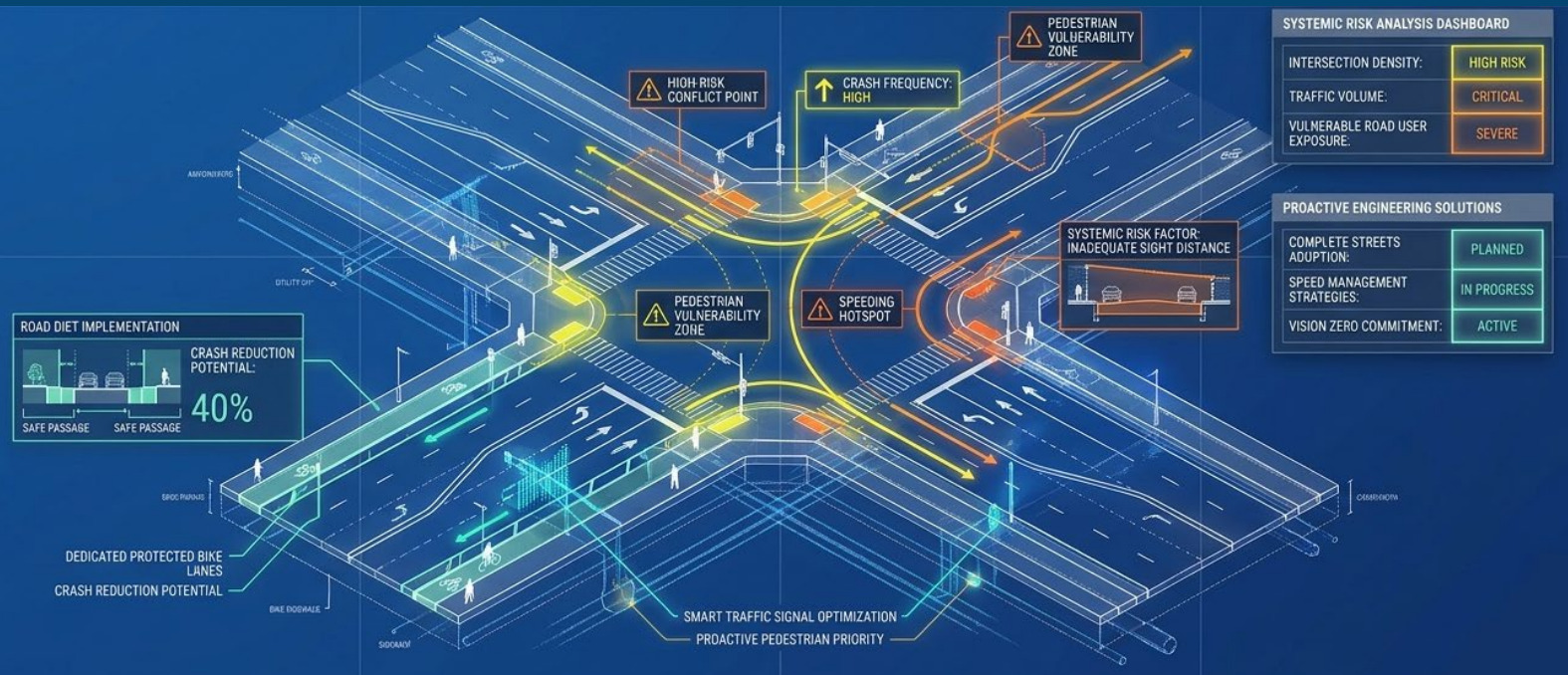


Lake County Safety Action Plan: Turning Analysis into Prioritized Investment



Mike Klemens

Manager of Transportation Planning

September 3, 2026



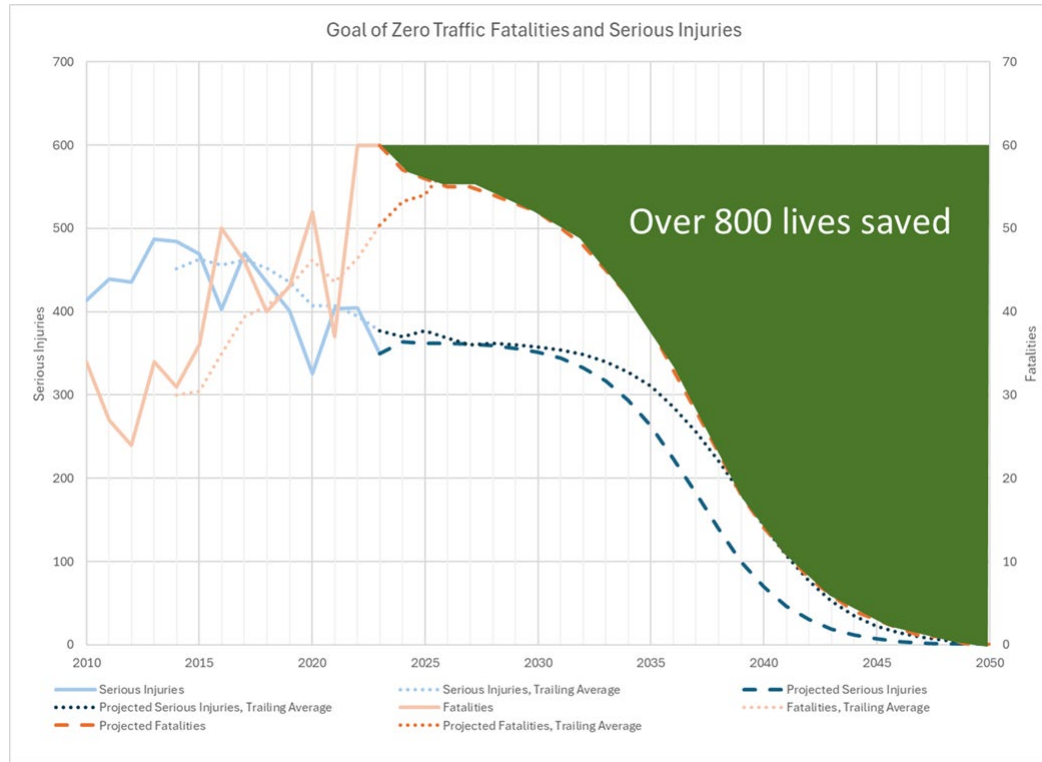
The Human Impact

Lake County Crashes 2018-2022



The Human Impact is Incalculable

The scale of achieving Vision Zero



The Economic Calculus

USDOT economic costs per crash:

 Fatality:
\$3,000,000

 Critical Injury:
\$2,290,000

 Serious Injury:
\$175,000

Takeaway: Preventing a single fatal kinetic impact funds entire infrastructure projects.

Achieving
Vision Zero by
2050 means:

\$4-7 Billion
in Economic
Impact

8000 fewer
life altering
crashes

Over 800
lives saved

Community Engagement

Guided by mission to “reach people where they are”

Steering Committee Members

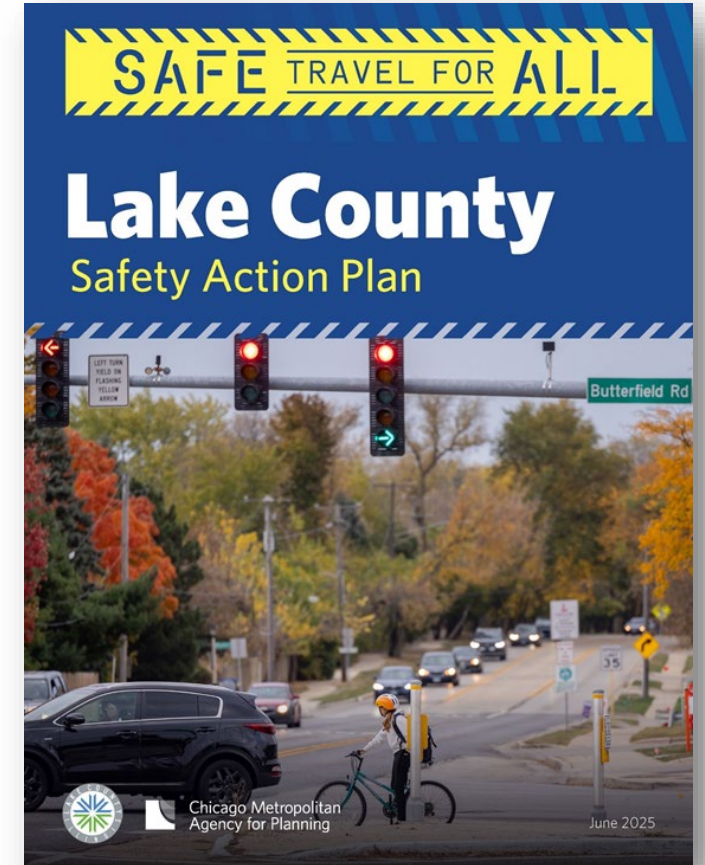
- Bicycle Club of Lake County
- Clean Power Lake County
- Illinois Department of Transportation
- Lake County Center for Independent Living
- Lake County Forest Preserves
- Lake County Health Department
- Lake County Major Crash Assistance Team
- Lake County Regional Office of Education
- Lake County Sheriff Crash Team
- Lake County Transportation Alliance
- Mano a Mano Family Resource Center
- Metra
- NAACP Lake County Chapter
- City of Waukegan
- Village of Buffalo Grove
- Village of Fox Lake
- Village of Wauconda



Supper With Santa (Round Lake Beach)

Safety Action Plan Development

- Lake County partnered with the Chicago Metropolitan Agency for Planning (CMAP) to create the Safety Action Plan.
- Prepared and supported by the expertise of HDR, Inc.
- Funded through Safe Streets & Roads for All Grant (USDOT)
- Lake County & the five other countywide Safety Action Plans were adopted by the CMAP MPO Policy committee on May 30, 2025
- Safety Action Plans guided by FHWA's Safe System Approach



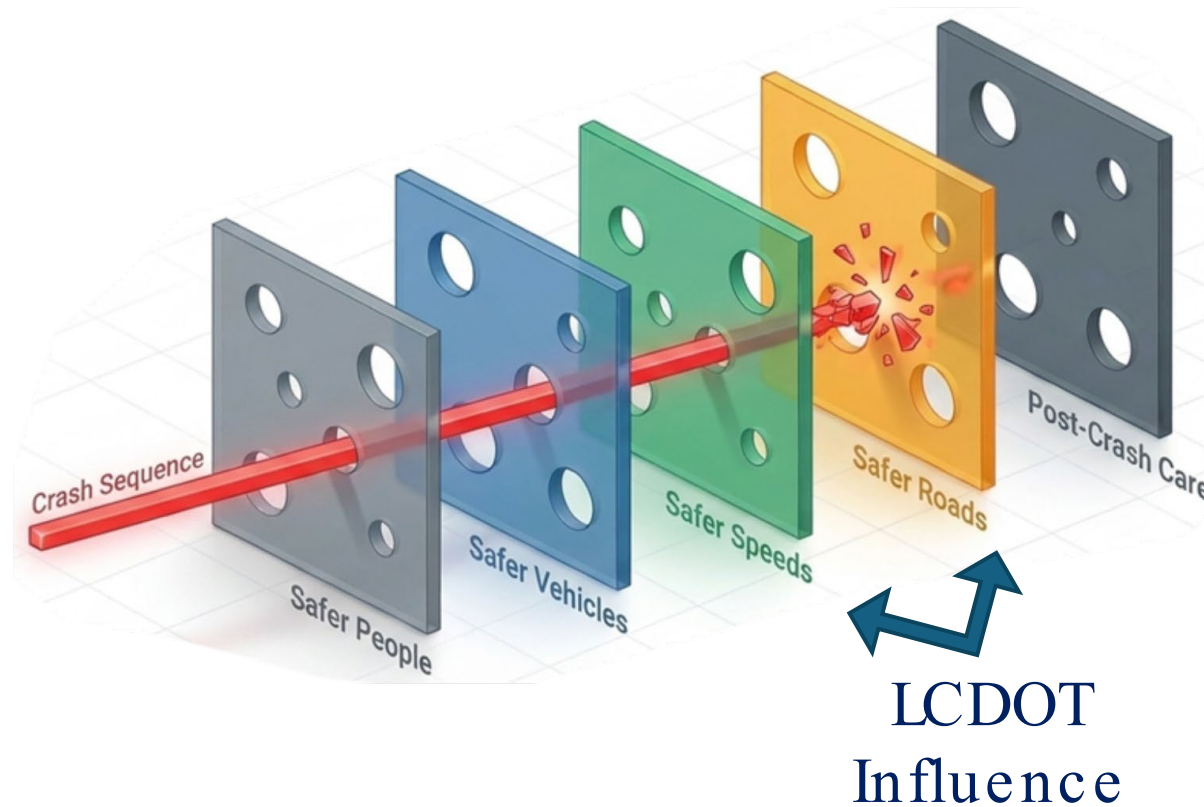
Chicago Metropolitan
Agency for Planning



LakeCounty
Division of Transportation

Safe System Approach

We must eliminate the term "accident."
Human error is inevitable. Fatal kinetic impacts are preventable.





Digging into the Data

WHO

- Identifying disparities

WHERE

- Identifying injury hotspots

WHY

- Assessing roadway risk

HOW

- Selecting targeted countermeasures

Not All Crashes Are Equal

The Baseline

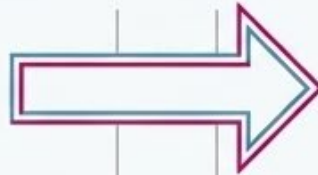


All Crashes

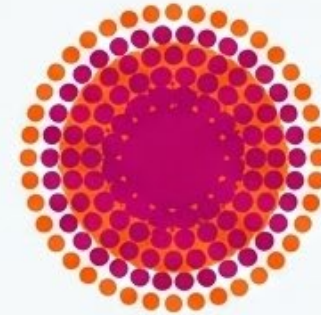
The total volume of incidents on Lake County roads. Mostly fender-benders, minor collisions, and property damage. An everyday reality.

**Total: 116,116
vehicles involved.**

Our goal is to isolate
the specific conditions
that turn a routine drive
into a severe outlier.



The Severe Outliers

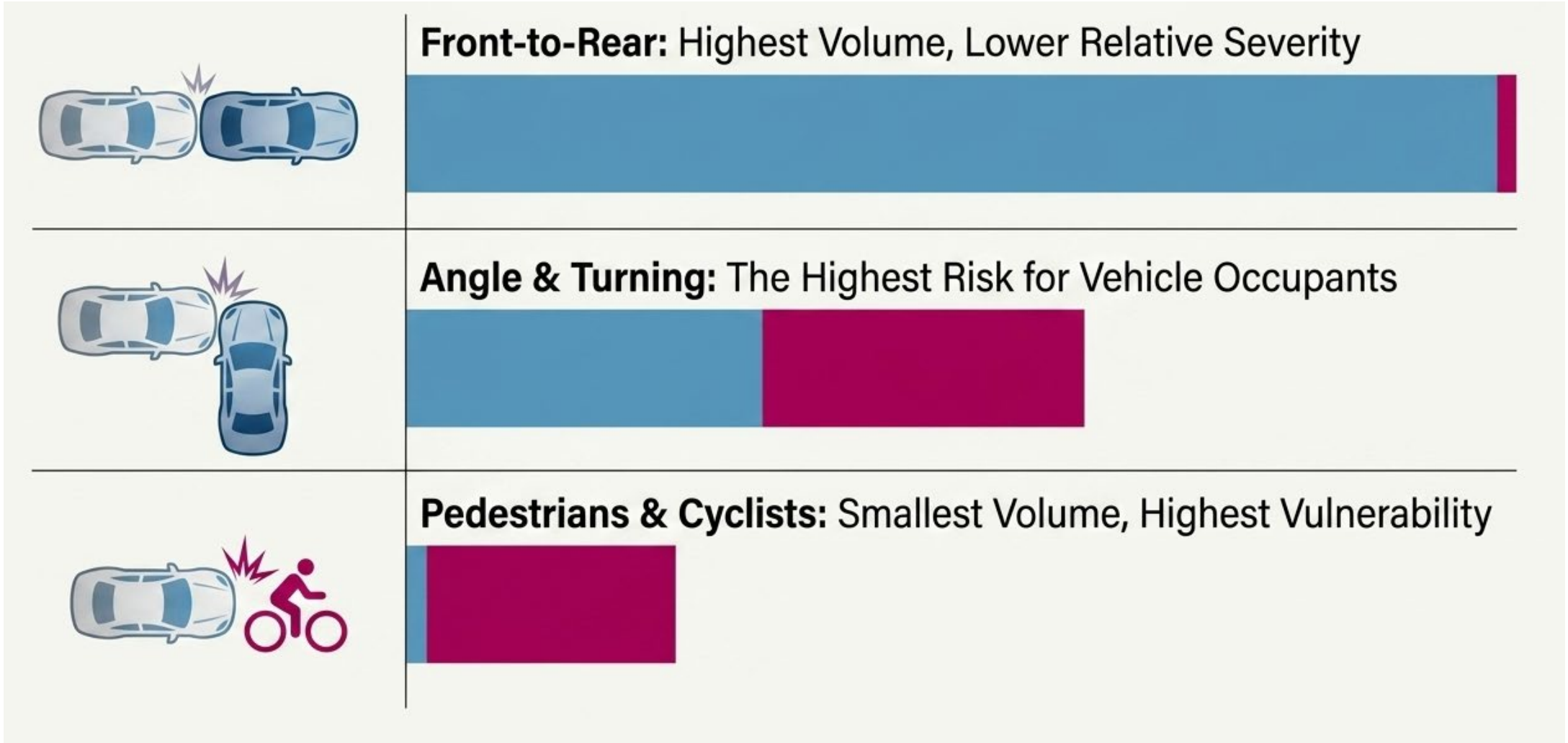


K/A Crashes

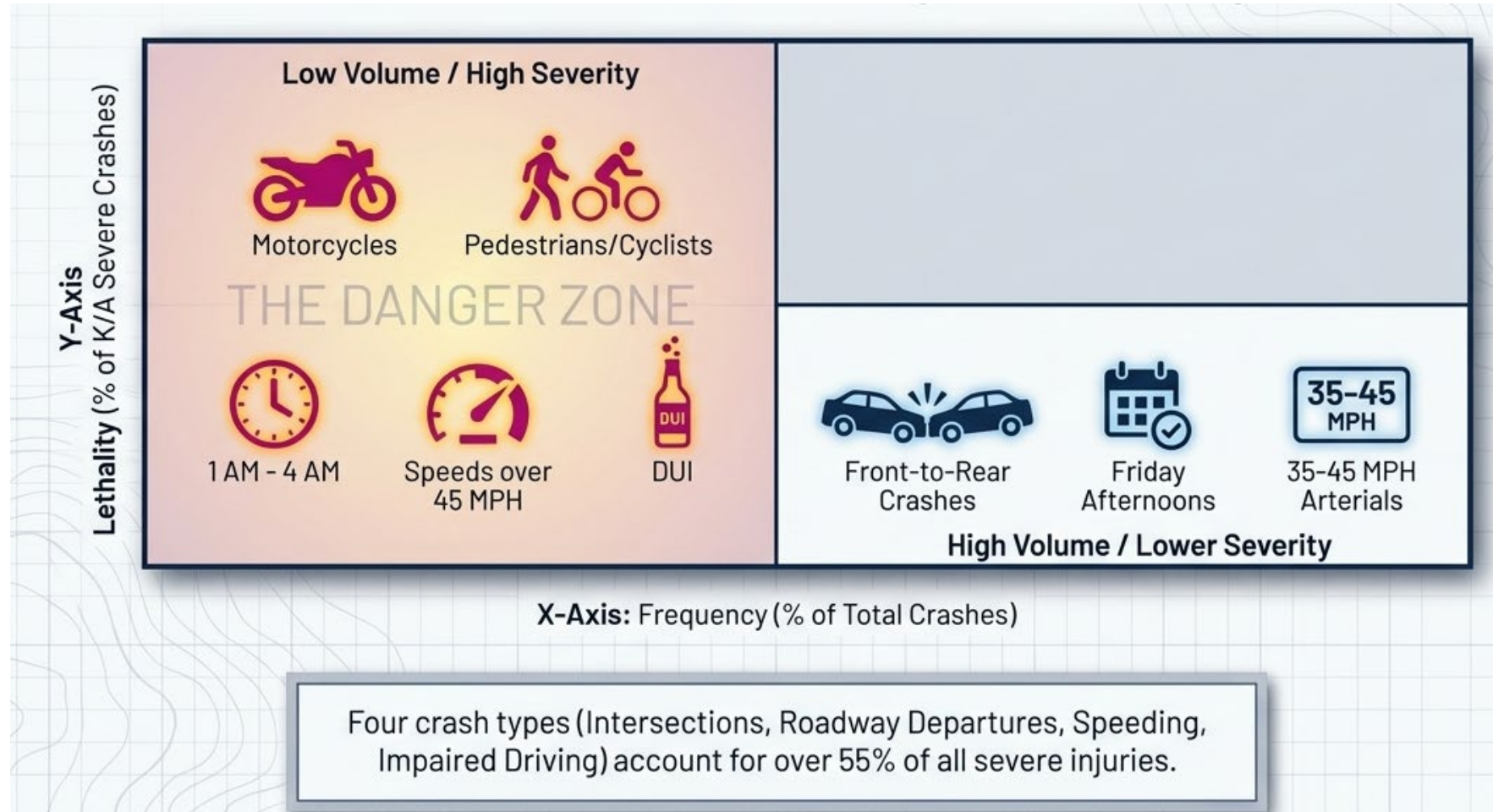
Incidents resulting in a Fatality (K) or Serious Injury (A). Life-altering events.

**Total: 3,259
vehicles involved.**

The Mechanics of Impact



Separating Volume From Severity



Interventions must target the crashes that lead to highest percentages of fatalities & serious injuries

A disproportionate burden

Two Wheels vs Four



The Vulnerability Gap

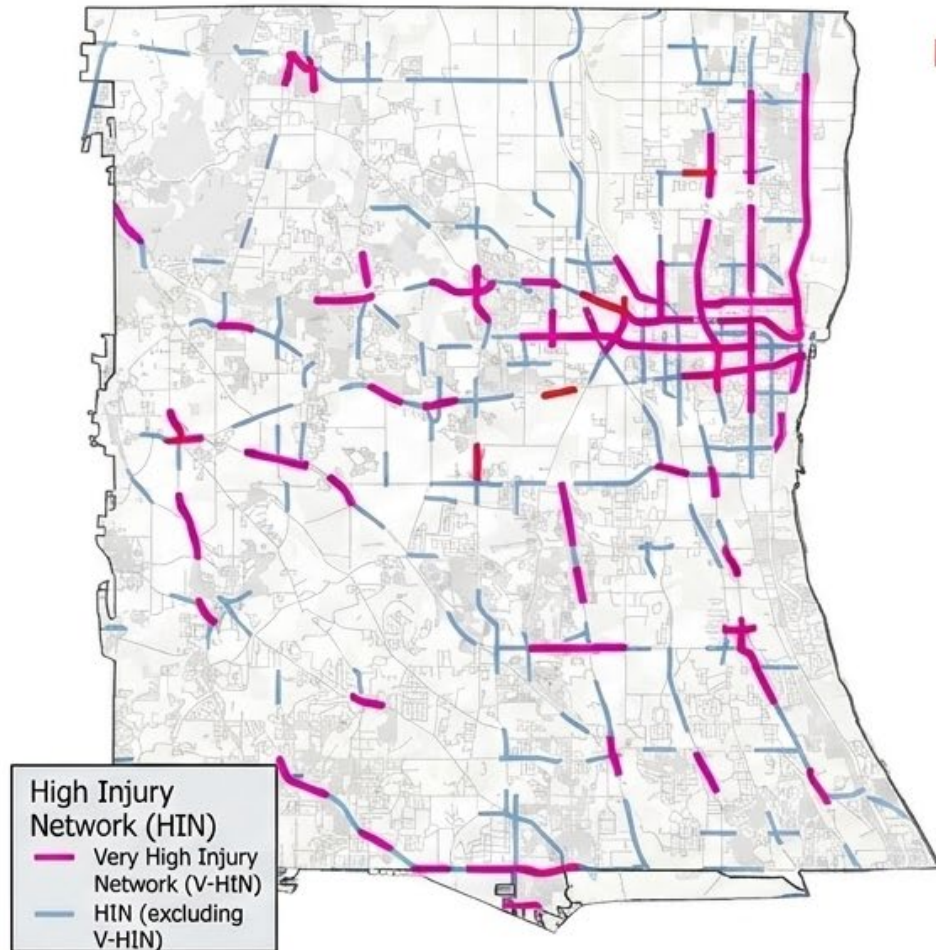


Socioeconomic Disparity



Areas of **Persistent Poverty** make up only **7.5%** of the street network, but account for **14%** of total fatalities and serious injuries.

Uncovering the High Injury Network



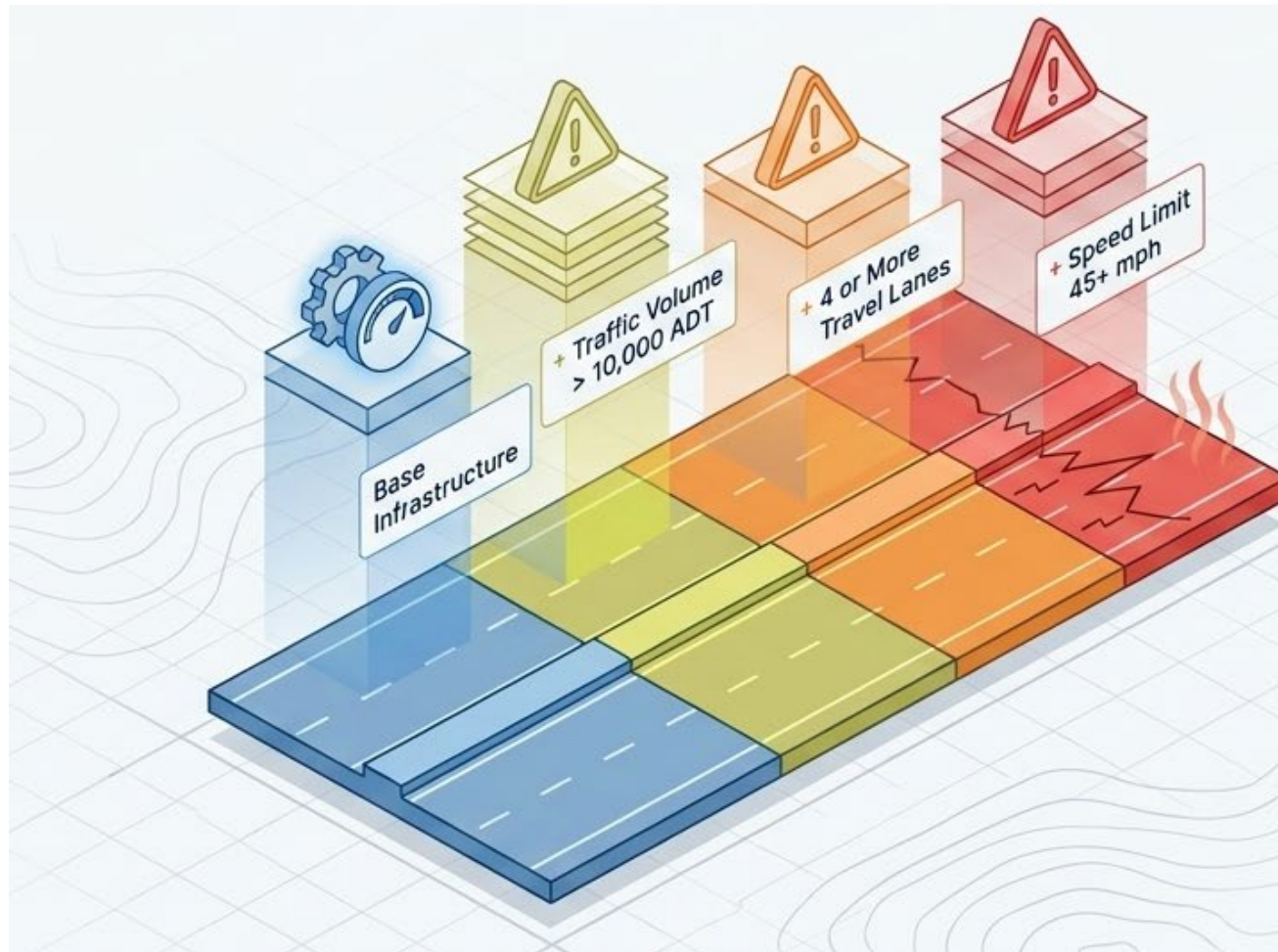
7.5% of roadway miles...
...contain 66%
of all fatal/serious injuries.

Very High Injury Network

The V-HIN is just 2.4% of roads but contains 35% of fatal/serious injuries (6 severe injuries/mile).

We now have a map of where safety interventions are needed the most

Roadway Risk Characteristics



Isolated road features rarely cause severe crashes.

Hotspots are created when multiple risk factors stack on top of each other.

Urban Intersections with a Risk Score of **4 or More** make up only **7%** of the network, but account for **67%** of all severe intersection crashes.

Environments can exceed human reaction limits



Countermeasure Matrix

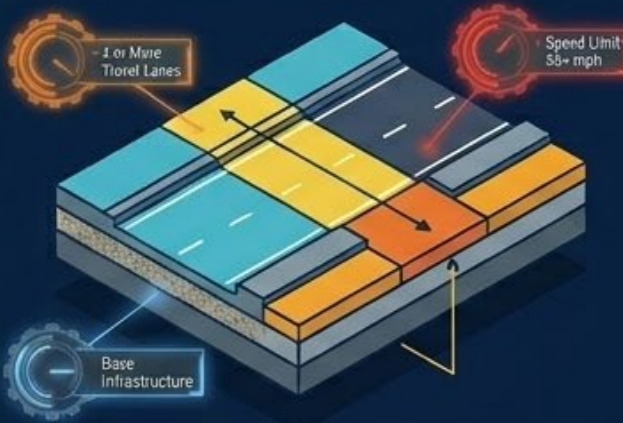
Countermeasure	Primary Targets	Crash Reduction Factor (CRF)	Relative Cost
Roundabout Installation	Intersections & Speed	 78-82%	\$\$\$\$
Lane Repurposing (4-to-3)	Speed, Angle, Pedestrians	 19-47%	\$\$\$\$
Radius Tightening / Curb Hardening	Pedestrians & Speed	 44%	\$\$
Leading Pedestrian Interval (LPI)	Pedestrians & Turning	 59%	\$
Rumble Strips (Center/Edge)	Lane Departures	 33%	\$

Data without action is just a map



The Map :

We know **WHERE** the danger is clustered (The HIN).



The Math:

We know **WHY** the risk factors compound.



The Method :

We know **HOW** to engineer them out.

Targeted interventions save lives and maximize infrastructure value. The blueprint is complete; execution begins now. Every dollar spent must pass through the Capital Projects Evaluation matrix.

Case Study: Delany Road (US41 to Sunset Avenue)



The Equity: Location is in an Environmental Justice Buffer Zone
(+10 points)

The Risk: 3 overlapping roadway risk factors present
(+7 points)

The Map: Location is on the Very-High Injury Network
(+10 points)

Base Data: Crash data showed pedestrian fatalities
(+35 points)

Total Project Score
137
out of 200

**Project added to
FY2026-2031
Capital Program**

Tied for the highest scoring project this cycle

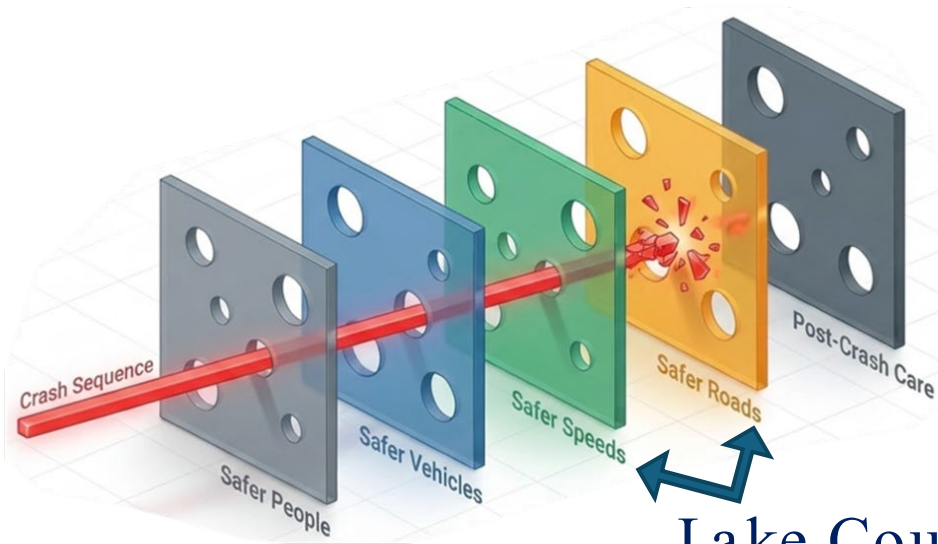
Translating Interventions into Investments



To ensure priority projects get elevated, LCDOT uses an objective, 200-point algorithmic matrix that aligns with the County's strategic goals to evaluate potential projects for inclusion in the 5-year capital program.

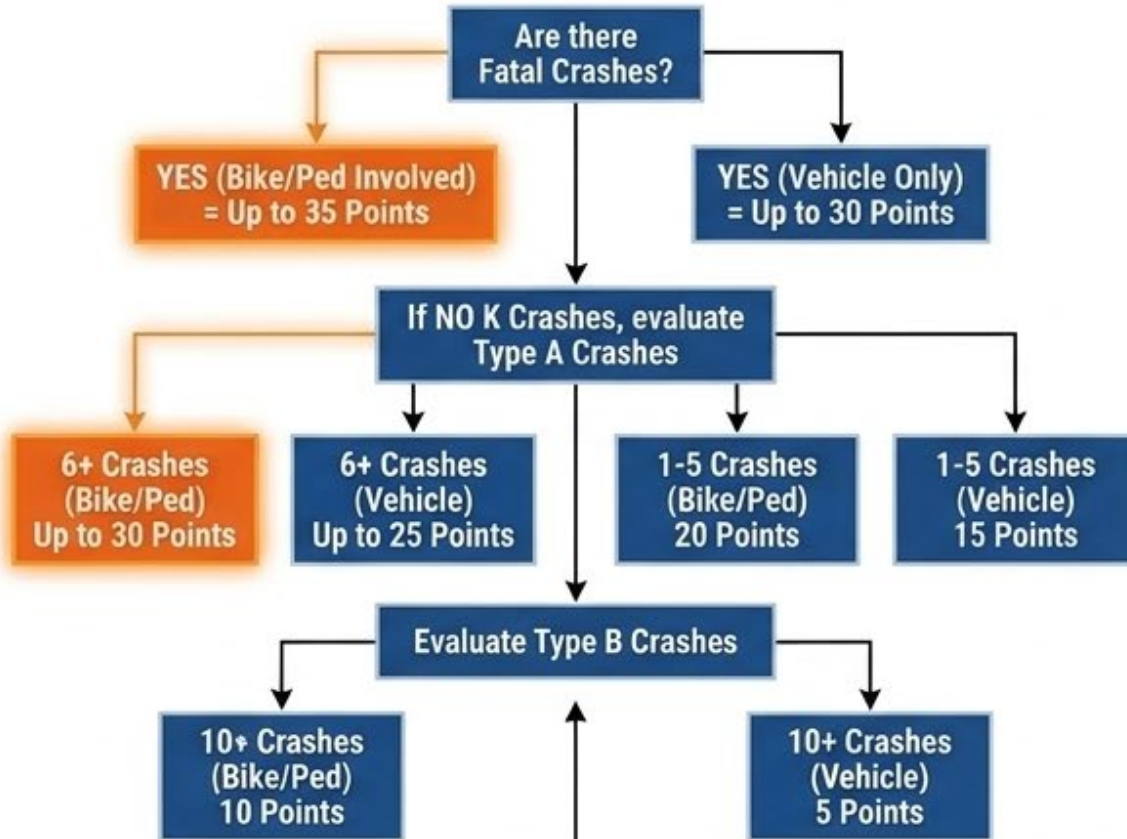
Capital Projects Evaluation

- Scoring algorithm adapts to project type.
- All projects evaluated on same 200-point scale to allow to comparison.

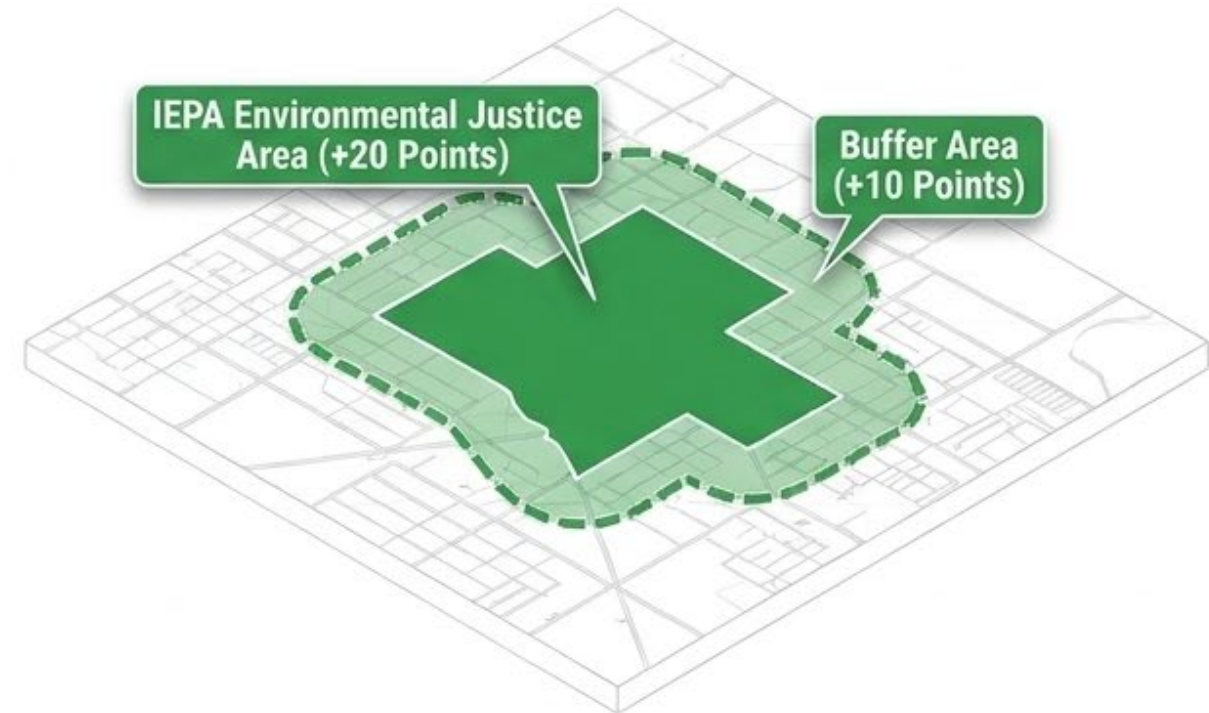


Evaluating for Equity and Vulnerability

Crash Data Hierarchy



Inclusive Growth Bonus

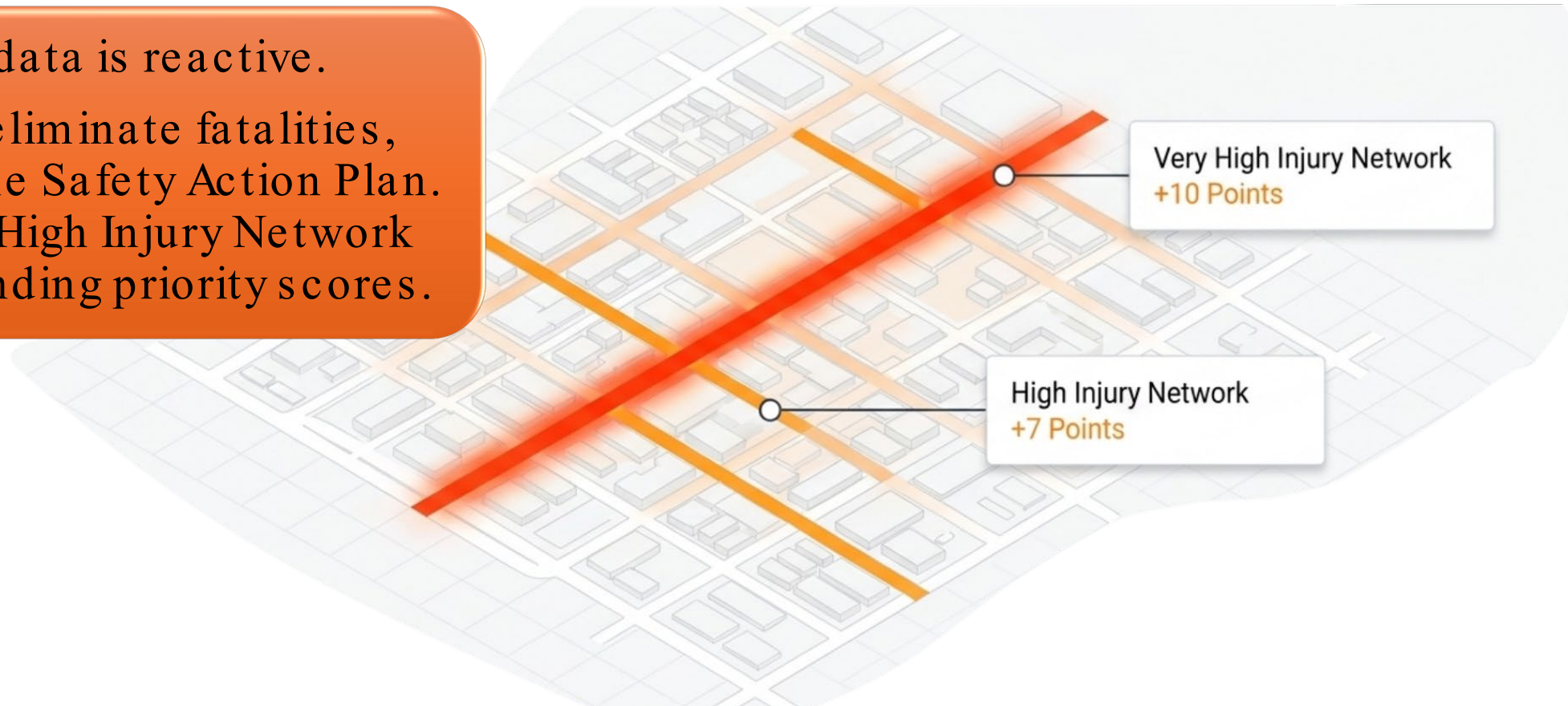


The matrix amplifies project scoring to prioritize upgrades within historically underserved communities and places a consistent premium on vulnerable road users.

Integrating the High Injury Network

Base crash data is reactive.

To proactively eliminate fatalities, LCDOT is using the Safety Action Plan. Projects on the High Injury Network receive compounding priority scores.



Location dictates priority.

If a project addresses an HIN corridor, safety scores are amplified to fast-track intervention.

Proactive Safety Scores: Roadway Risk Characteristics

Beyond historical crash data, LCDOT identifies road risk factors from the Safety Action Plan that make crashes more likely. The presence of overlapping risk factors results in a bonus to a project's safety score.



Safety Blueprint: 5-Year Transportation Improvement Program



The Ultimate ROI: Safe Travel for All



inquiries@lakecountynil.gov | 847-577-7455

To learn more visit: lakecountynil.gov/transportation