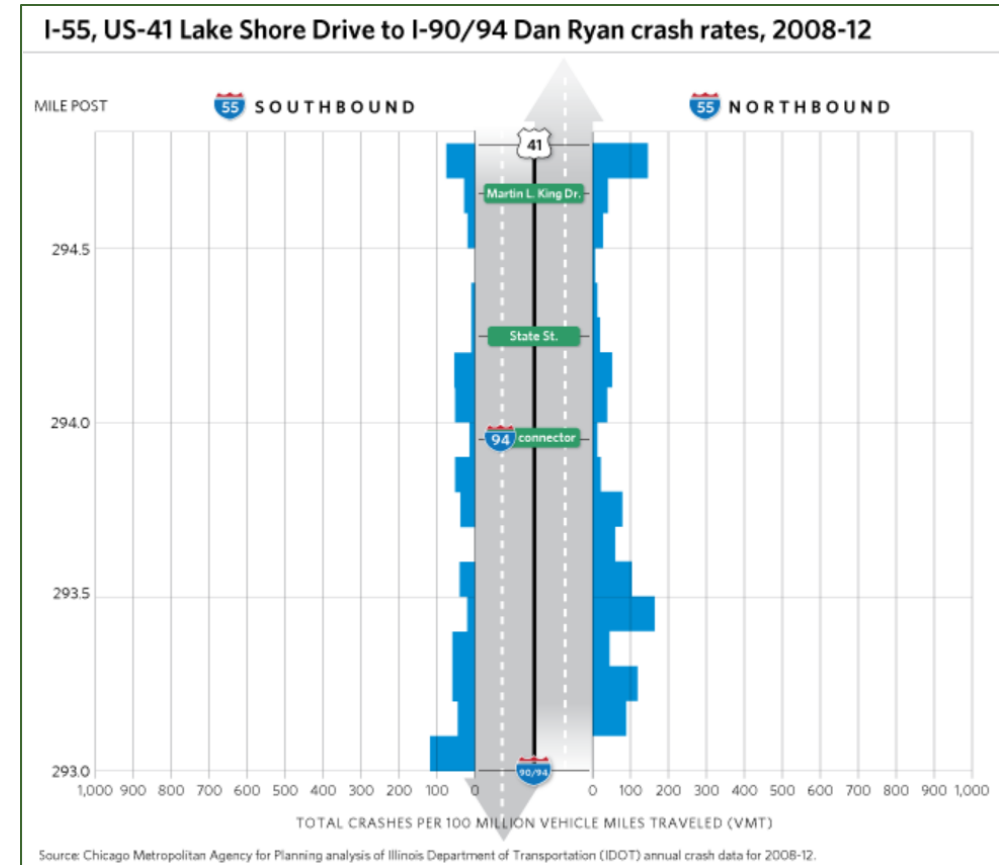


# Monitor, Measure & Identify Congestion Causes

## Congestion scans



## Crash scans



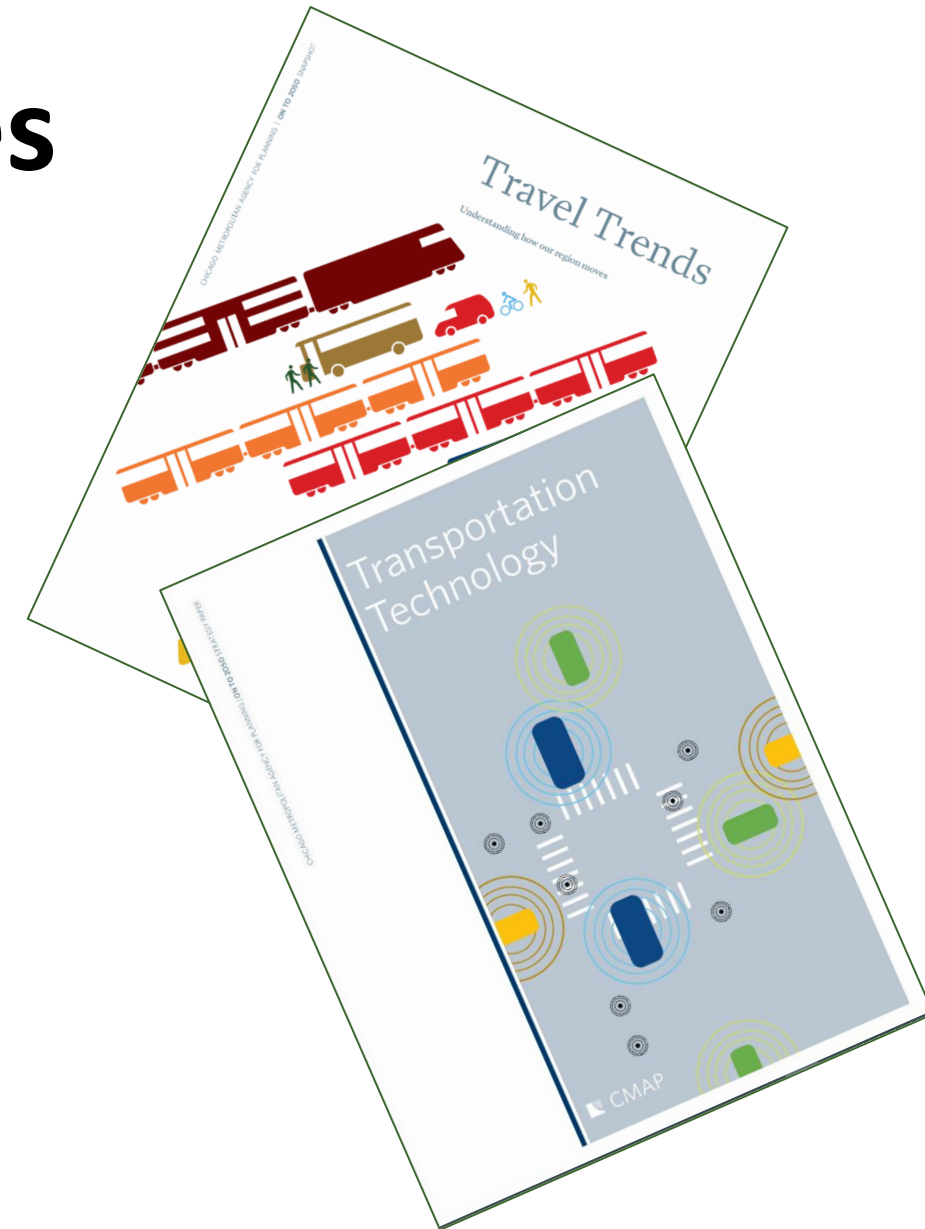
# Identify and Assess Strategies

Snapshot reports – trends and conditions

- Travel Trends, Transit Trends, Freight System

Strategy Papers – develop policy direction

- Highway Operations, Transit Modernization and Innovation, Climate Resilience, Transportation Technology, Regional Strategic Freight Direction



# Program, Implement and Evaluate Strategies

Consider strategies that:

- manage travel demand
- reduce Single Occupant Vehicle travel
- improve system management and operations
- improve service integration

Transportation Improvement Program

Congestion Mitigation and Air Quality Improvement Program

# Current work

Update CMP document – Q1-Q2, FY 2024

- Align with ON TO 2050 and Federal Performance Measures: ([Indicators Appendix](#) and [System Performance Report](#))
- Reflect ON TO 2050 principles – Inclusive Growth, Resiliency, Prioritized Investment
- Reflect updated policy framework (safety, equity, climate, accessibility)
- Identify key strategies (regional arterial TMC, incident management)
- Discuss updated project evaluation criteria (RSPs, CMAQ)





Chicago Metropolitan  
Agency for Planning

# Prompts for Discussion and Feedback



**In the past, which of CMAP's congestion indicators (scans, indexes, year-by-year performance summaries) have you found useful? Which have been relevant to your agency's day-to-day operations or to future project development?**

**When evaluating non-motorized or small-motorized (i.e., e-bikes, e-scooters) performance and prospective new projects on your road networks, what performance measures do you use and collect data for?**

**What user equity measures do you incorporate currently? Are you aware of or planning to use others that are unique to your agency and tailored to your jurisdiction's transportation system?**



**Are there non-data-related obstacles you have experienced when developing grant applications in the past?**

**Are there projects/programs that your agency would be comfortable with being highlighted as examples of CMP implementation?**

**Any other comments, questions, or  
feedback?**

# Thank you!

# 6.0 Adjournment

Next meeting: November 2, 9:30-11:30



# Transportation Technology and Operations Coalition

Noah Harris

[nharris@cmap.illinois.gov](mailto:nharris@cmap.illinois.gov)

Aaron Brown

[abrown@cmap.illinois.gov](mailto:abrown@cmap.illinois.gov)

[@cmapillinois](https://twitter.com/cmapillinois) |    

