Scaling Safety: Translating Statewide Frameworks into Local, Actionable Plans

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OUTLINE

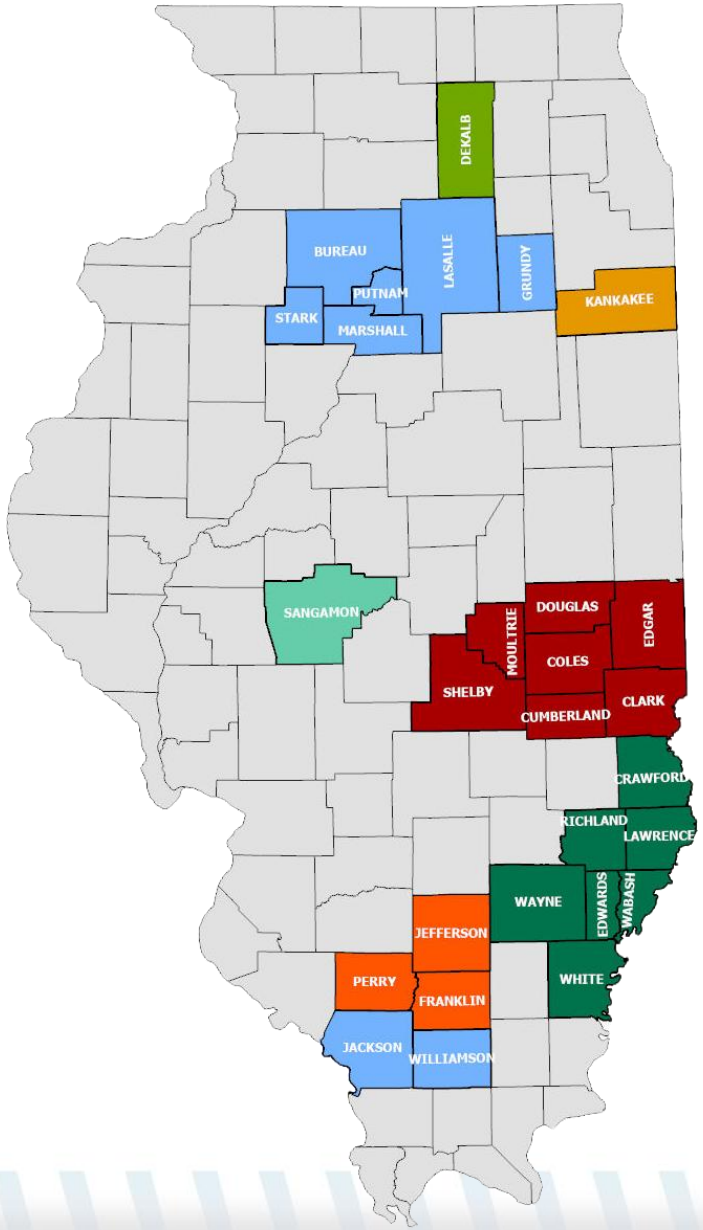
- Statewide CSAP Efforts
- IDOT Existing Statewide Data
  - IDOT Roadway Layer
  - Crash Data
  - Safety Tiers
  - VRU Safety Layers
- From Statewide Data to Local Analysis
- Tailored Recommendations for Local Needs
- Outcomes

STATEWIDE COMPREHENSIVE SAFETY ACTION PLAN (CSAP) EFFORTS

IDOT Statewide CSAP Effort

MPOs and RPCs (28 Counties)

- ✓Southwest IL (SIMPO & Greater Egypt RPC)
- ✓DeKalb County (DSATS)
- ✓Sangamon County RPC (SSCRPC)
- ✓Kankakee County (KATS)
- East Central IL (Coles County RPC)
- Greater Wabash RPC
- North Central Illinois Council of Government (NCICG)



Comprehensive Safety Action Plan

- Aimed at reducing and eliminating **serious-injury and fatal** crashes affecting **all roadway users** on **all public roads**.
- Aligns with the Illinois Strategic Highway Safety Plan
- Focuses on safety needs and issues of the city, county, or region.



Diverse Counties, Shared Framework

SANGAMON COUNTY

Urban core and rural townships

877 sq mi ·~200,000 residents. Home to Springfield, the state capital.

Focus Areas: Intersections, Roadway Departure and **Older Driver (65+)**

88% of fatal and serious injury crashes in the **Springfield metro area**

KANAKAKEE COUNTY

Urban towns with rural nature

681 sq mi - ~ 107,502 residents with 70% of population residing in the city of Kankakee.

Focus Areas: Intersections, Roadway Departure, and **Speeding/Aggressive Driver**

65% of Fatal and Serious Injury crashes occurred on **local roads.**

GREATER EGYPT/SIMPO

Several Municipalities with two Counties

200 sq mi ~ 26,000 residents. SIU Carbondale University.

Focus areas: Intersection, Roadway Departure and **Younger Driver (16-20)**

51% of Fatal and Serious injury crashes occurred on **state roads.**

Diverse Counties, Shared Framework

SANGAMON COUNTY





KANKAKEE COUNTY





Greater Egypt/SIMPO





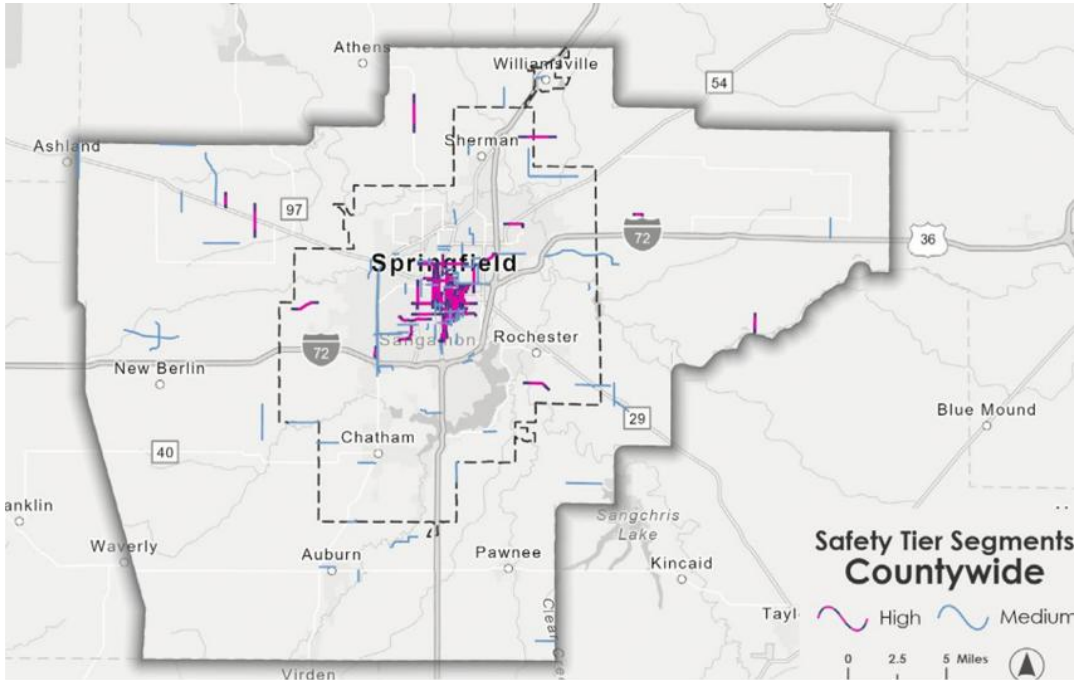
The underlying challenge: HOW TO TAKE statewide data and refine it to speak to local challenges and priorities?



IDOT Existing Statewide Data

Safety Tiers

- It is a ranking based on safety performance for roadway segments and intersections.
- It also provides diagnostic insights for each location based on crash types and characteristics.
- Roadways and intersections are divided into similar groups (called Peer Groups) and are ranked in their own group.
- Ranking is based on the difference between observed crashes and predicted crashes, using the state-specific crash prediction models (or Safety Performance Functions: SPFs)



Sangamon County: 492 High/Medium Tier segments (467 miles) and 519 High/Medium Tier intersections

Roadway Layers and Crash Data

- Roadway: IRIS functional class, jurisdiction, lanes, AADT, lane and shoulder width, speed limit
- Intersections: traffic control and legs on state and local networks
- Crashes: 5 years (2019–2023) on state and local roads, interstates excluded

SANGAMON COUNTY, 2019-2023

20,157

crashes on state and local roads

650

fatal or serious injury (KA) crashes, about 130 per year

VRU Safety Layers

- Part of the Illinois SHSP's VRU Safety Assessment
- IDOT VRU dashboard flags high-injury corridors, crash clusters, and systemic characteristics for pedestrians and bicyclists
- Supports a gap analysis to prioritize segments and intersections

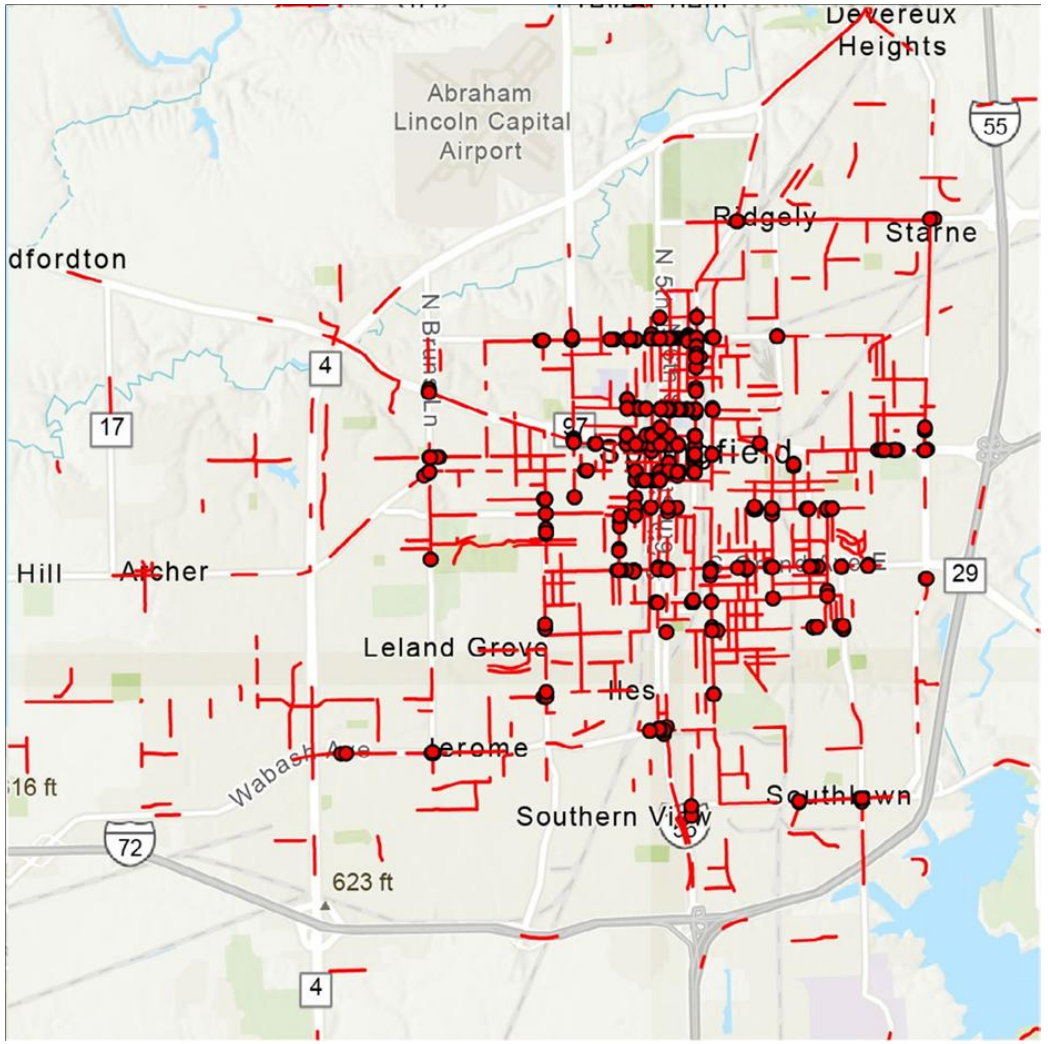
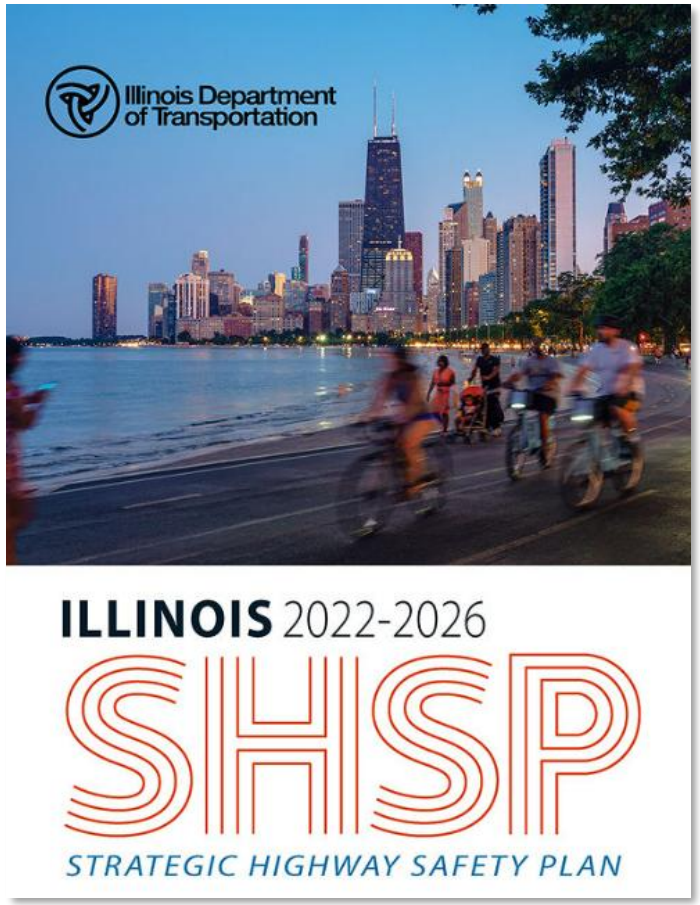


Figure 2-4: Springfield Area HIN and cluster Locations
Source: IDOT VRU Assessment Document (2023)

SHSP-Informed Focus Areas

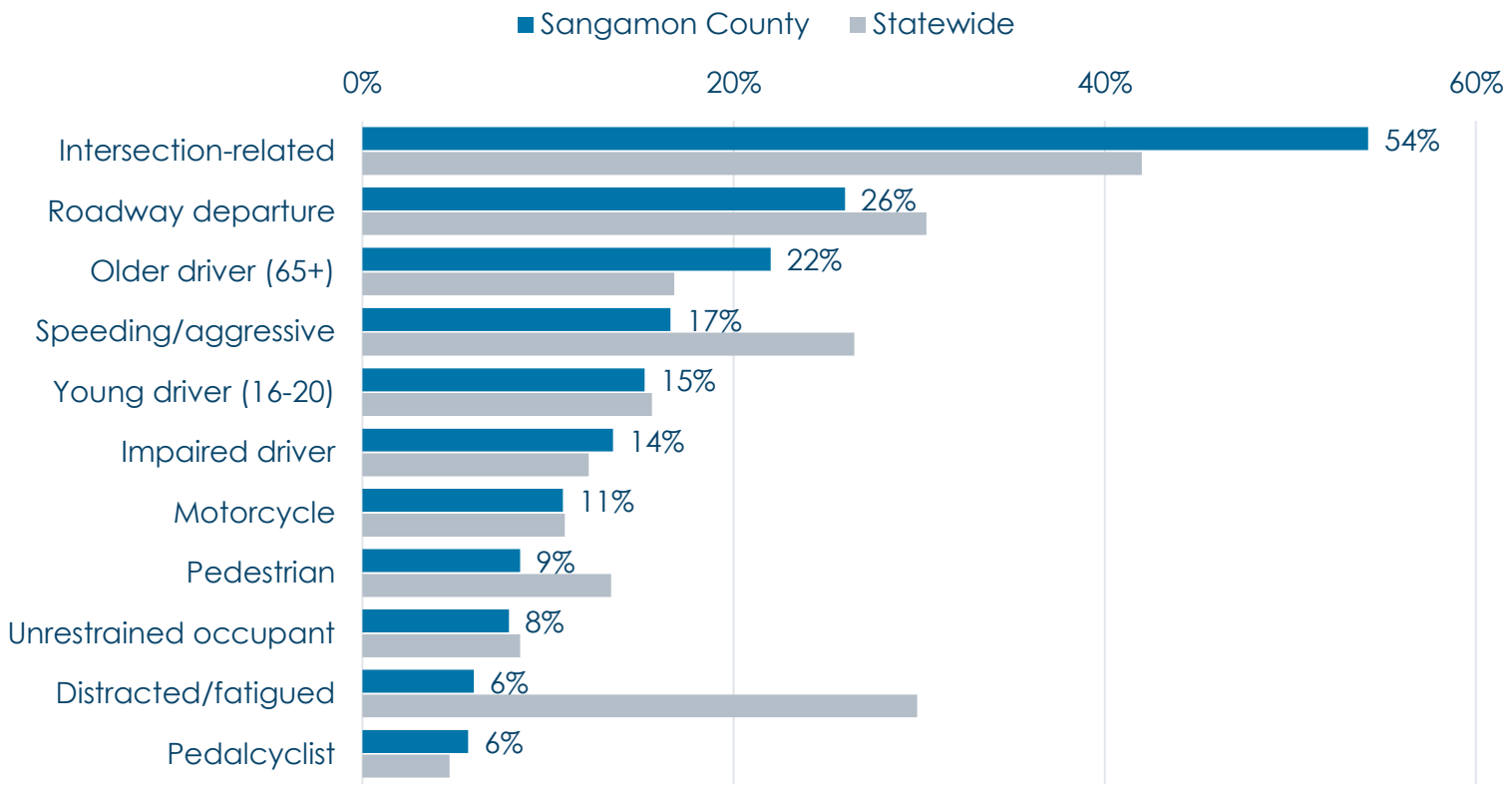


EMPHASIS AREAS	FOCUS AREAS
SSCRPC CSAP AND SAFE SYSTEM ADMINISTRATION	Collaboration through the SSCRPC CSAP Safety Committee, and implementation, monitoring, and reporting of the CSAP includes safety data improvement.
SAFE ROADS	+ Roadway Departure + Intersections + Pedestrian and Pedalcyclists
SAFE ROAD USERS	+ Pedestrians and Pedalcyclists + Motorcyclists + Impaired Driving + Older and Younger Drivers + Distracted and Fatigued Driving + Unrestrained Vehicle Occupants + Speeding/Aggressive Driving
SAFE VEHICLES	Strategies address vehicle technology, inspection, education, and enforcement of laws related to various vehicles.
SAFE SPEEDS	Strategies address speeding and speed management through design, enforcement, and outreach.
POST CRASH CARE	Strategies address the following items that cover all crashes. + Emergency Medical Services + Traffic Incident Management

- Each Focus Area aligns with a Safe System emphasis area; Safe System Administration is the overarching one
- Interrelationships (e.g., roadway departure + impaired driving) let one strategy cover several Focus Areas

From Statewide Data to Local Analysis

Refining Focus Areas



Above the statewide share in Sangamon

Intersection-related: 54% vs. 42%

Older drivers: 22% vs. 17%

Impaired drivers: 14% vs. 12%

Pedalcyclists: 6% vs. 5%

Share of fatal and serious injury crashes, 2019-2023. CSAP p.79, Table 5.

Sangamon County - All Roads
Fatal (K) and Serious Injury (A) Crashes (2019-2023)

Focus Area	Roadway Departure	Intersection Related	Speeding/ Aggressive Driver	Young Driver (Ages 16-20)	Older Driver (Ages 65+)	Impaired Driver	Motorcycle	Pedestrian	Heavy Vehicle	Distracted/ Fatigue Driver	Unrestrained Occupants	Pedalcyclist	Work Zone
Roadway Departure	**169**	22	31	25	29	49	19	2	8	10	26	0	1
	100.0%	13%	18%	15%	17%	29%	11%	1%	5%	6%	15%	0%	1%
Intersection Related	22	**352**	48	57	79	31	33	24	12	21	17	25	3
	6%	**100.0%**	14%	16%	22%	9%	9%	7%	3%	6%	5%	7%	1%
Speeding/ Aggressive Driver	31	48	**108**	23	25	18	11	2	6	9	8	2	1
	29%	44%	**100.0%**	21%	23%	17%	10%	2%	6%	8%	7%	2%	1%
Young Driver (Ages 16-20)	25	57	23	**99**	11	15	8	5	4	6	9	1	0
	25%	58%	23%	**100.0%**	11%	15%	8%	5%	4%	6%	9%	1%	0%
Older Driver (Ages 65+)	29	79	25	11	**143**	6	6	5	10	9	8	5	4
	20%	55%	17%	8%	**100.0%**	4%	4%	3%	7%	6%	6%	3%	3%
Impaired Driver	49	31	18	15	6	**88**	11	3	8	4	19	0	1
	56%	35%	20%	17%	7%	**100.0%**	13%	3%	9%	5%	22%	0%	1%
Motorcycle	19	33	11	8	6	11	**70**	0	2	4	0	1	1
	27%	47%	16%	11%	9%	16%	**100.0%**	0%	3%	6%	0%	1%	1%
Pedestrian	2	24	2	5	5	3	0	**55**	1	2	1	0	1
	4%	44%	4%	9%	9%	5%	0%	**100.0%**	2%	4%	2%	0%	2%
Heavy Vehicle	8	12	6	4	10	8	2	1	**26**	4	7	0	1
	31%	46%	23%	15%	38%	31%	8%	4%	**100.0%**	15%	27%	0%	4%
Distracted/ Fatigued Driver	10	21	9	6	9	4	4	2	4	**39**	5	1	1
	26%	54%	23%	15%	23%	10%	10%	5%	10%	**100.0%**	13%	3%	3%
Unrestrained Occupants	26	17	8	9	8	19	0	1	7	5	**51**	0	1
	51%	33%	16%	18%	16%	37%	0%	2%	14%	10%	**100.0%**	0%	2%
Pedalcyclist	0	25	2	1	5	0	1	0	0	1	0	**37**	2
	0%	68%	5%	3%	14%	0%	3%	0%	0%	3%	0%	**100.0%**	5%
Work Zone	1	3	1	0	4	1	1	1	1	1	1	2	**8**
	13%	38%	13%	0%	50%	13%	13%	13%	13%	13%	13%	25%	**100.0%**

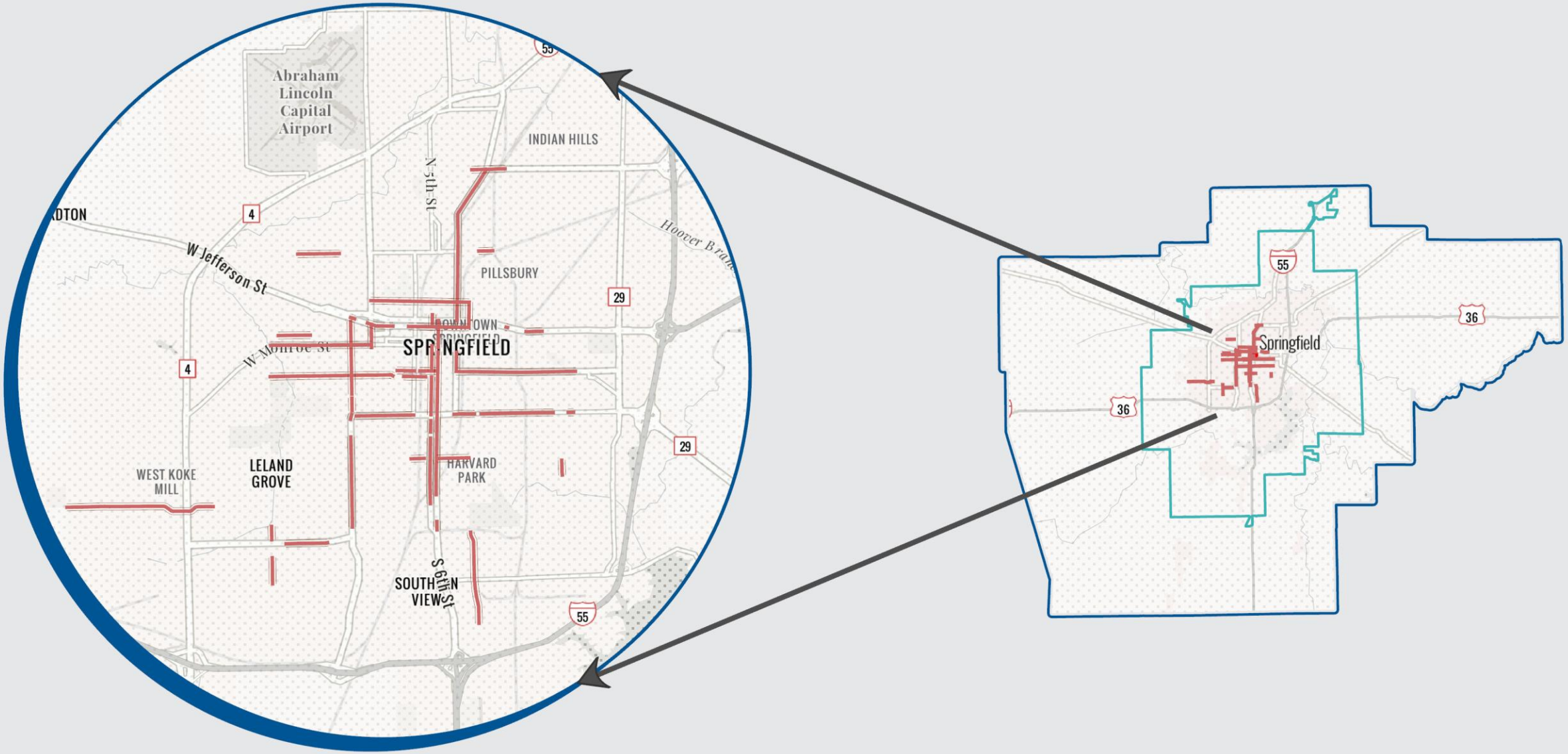
Systemic Analysis – Sangamon Segments

- Risk Factors Analyzed:
  - Urban/Rural
  - Functional Classification
  - AADT
  - Number Lanes
  - Lane width
  - Shoulder width
  - Speed Limit
  - Curves
  - Lighting
  - Rumble strips

SEGMENTS	
Risk Factors	Values Associated with Increased Risk
Urban/Rural	**Urban**
Functional Classification	**Arterial**
AADT	**≥5,000**
Posted Speed	**30 mph to 35 mph**
Number of Lanes	**3+ lanes**
Lane width	**9 ft to 11 ft**

Additional Findings:

- Lower AADT ≤5,000 with 3+ lanes and wider lanes (12ft) increase crash risk



Systemic Analysis – Segment

ROAD TO ZERO
THE SAFE SYSTEM APPROACH
SPRINGFIELD - SANGAMON COUNTY

Risk Profiles Across Counties

	Sangamon County	Kankakee County
High-risk segments	Urban arterials, AADT 5,000+, 30-35 mph, 3+ lanes, 9-11 ft lanes	Urban: arterials, AADT 5,000+, 30-35 mph, 3+ lanes Rural: arterials, AADT 7,500+, 30-40+ mph, 2 or 3+ lanes



IL 17, urban Kankakee



IL 17, rural Kankakee County

Risk Profiles Across Road User

- High volume (20k+ AADT), urban, two-way stop-controlled intersections with had **notably high risk** for pedestrians
- Disadvantaged Communities had between 2x to 6x more pedestrian crash risk than Non-Disadvantaged

INTERSECTIONS	
Risk Factors	Values Associated with Increased Risk
Urban/Rural	Urban
Traffic Control Type	Signalized
Disadvantaged Status	Disadvantaged Area

SEGMENTS		
Risk Factors	Values Associated with Increased Risk for Pedestrians	Values Associated with Increased Risk for Pedalcyclists
Urban/Rural	Urban	Urban
AADT	5-10K	10-15K
Speed Limit	40+ mph	-
Number of Lanes	3+	3+

Percent of Fatal or Serious Crashes by Mode

	Percent of all Crashes	Percent of KA* Crashes
Bicycle	1%	6%
Pedestrian	1%	8%
Motor Vehicle	98%	86%

VRU crashes >7 times more likely to result in fatality or serious injury

*K is Fatal crash and A is Serious Injury

Despite making up only 2% of total crashes in Sangamon County, **pedestrian and bicycle crashes account for 14% of fatal and serious injury crashes.**

Vulnerable Road User (VRU) Crash Patterns

Age

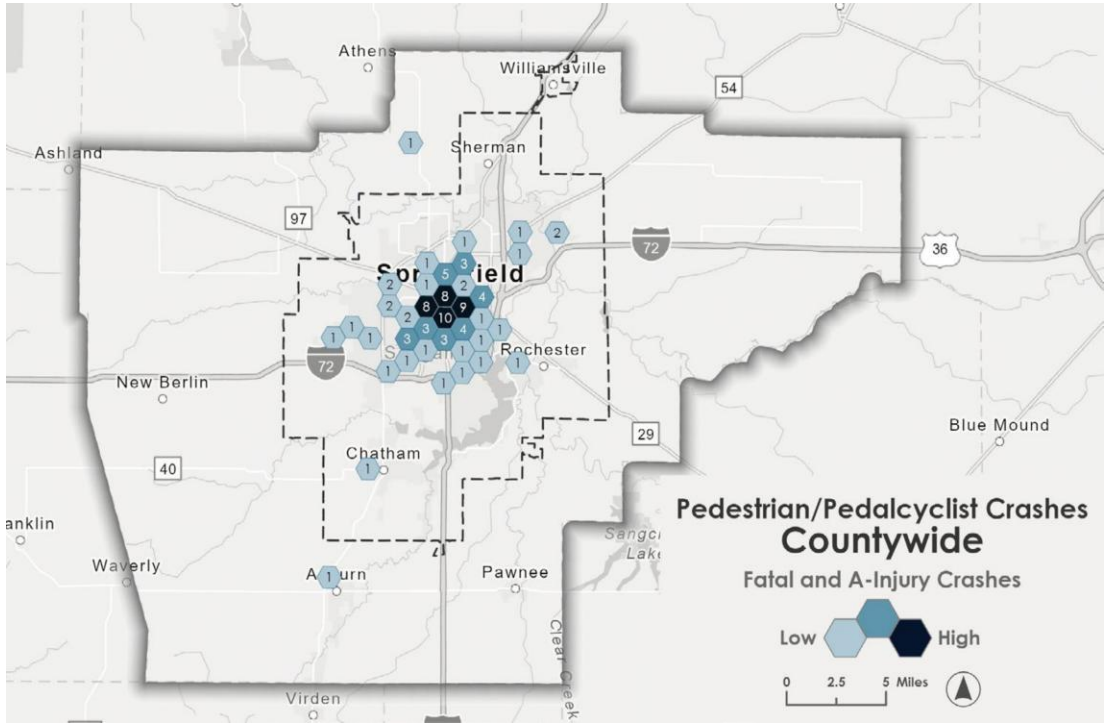
Often larger share of youth and elderly crash victims

Driver Behaviors

Higher rates of hit and run crashes versus motor vehicle crashes; failure to yield common contributing factor

Conditions

Often larger share of pedestrian and of bicyclist crashes in the dark



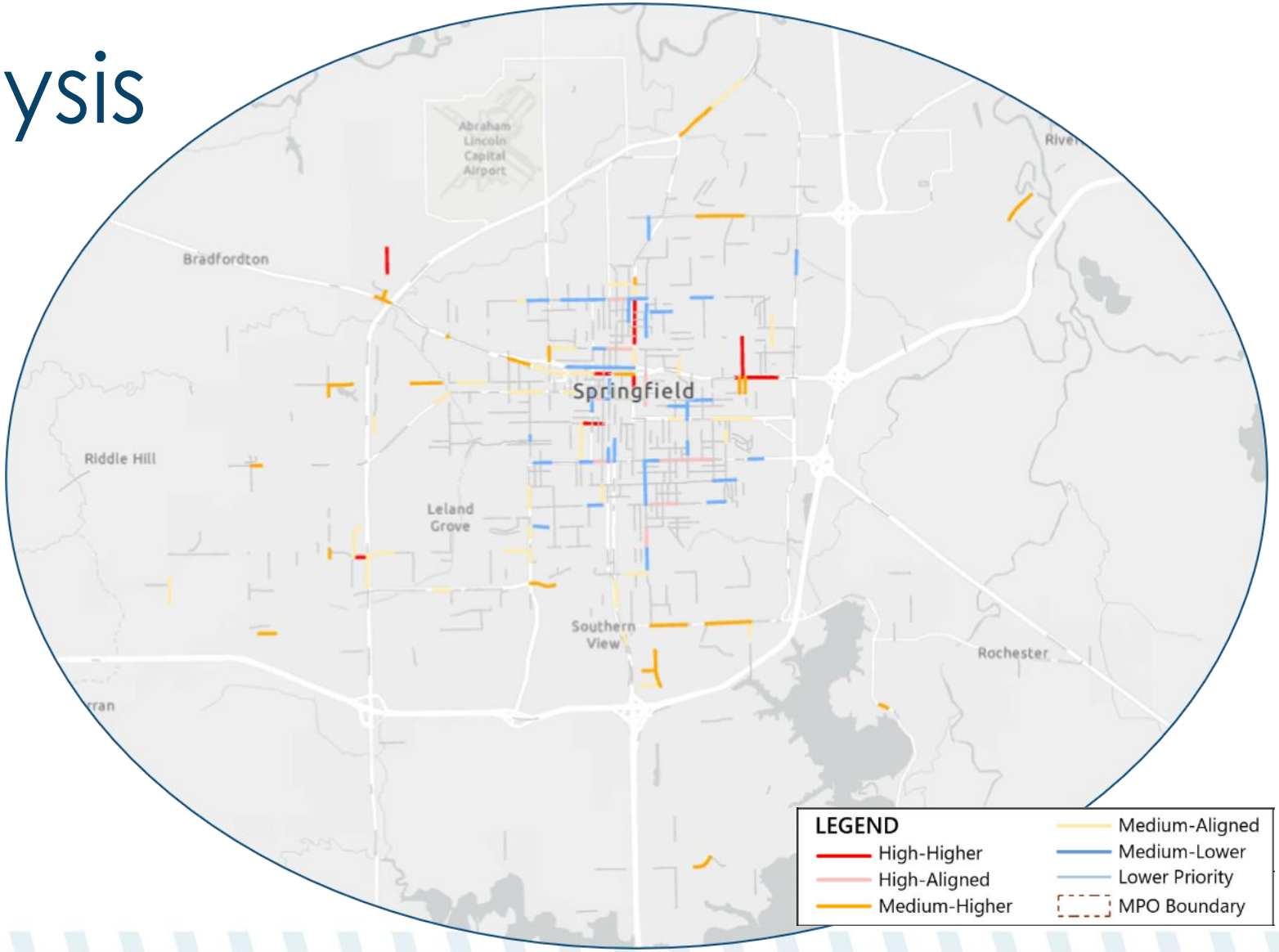
Pedestrian and bicyclist fatal and serious injury crashes, 2019-2023

VRU Gaps Analysis

Overlay of Safety Tier and VRU Safety Layer

Identify VRU risk alignment with Safety Tier

Where is there VRU risk and where might Safety Tier miss it

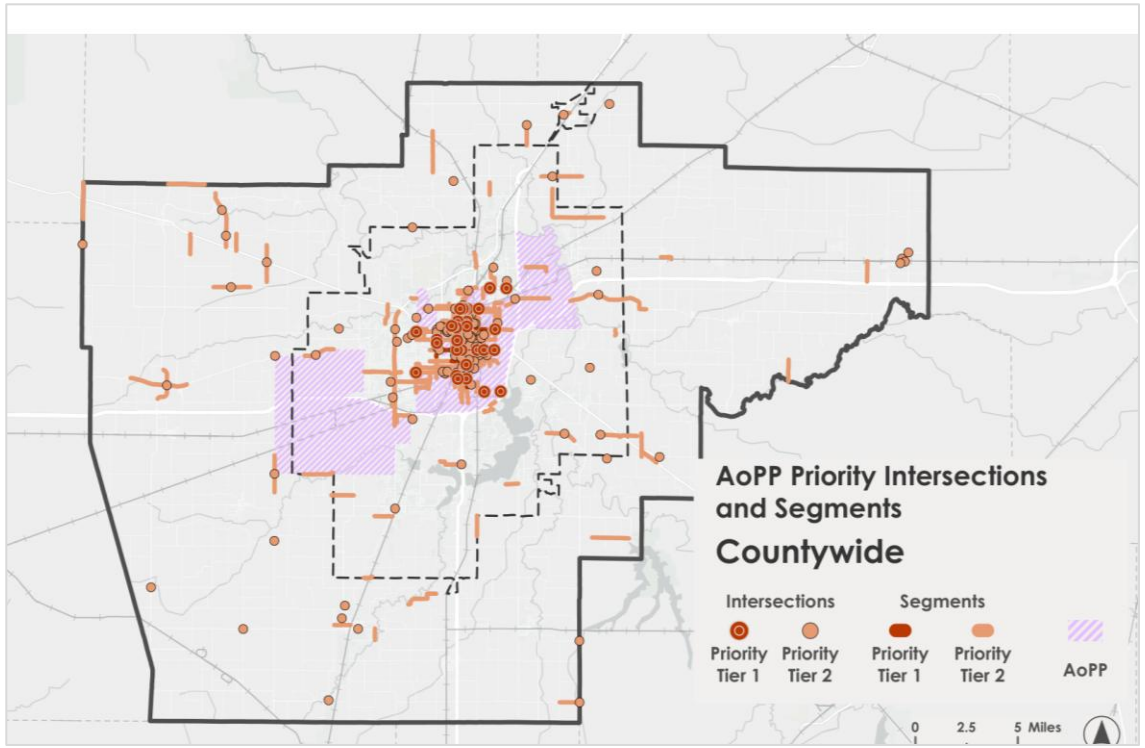


Areas of Persistent Poverty

31% of county residents live in an Area of Persistent Poverty

50% of fatal and serious injury crashes happened there

2× the crash rate per resident: 53.7 versus 24.1 fatal and serious injury crashes per 10,000



Source: Sangamon County CSAP

Stakeholder Input and Workshops



1 **Workshop 1**

Focus Areas, mission, vision, and goals; preliminary data

2 **Workshop 2**

Priority corridors, systemic results, AoPP analysis, strategies and solutions

3 **Workshop 3**

Countermeasure feedback, prioritization method, priority projects and strategies

Plus 4 Safety Committee meetings, stakeholder interviews, and a public survey

Field Investigation

Checking the analysis on the ground

Locations picked from IDOT Safety Tiers and systemic analysis

Urban corridors, downtown intersections, and rural routes

Looked for what crash data can't show: sidewalks, crossings, sight lines, speeds, and shoulders

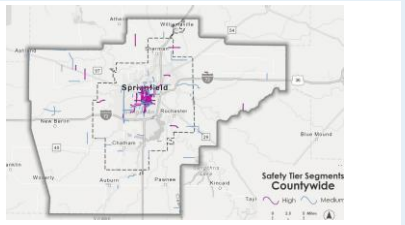






Source: Sangamon County CSAP

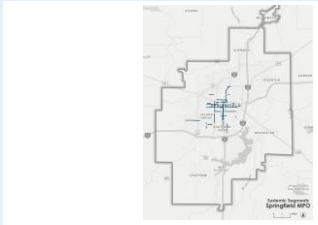
Locally-Grounded Priority Network



IDOT Safety Tiers

High and Medium Tier locations from the statewide ranking

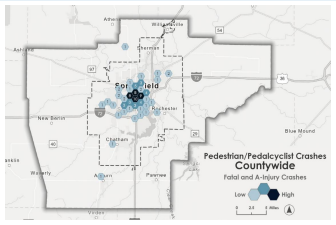
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Systemic risk

Locations that match the county's high-risk road features

+



VRU analysis

Where pedestrian and bicyclist crashes concentrate

+



Public feedback

Survey and workshop input to add, remove, or confirm locations

=



Priority network

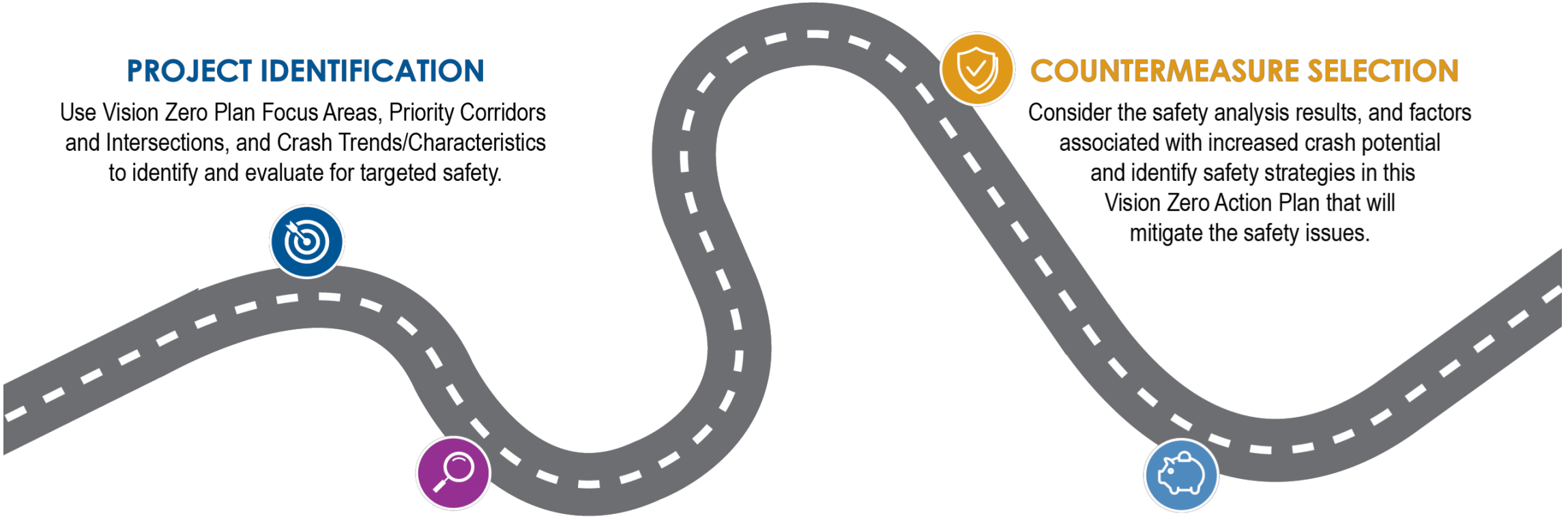
Tier 1 and Tier 2 priority corridors, plus Tier 1 and Tier 2 priority intersections, reviewed with stakeholders before the project list was built

Tailored Recommendations for Local Needs

Project Selection & Scoping Road Map

PROJECT IDENTIFICATION

Use Vision Zero Plan Focus Areas, Priority Corridors and Intersections, and Crash Trends/Characteristics to identify and evaluate for targeted safety.



SAFETY ANALYSIS

Obtain and analyze safety data (e.g. crash, citation, near-miss, traffic volume). Perform a safety field review or road safety assessment/audit to understand the safety issues. Engage safety stakeholders.

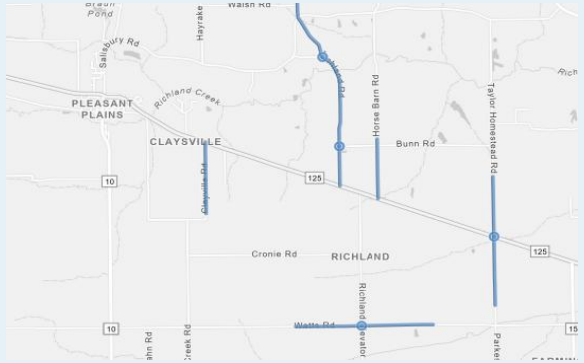
COUNTERMEASURE SELECTION

Consider the safety analysis results, and factors associated with increased crash potential and identify safety strategies in this Vision Zero Action Plan that will mitigate the safety issues.

FUNDING

Perform benefit cost analysis as appropriate. Determine the cost, necessary resources, maintenance timeframe to implementation, and the various available funding sources and criteria.

Local Needs



Priority Network

Tier 1 and 2 Corridors and intersection locations

+



Safety Countermeasures

Sate or National ones

+



Funding Sources

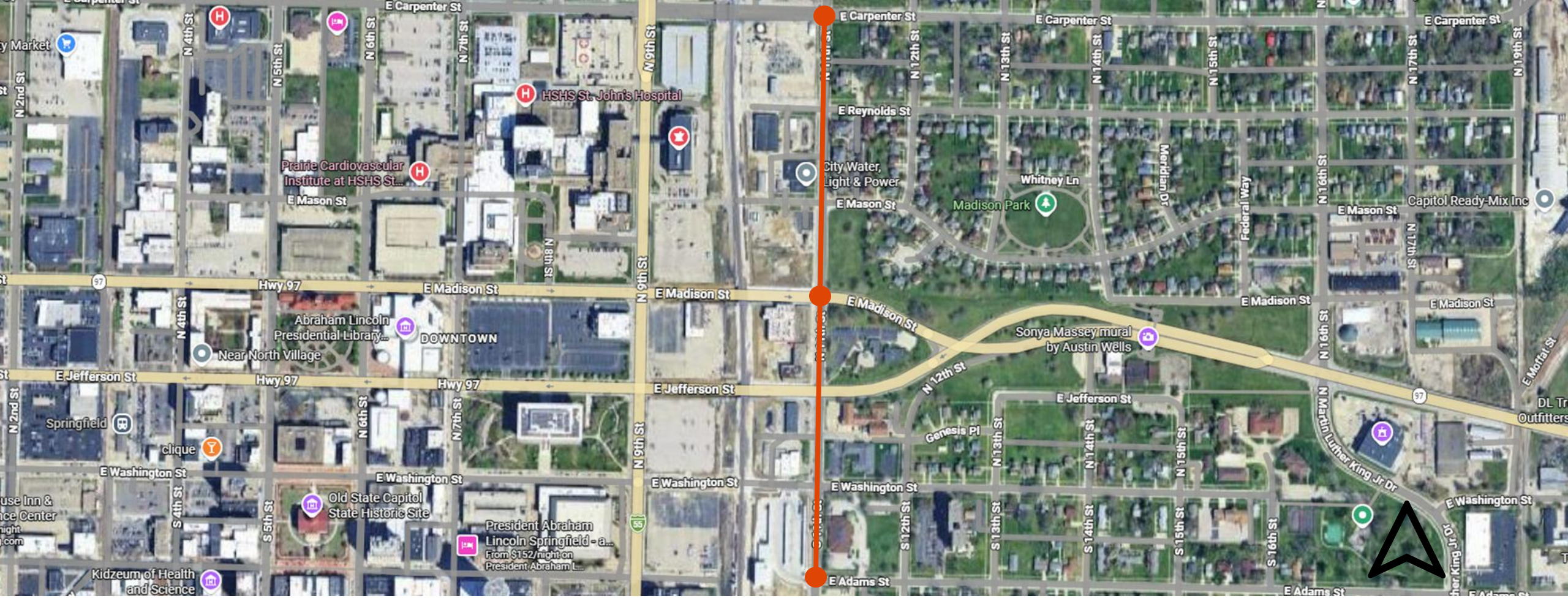
IDOT (HSIP, SRTS, etc)
FHWA SS4A
NTHSA Behavioral Grants

=



Priority Project Locations

Identified to move to pilot project or implementation



Potential Safety Countermeasures:



Backplates with Retroreflective Borders



Road Diet

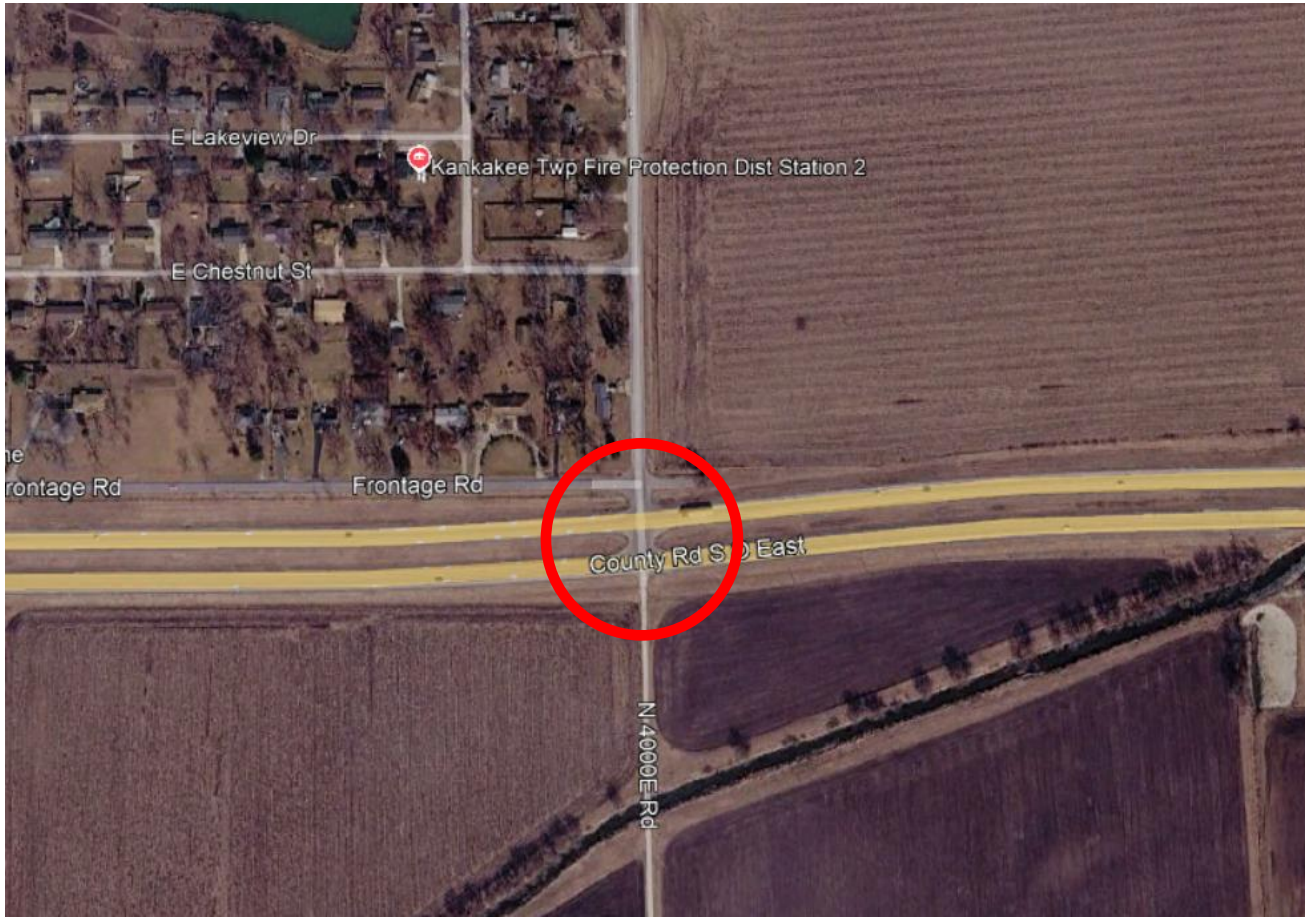


High Visibility Crosswalks

11th Street Corridor

Priority Corridor: High/Medium
Priority Intersection: High
Safety Tier: High
Crashes: 3 A-Injury, 63 B-Injury and 8 C-Injury

IL 17 & Skyline Rd (N 4000E Rd)



- Unsignalized Intersection (Minor Stop Control)
  - Disadvantaged Area
- 2 Fatal and 3 Serious Injury Crashes
  - Weather Related, Angle, Aggressive Driver

Potential Solutions?



Dedicated Turn Lanes



Reduce Left-Turn Conflicts



Multiple Low-Cost Countermeasures at Stop Controlled Intersections

Locally Grounded Recommendations

SYSTEMIC

Horizontal curve package

Wider shoulders, larger chevrons, 6-inch edge lines, rumble strips, and high-friction surface, funded through HSIP





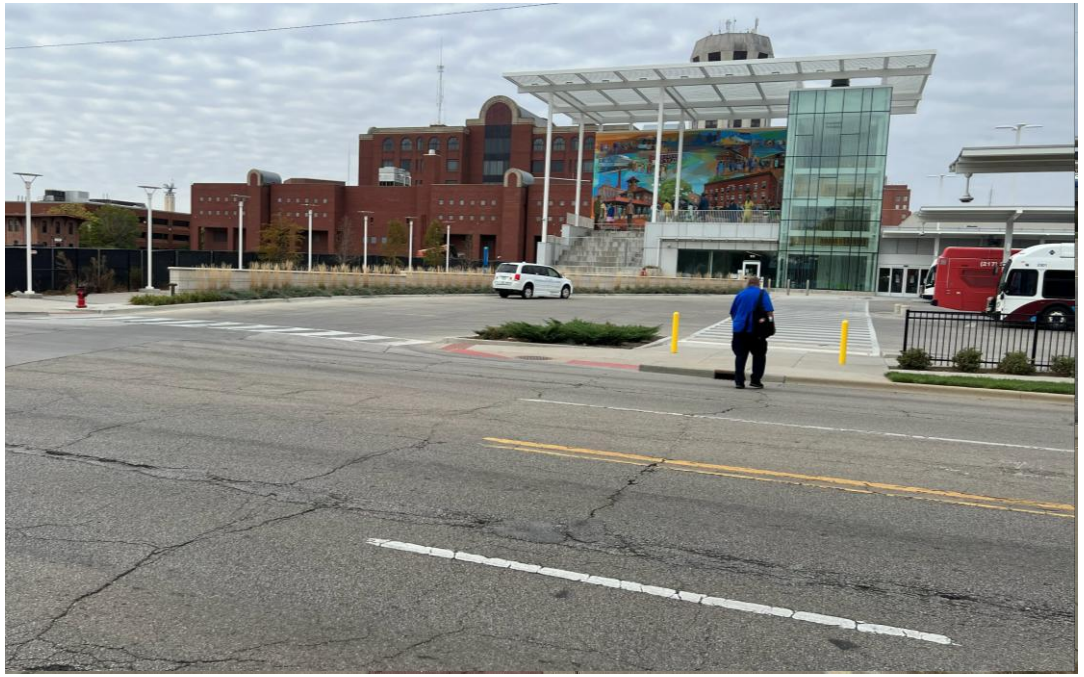
Locally Grounded Recommendations

CORRIDOR

5th and 6th Streets, Springfield

A four-lane one-way couplet with low observed volumes; field review flagged it for lane reduction or reconfiguration





PEDESTRIAN

Transit Center, 11th and Adams

Many pedestrian crossings observed with no crossing infrastructure; a good RRFB candidate

Locally Grounded Recommendations

POLICY AND PROGRAMS

Faster impaired-driving testing: Explore legislation letting trained EMTs perform blood draws, so impairment is document in time

High School Road Safety Champaigns: Program to teach safe driving habits, roadway skills, and reinforce the importance to teen drivers.

Education Program for Electric bicycles, scooters and Mopeds: Program to highlight safety use (e.g. speed, helmets, awareness of other road users) for micromobility modes of transportation

Key Takeaways

1. **Start from the statewide foundation**
   IDOT's Safety Tiers, roadway layers, crash data, and VRU layers give every county the same inputs.

2. **Benchmark against the state**
   Sangamon's 54% intersection-related KSI, versus 42% statewide, made intersections a focus area.

3. **Identify different systemic risks**
   The same systemic method found distinct risk profiles in different counties.

4. **Ensure vulnerable road users are considered**
   Pedestrian and bicyclist crashes were 14% of Sangamon's severe crashes, and 8× more likely to be severe.

5. **Ground the data with stakeholders**
   Ensure local input meaningfully shapes the network and project list.

Thank you

Questions

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