

Vision Zero Louisville

Speed Management Plan

Kentucky Partnering Conference
September 4, 2024



What is one similarity between these two photos?



Does the speed limit change when you see the sign or as you pass the sign?



Safe System Approach

Safer Speeds is one of the five pillars of the [Safe System Approach](#), which prioritizes safety and human vulnerability in the design and operation of a transportation system. Speeding increases both the frequency and severity of crashes and is a significant contributor to traffic deaths.



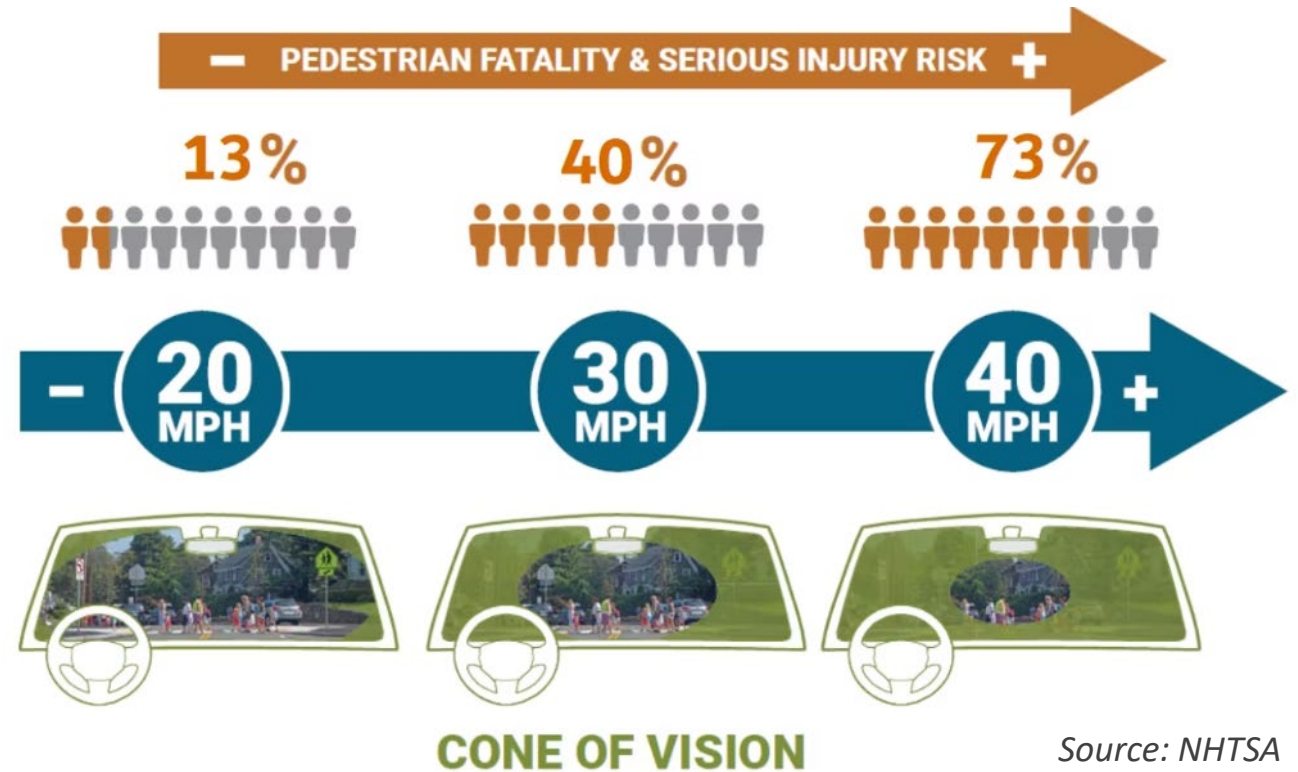
The Effect of Speed

Speeding is particularly hazardous to pedestrians.

As speed (v) increases, Kinetic Energy is multiplied.

$$KE = \frac{1}{2} mass * v^2$$

According to the National Highway Traffic Safety Administration (NHTSA), [speeding-related crashes](#) accounted for 28% of fatalities in the [U.S. between 2011-2020](#).



Source: NHTSA



Why Develop a Speed Management Plan?

- Foundation for Vision Zero Louisville's Safer Speeds strategy.
- Design roadways for life-sustaining speeds.
- Support setting appropriate/ration/desirable/safe speed limits
- Reduce speed differentials (posted speed limit vs. travel speeds)
- Engage, learn from, and educate the community



Process: Understanding Speed in Louisville

Learn from Others

- Tampa, FL
- Portland, OR
- Detroit, MI
- Austin, TX
- Bellevue, WA
- Minneapolis, MN

Collect Extensive Data

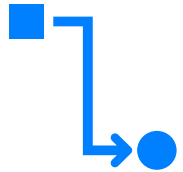
- Posted speed limits
- Actual speeds
- Context speed limits
- Crash data
- HIN
- VRU
- Community assets

Analyze Data

- Actual vs. posted speed
- Actual vs. road context
- Posted vs. road context
- Quantify and categorize the issues



Process: Develop Tools to Mitigate Negative Effects of Speed



Look for the causes of speeding

Road contexts

Road characteristics



Prioritization & Screening

Speeding “routes of concern”

Crashes

Equity

Community areas

Traffic volumes



Collect Input & Craft Plan

Transportation agencies

Louisville Metro stakeholders

Elected officials

Public

Propose policies, programs, & projects



Coordination with Other Initiatives

- Vision Zero Louisville Safety Report (2021)
- KIPDA SS4A Safety Action Plan (Active)
- KYTC Statewide Vulnerable Road User (VRU) Safety Assessment (2023)
- High Injury Network (2024)
- Programmed Projects (Active)
- VRU Roadway Safety Assessment Initiative in Jefferson County (Active)
- Safe Routes to School (Active)
- Louisville Metro Neighborhood Traffic Calming Program (Active)
- Louisville Complete Streets Design Guide (2020)
- KYTC Complete Streets, Roads, and Highways Manual (2022)



EVALUATING SPEEDS





Current Posted Speeds in Louisville

85th percentile speed - “the speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point.”

OR the speed at which only 15% of traffic violate on average

Origins in the 1920s as a guideline, but....

- Cars have become more powerful
- Cars can go faster with less ‘road feedback’ to the driver regarding speed

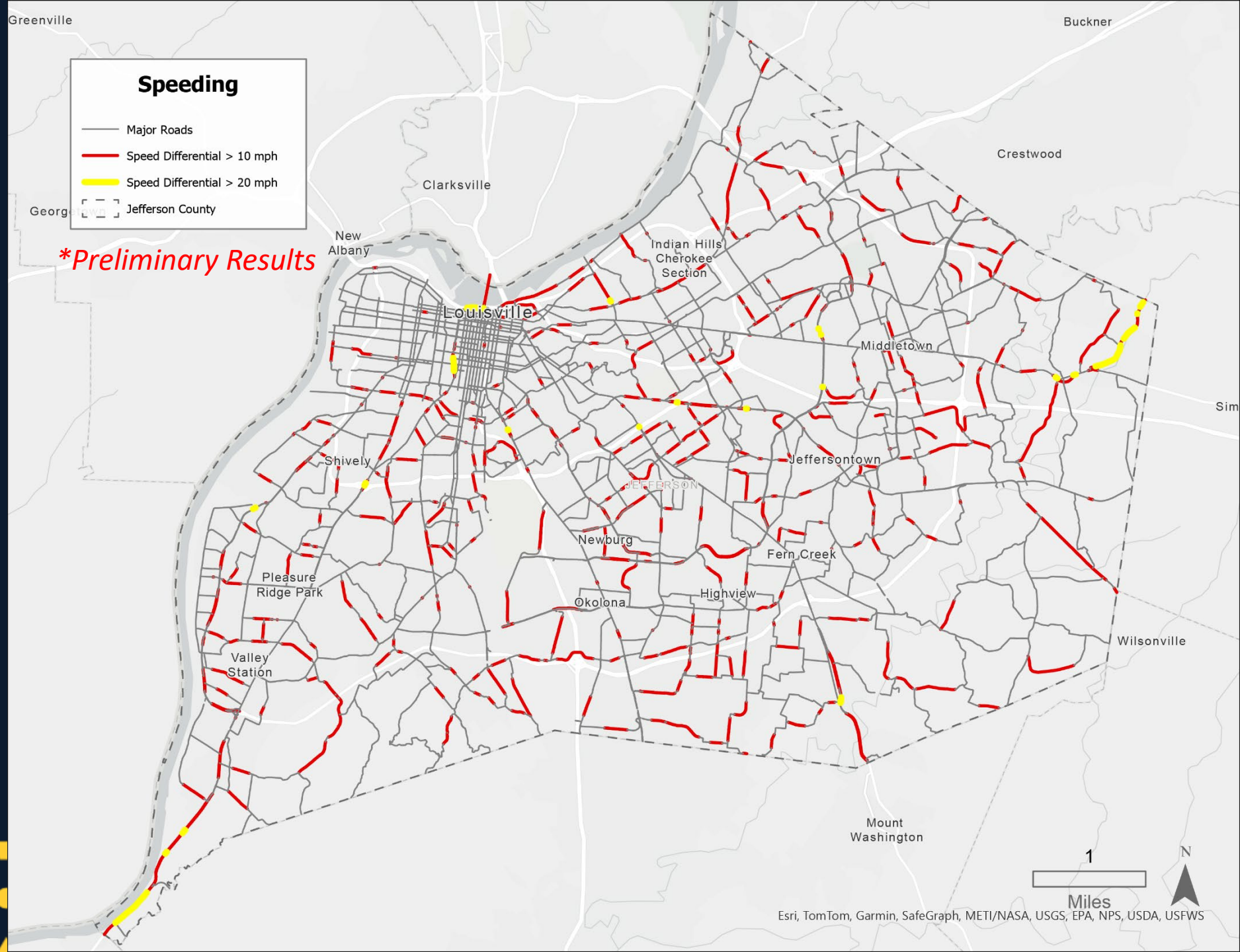
Data Analysis – Comparing Speeds to Posted Speed

Speed data obtained from HERE data

- **What is HERE?** Big data company uses GPS probe data from 100-plus providers collected globally from connected vehicles, navigation systems, fleet telematics systems, or mobile devices.
- **What is the data?**
 - Probe speed data averaged in 60-minute increments
 - Weekday (Tue-Thu) or Weekend (Sat-Sun) in 2019
 - Presented with percentile speeds
 - Both car and truck vehicle types
- **What were the parameters for the plan?**
 - Weekday (T-Th) 6 am – 8 pm
 - Focused on 50th, 85th, and 95th percentile speeds for comparison to posted speed
- **What are the limitations of the data?**
 - Small sample size in some hours



Posted vs. Actual Speeds in Louisville



Key Observations

- 31% of speeding (10-20 mph over) occurred on minor arterials followed by 20% of speeding on principal arterials
- Excessive speeding occurred 36% on principal arterials and 32% on local roadways
- Excessive speeding (20 mph and over) is widely distributed, short segments, and are often in transition zones (64% of excessive speeding occurred on 35 mph posted speed limit roadways)
- Using 85% actual speeds and assuming 5 mph or more is speeding, 45% are 'speeding' (not just 15%!)
- Speeding is also distributed across speed limit groups, but is over-represented on a per mile basis at 25 MPH and 50 MPH considering 10-20 mph over
- Areas with new development usually need to be addressed for speed



EVALUATING SPEED LIMITS



Approaches to Choosing Appropriate Speed Limits

Alternate methods have been emerging for setting speed limits that take more of roadways' total presence and impact into account:

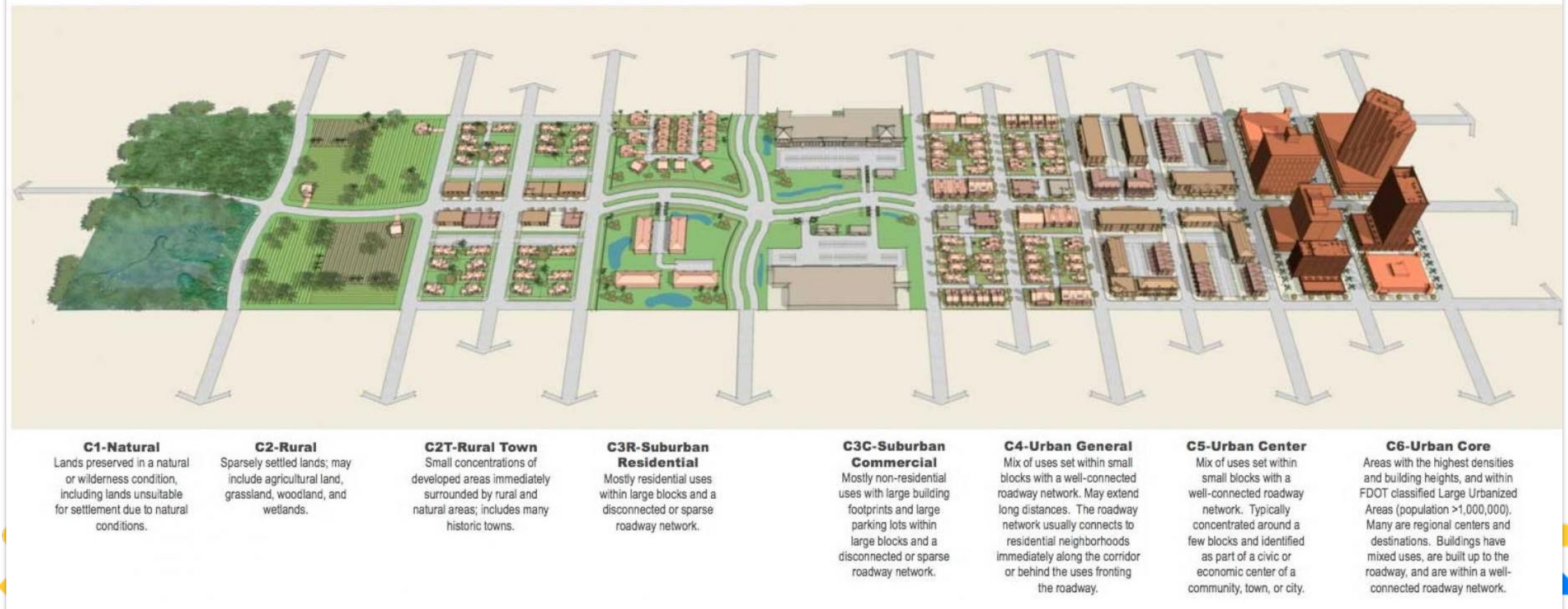
1. Florida DOT's *Context Classification Guide (updated Feb 2022)*
2. National Association of City Transportation Organization (NACTO) *City Limits: Setting Safe Speed Limits on Urban Streets (2020)*
3. National Cooperative Highway research Program's (NCHRP) *Report 966 Posted Speed Limit Setting Procedure and Tool (2021)*



Florida DOT's *Context Classification Guide*

Determine a roadway's context

FIGURE 2 FDOT CONTEXT CLASSIFICATIONS



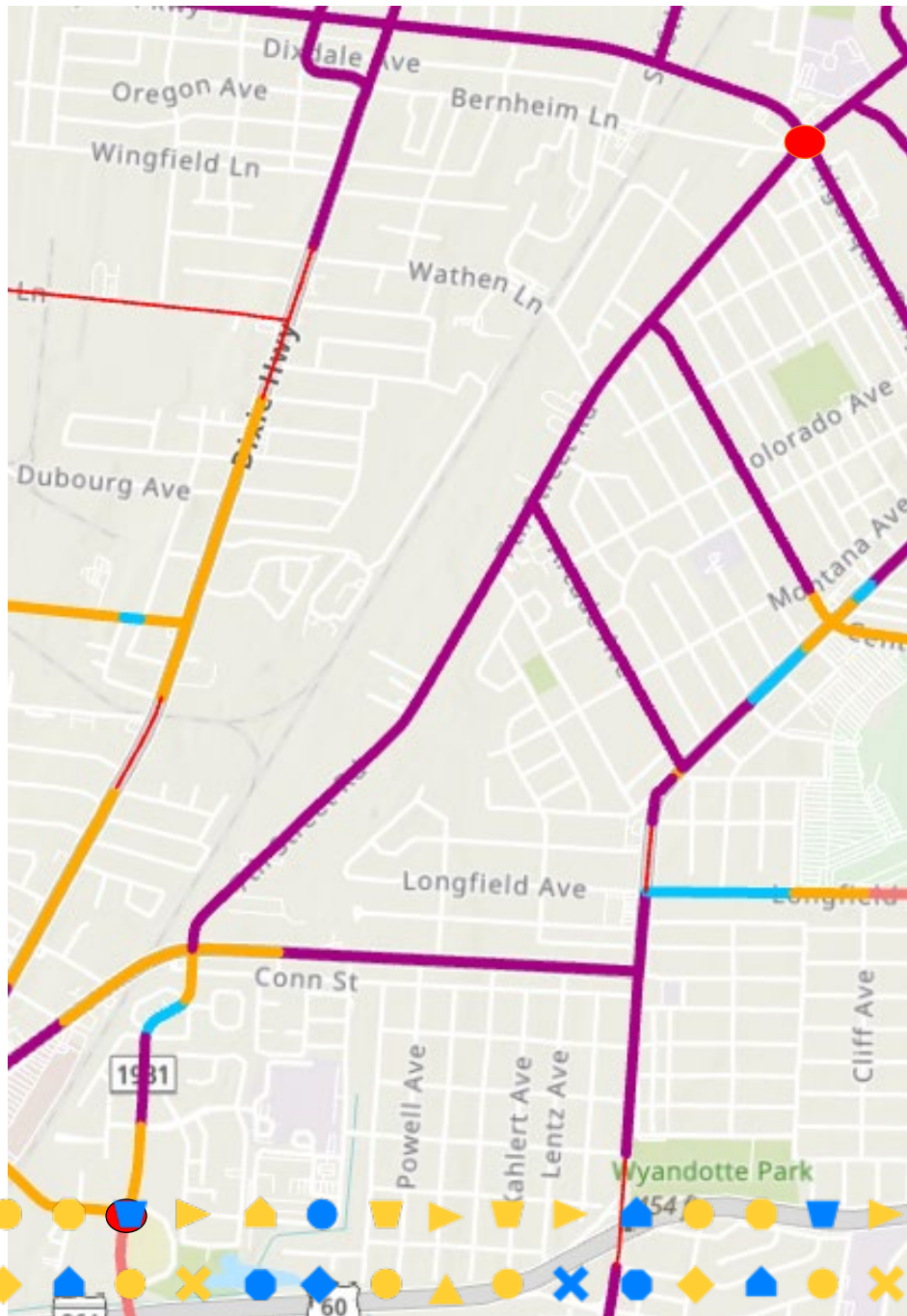
Florida DOT's *Context Classification Guide*

TABLE 8 FDOT CONTEXT-BASED DESIGN SPEEDS FOR ARTERIALS AND COLLECTORS

CONTEXT CLASSIFICATION	ALLOWABLE DESIGN SPEED RANGE (MPH)	SIS MINIMUM (MPH)
C1 Natural	55-70	65
C2 Rural	55-70	65
C2T Rural Town	25-45	40
C3 Suburban	35-55	50
C4 Urban General	25-45	45
C5 Urban Center	25-35	35
C6 Urban Core	25-30	30

- In C1, C2, start at **high end** of design speed range and **justify reduction**
- In C2T and above, start at the **low end** of the design speed range and **justify increase**



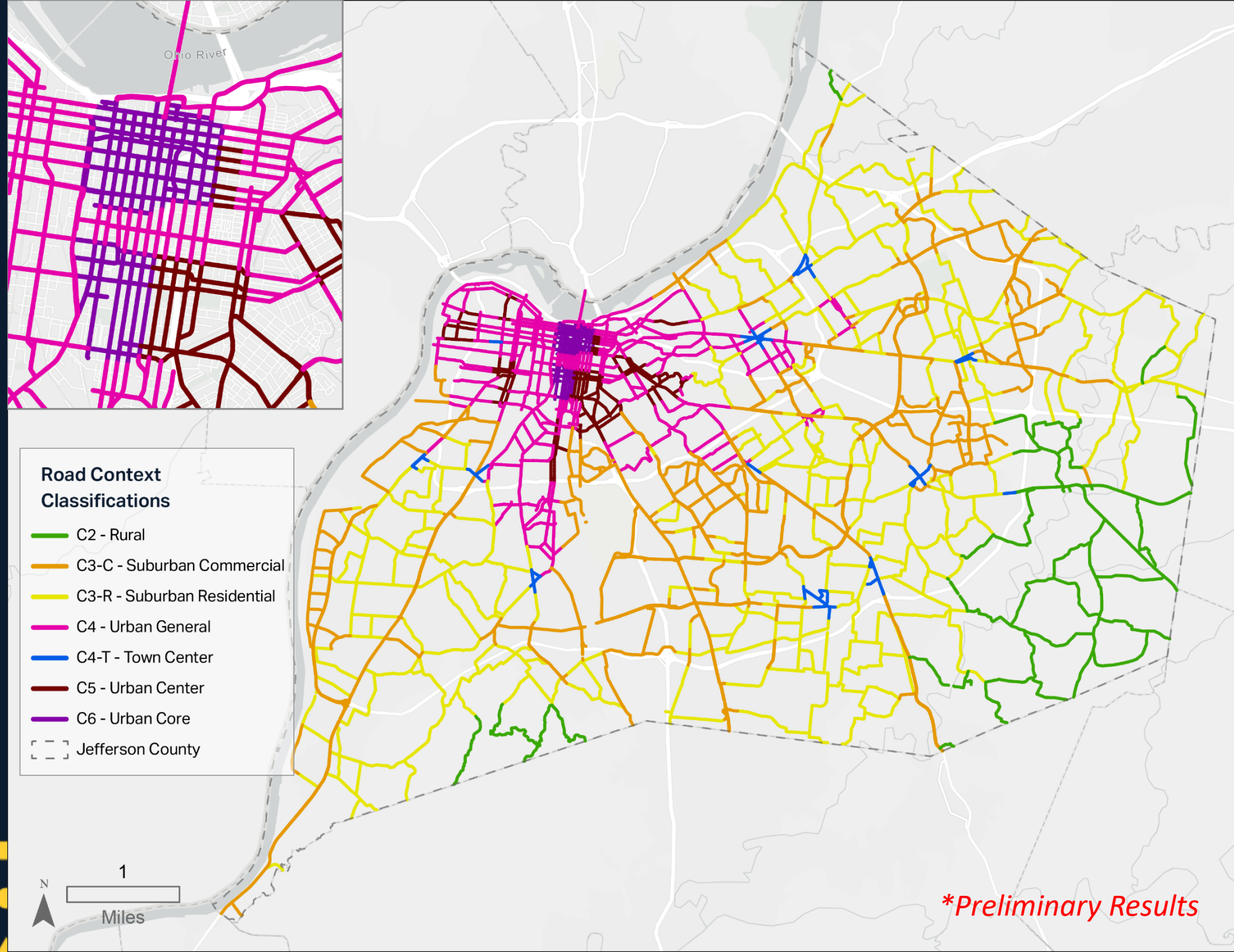


Example: FDOT's Context Classification on KY 1931

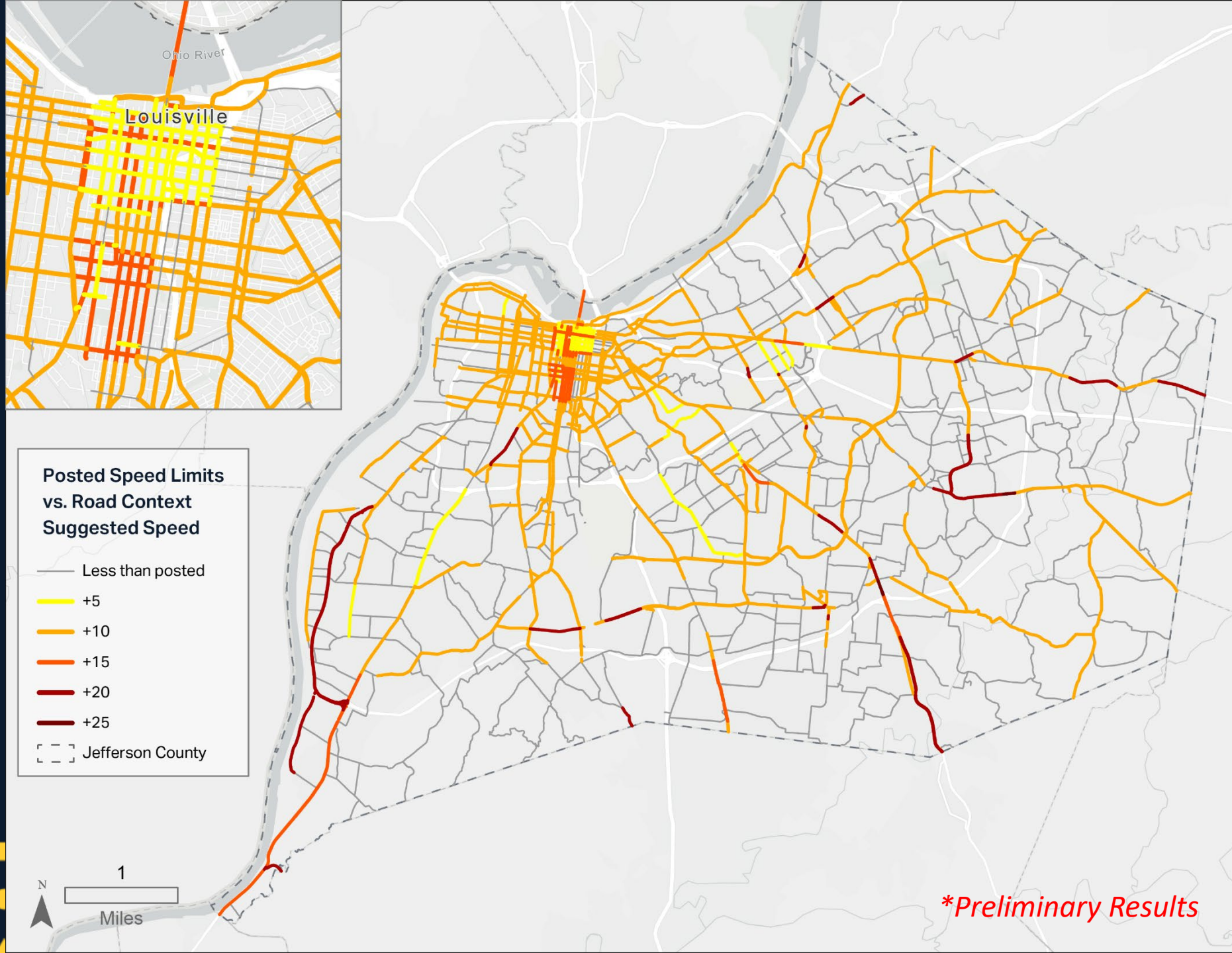
C5 – Urban Center: 25-35 mph



Developing Road Contexts for Louisville



Posted vs. Context Speed Limits



PRIORITIZING NEEDS

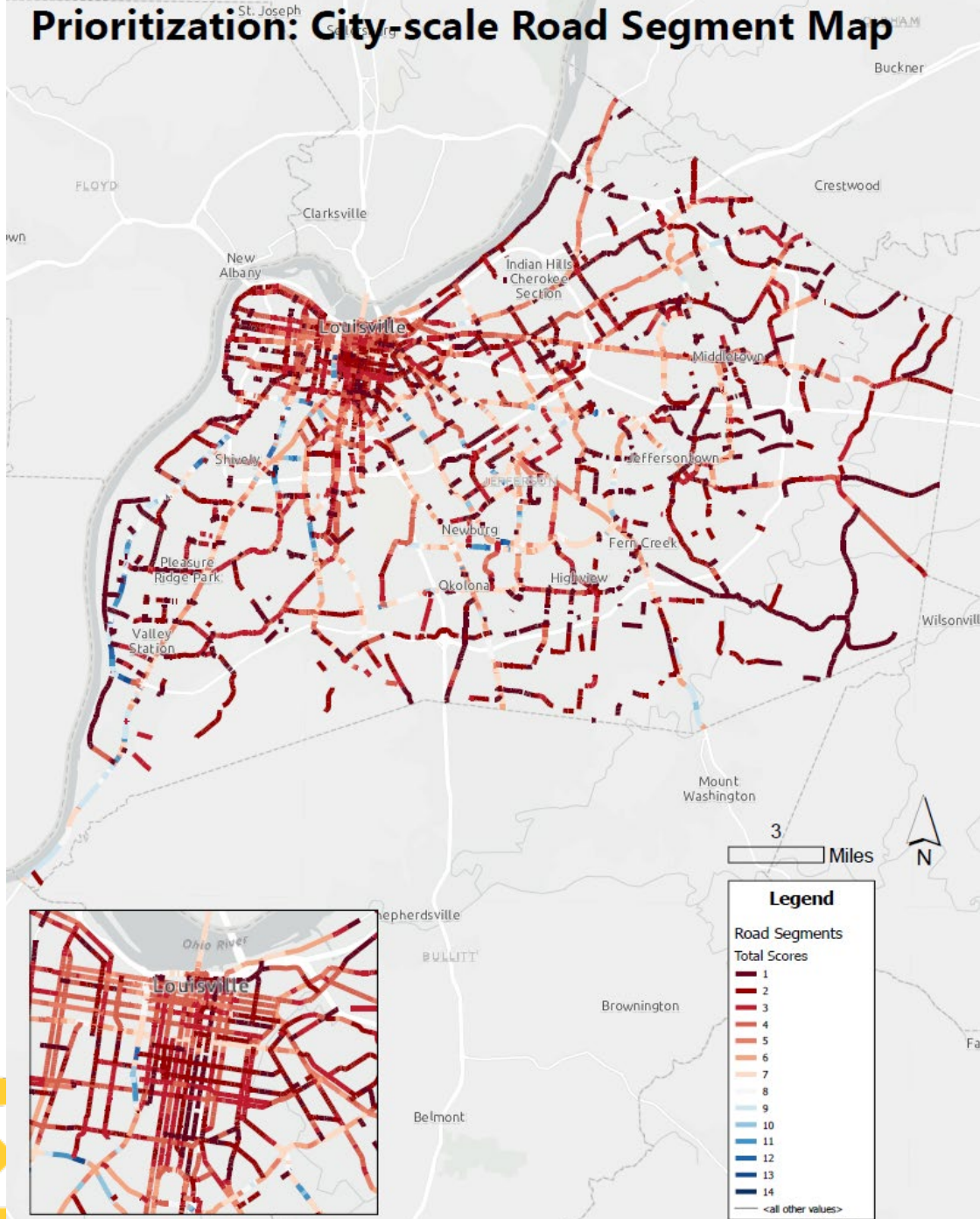


Prioritization Method to Determine Which Segments/Areas to Address

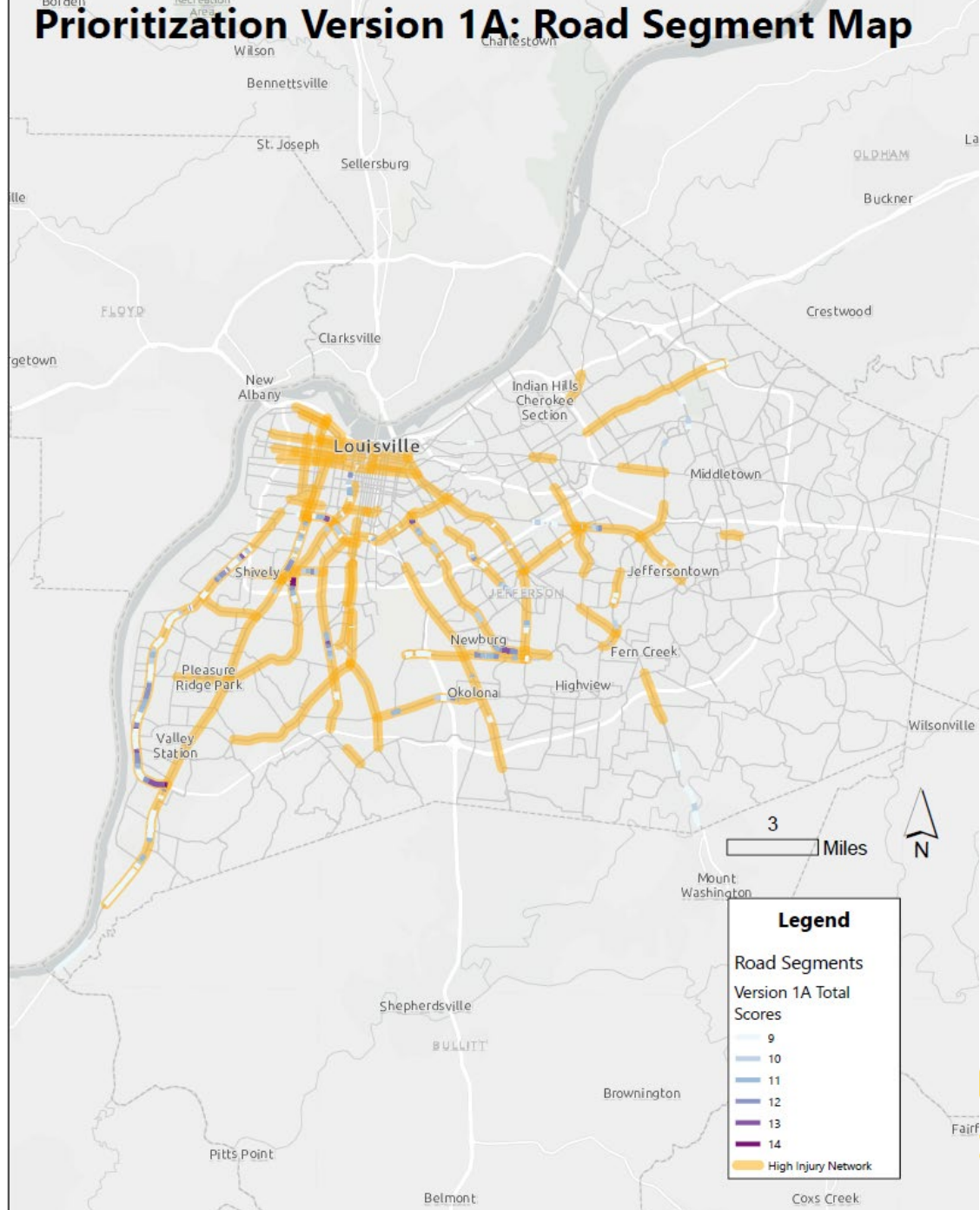
Speed	Geometrics	Crashes	Equity	Community Assets	Traffic
<ul style="list-style-type: none">• Speed Limit vs. Context Speed• Speed Limit vs. Actual Speeds• Context Speed vs. Actual Speeds	<ul style="list-style-type: none">• Lane widths• Shoulder widths• Number of Lanes• Median widths• Signals• TWLTLs	<ul style="list-style-type: none">• K & A Crashes• Speed-related K & A• HIN• VRU Corridors	<ul style="list-style-type: none">• USDOT Justice40 (Disadvantaged Census Tracts)	<ul style="list-style-type: none">• Schools• Libraries• Parks• Major Transit Stops	<ul style="list-style-type: none">• AADT• Truck Routes



Prioritization: City-scale Road Segment Map



Prioritization Version 1A: Road Segment Map

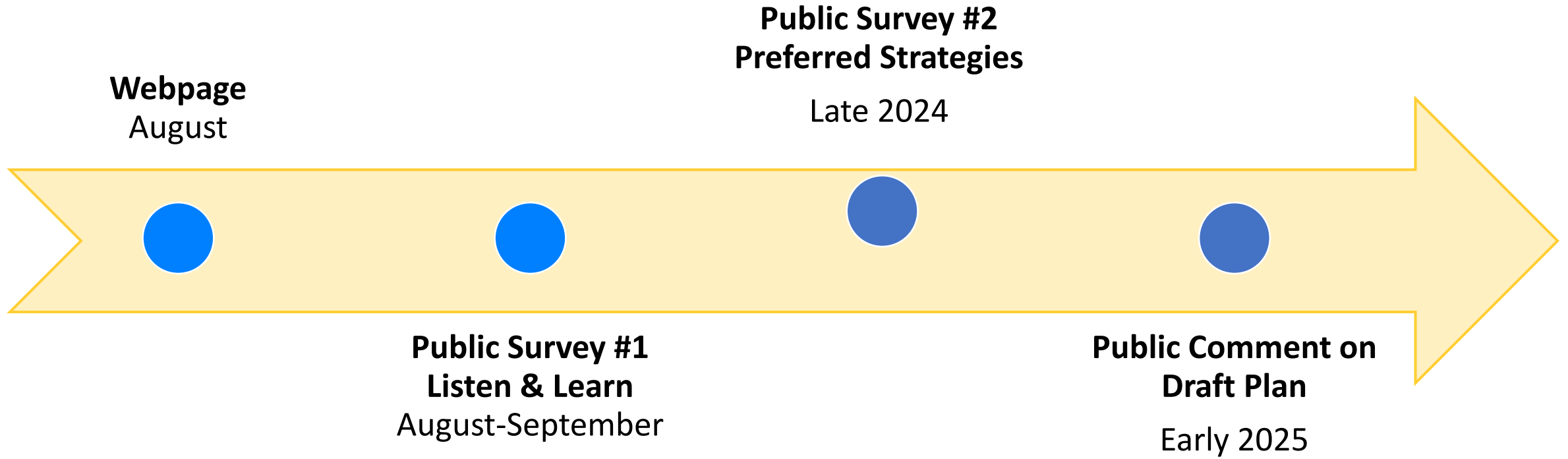


ENGAGING

THE COMMUNITY



Public Engagement



Public Engagement



Web Page



How can Louisville achieve its vision of zero roadway fatalities by 2050?

Vision Zero Louisville uses the **Safe System Approach**, which prioritizes the prevention of fatal and serious injury crashes. The five overlapping strategies of the Safe System Approach are:

- Safer Roads
- Safer Speeds
- Safer People
- Safer Vehicles
- Post-Crash Care



Vision Zero Louisville is developing a Speed Management Plan to guide its Safer Speeds strategic approach.

This may mean modernizing how speed limits are set, developing projects to calm traffic, changing speed limits, and educating drivers. Our community's Speed Management Plan is a multifaceted and balanced effort that includes defining the relationship between speed, speeding and safety. We are studying current conditions, including crash data, driver trends, and roadway design, as well as evaluating best practices from other Vision Zero cities.

We want to hear from you!

What are your concerns about speeding in Louisville?

Where do you think speeding is a problem?

What are your ideas for solutions to manage speeds and reduce speeding?

Stay Engaged with Us

WEBSITE:

louisvilleky.gov/government/vision-zero-louisville/safer-speeds

We want to hear your ideas for safer speeds in Louisville.

Visit our website and complete any active surveys!

NEWSLETTER:

louisvilleky.gov/government/vision-zero-louisville/subscribe-vision-zero-newsletter

Subscribe to the Vision Zero Louisville e-newsletter and stay up to date!



SCAN TO VISIT THE WEBSITE



SCAN TO SIGN UP FOR THE E-NEWSLETTER



Transportation Agency Engagement



Focus: Input + Buy-In



NEXT STEPS



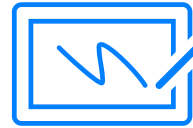
What's Next?



Policy

Recommendations for setting
appropriate speed limits

State legislation of automated
speed enforcement



Programs

Ongoing community
engagement and education

Traffic calming on local roads

Safe Routes to School



Projects

Identify **corridors** that could
benefit from improvements

- **Low-cost:** signage, markings, rightsizing with resurfacing projects, etc.
- **Higher-cost:** traffic calming, capital projects, etc.





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