

From Speed Analysis to Safety Action

A Practical Framework for Detecting Harmful Speeds



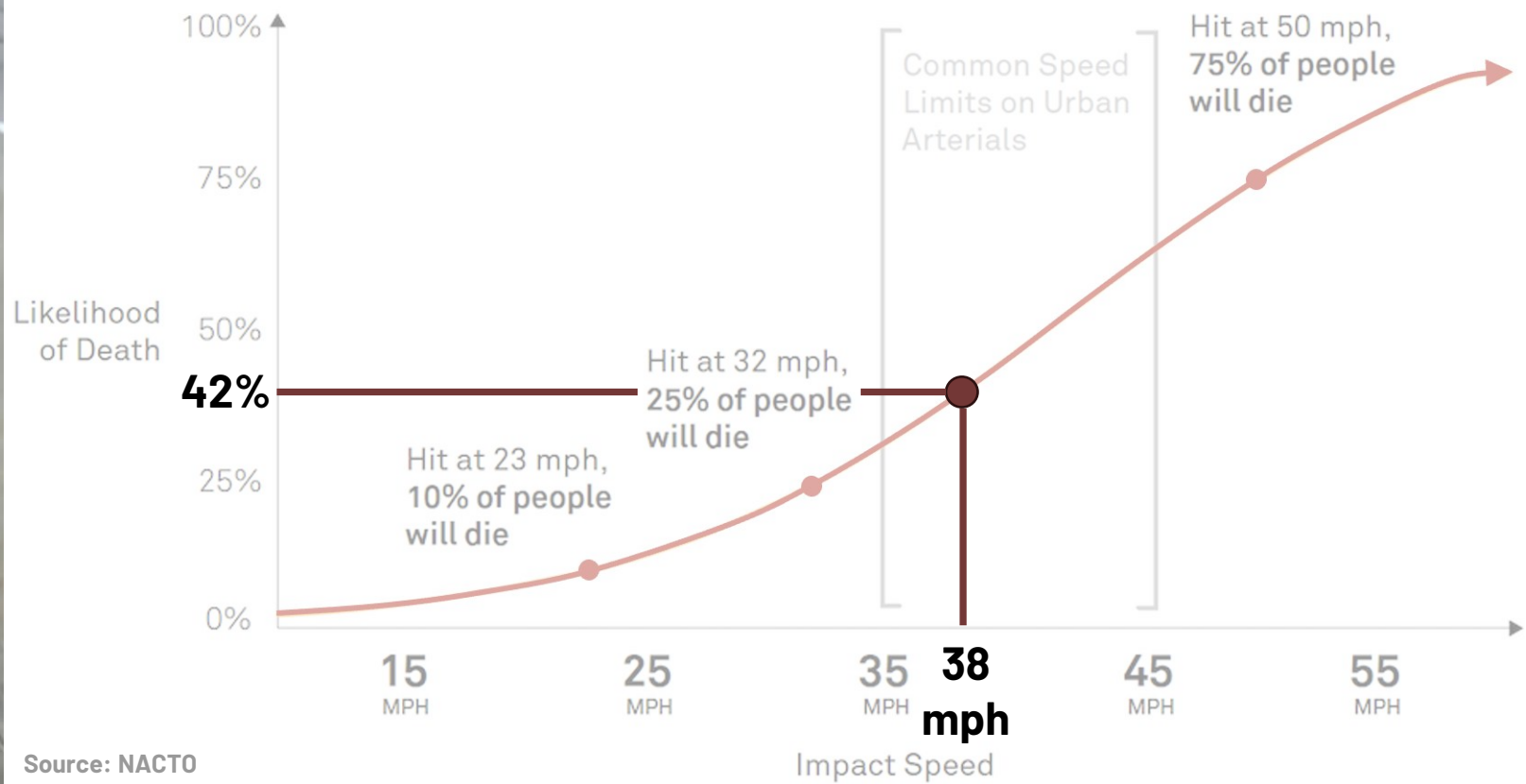


2024-10-05 16:17:38



38 mph

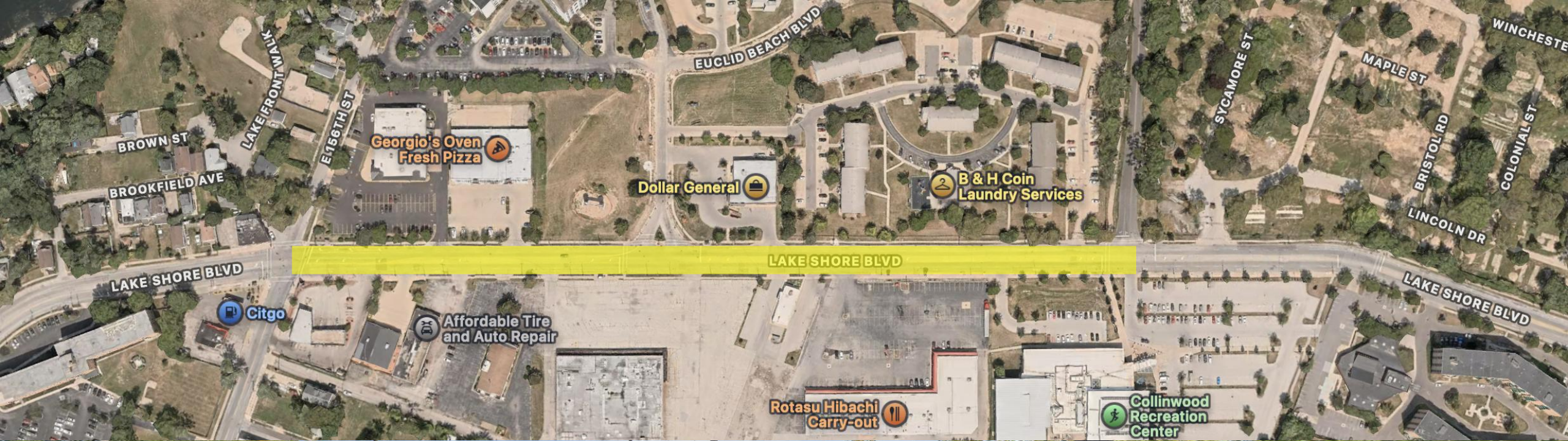
THE LIKELIHOOD OF FATALITY INCREASES EXPONENTIALLY WITH VEHICLE SPEED³²



Source: NACTO



Analysis that operationalizes FHWA's latest guidance on applying the Safe System Approach to speed management





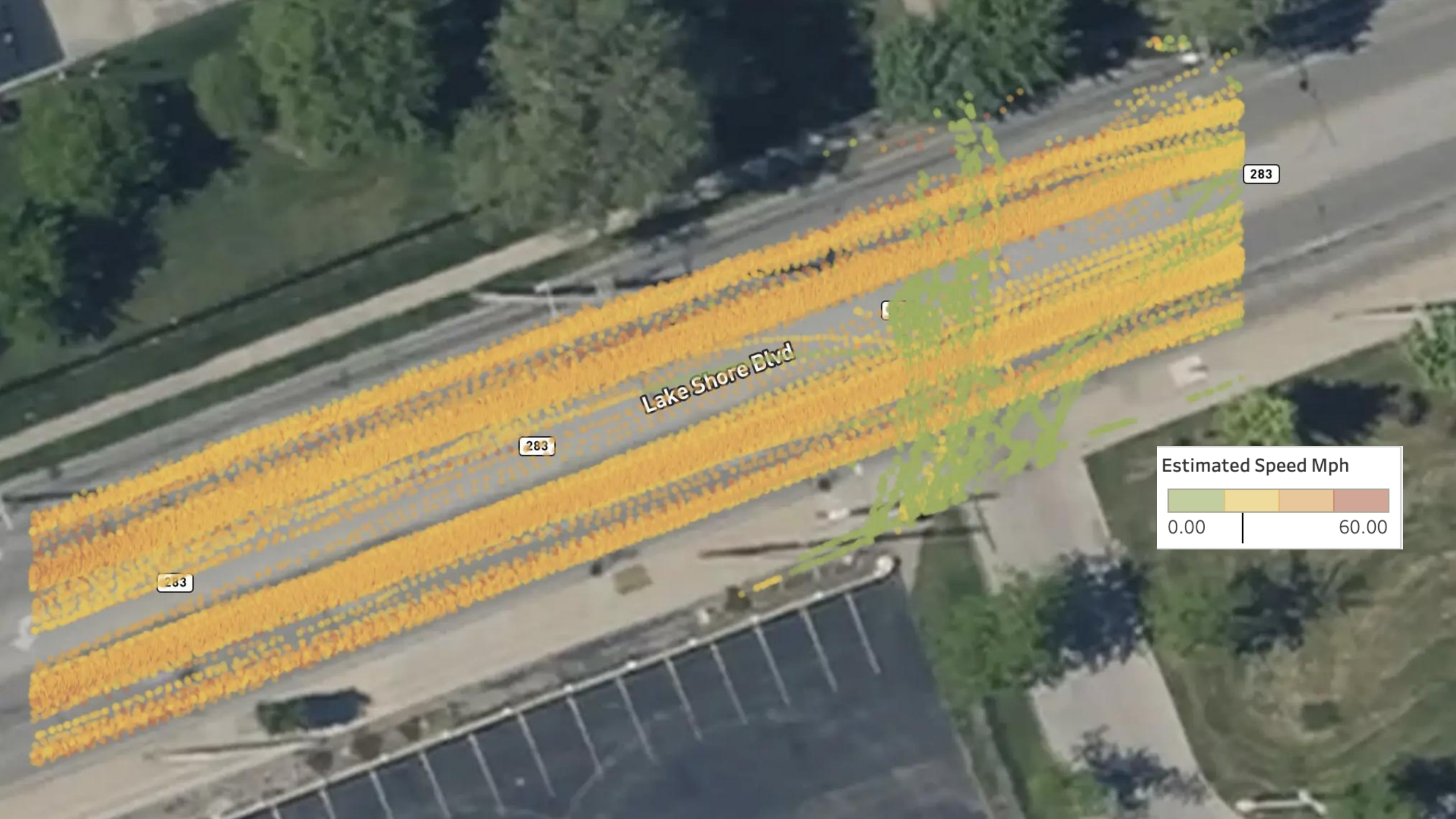
Car #3336
12.7 mph | -0.3 ft/s^2

Pedestrian #3334
4.0 mph | Exposure: 6.55 sec

Car #3332
29.5 mph | -2.7 ft/s^2



Autoscope®

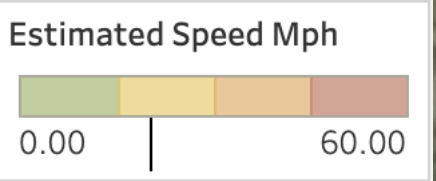


Lake Shore Blvd

283

283

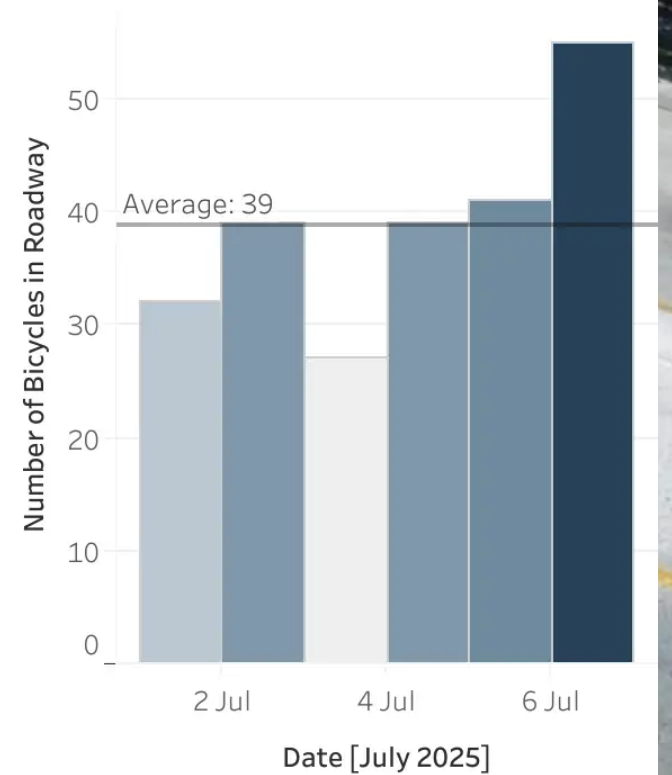
283







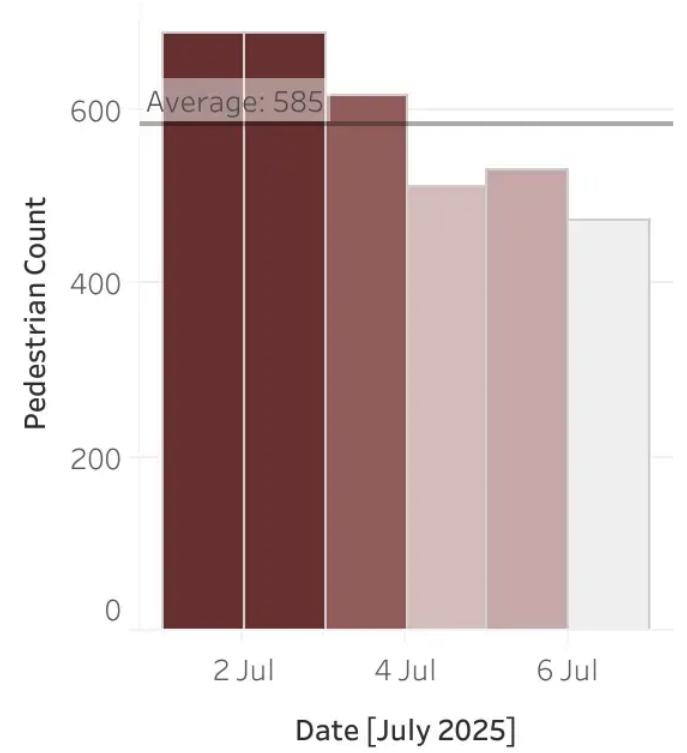
Daily Count



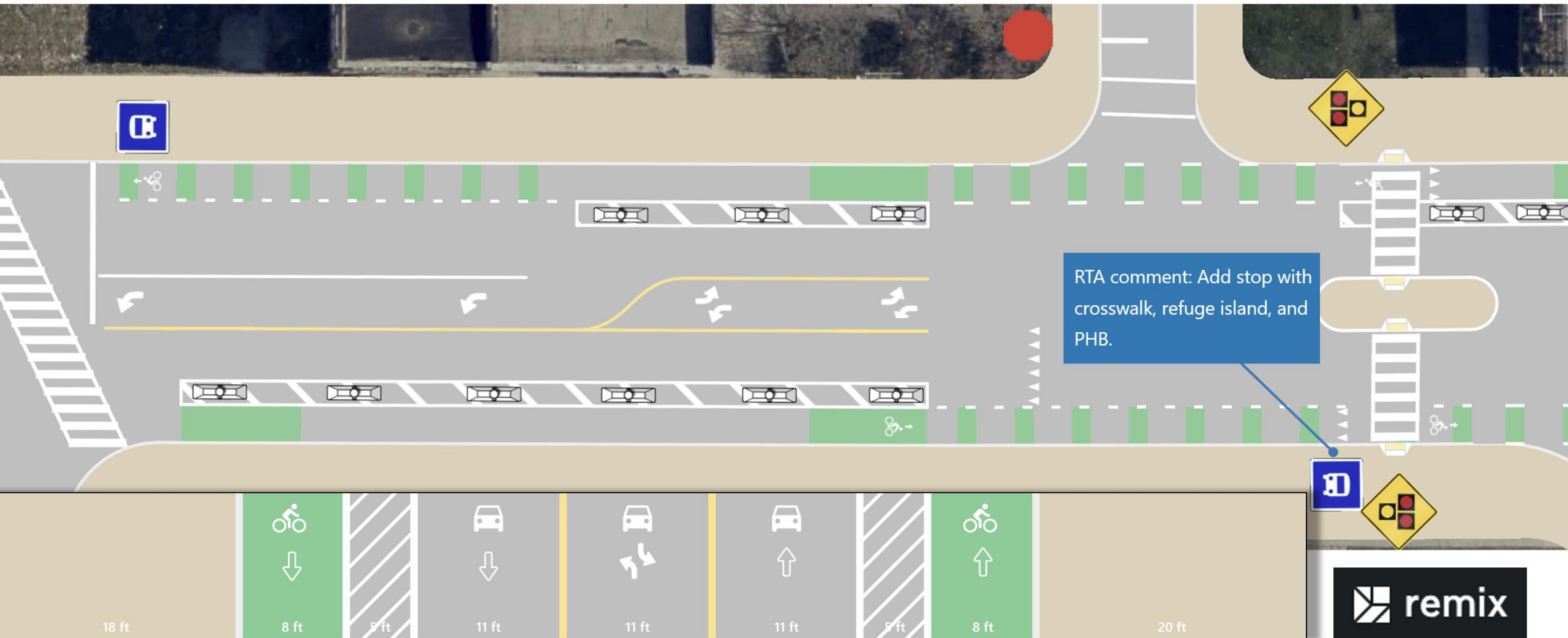




Pedestrian Crossing Daily Count



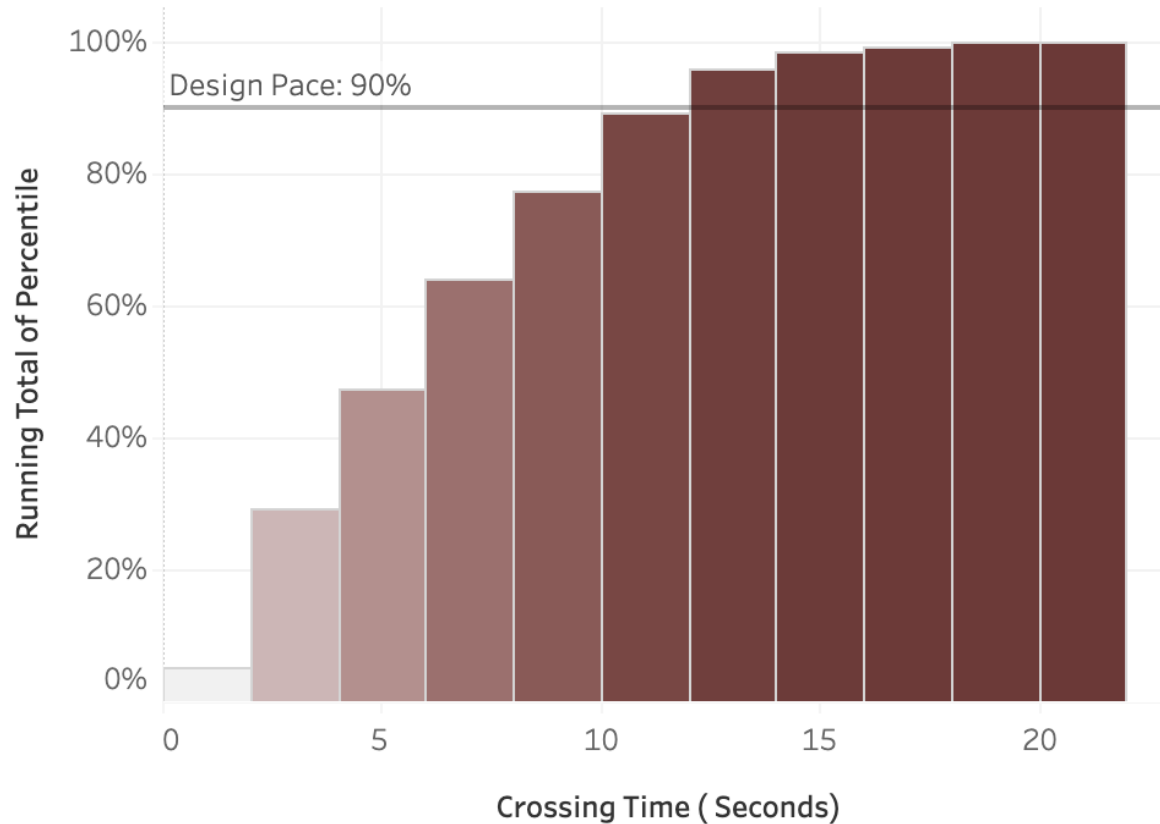
Recommended Cross Sections



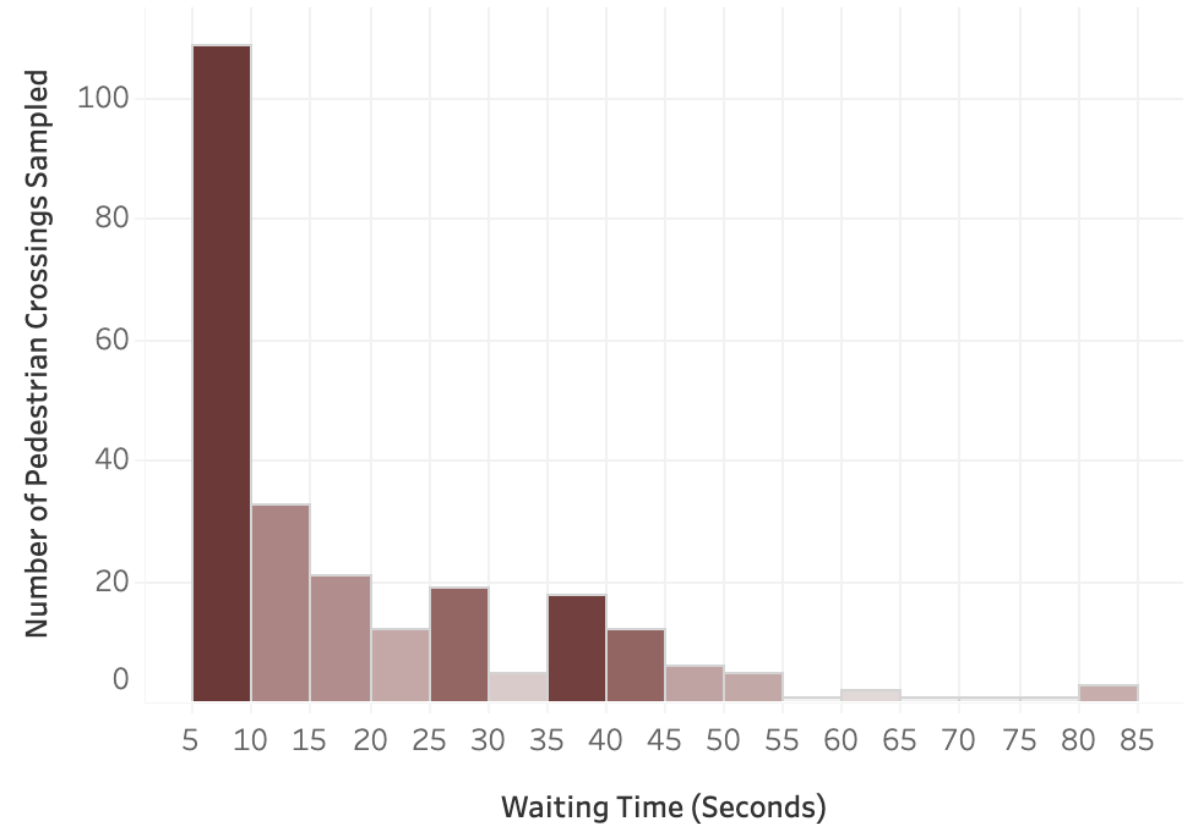


Quality of Service Metrics

Pedestrian Crossing Time Percentile



Pedestrian Waiting Time

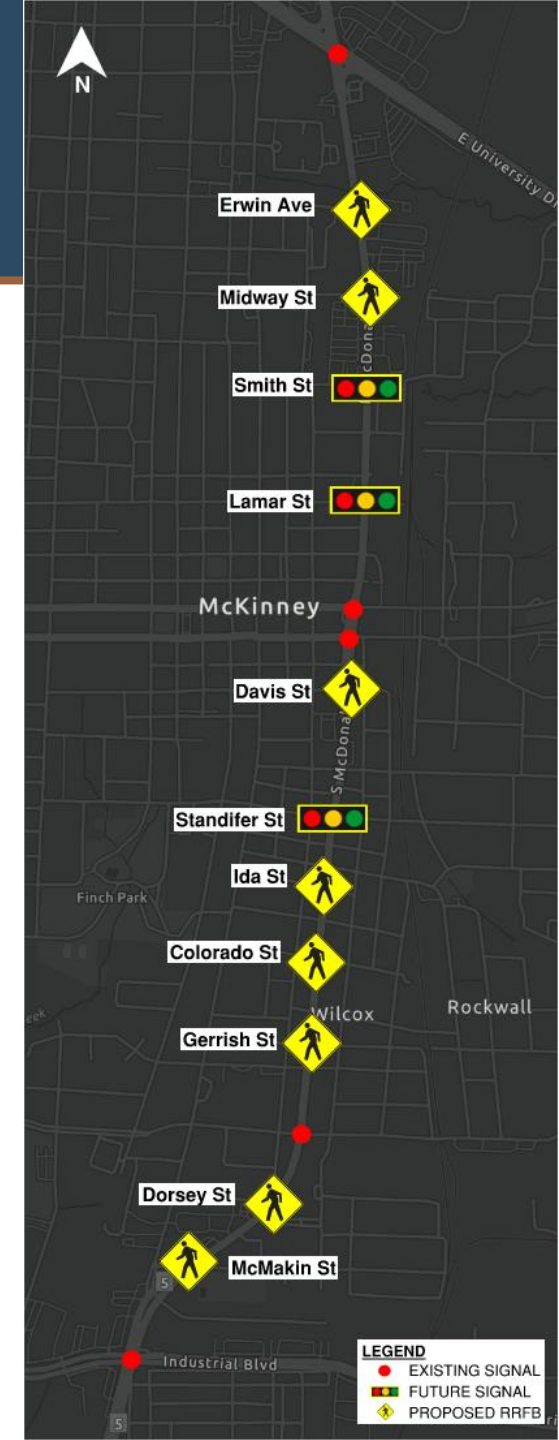


Proposed Crossing Locations



Source: <https://greenwaycollab.com>

**Recommendation: Two-Stage Crosswalk, Refuge Island,
& Overhead RRFB**





Eureka Rd

Hwy 7

HIGHWAY



SAFETY COALITION

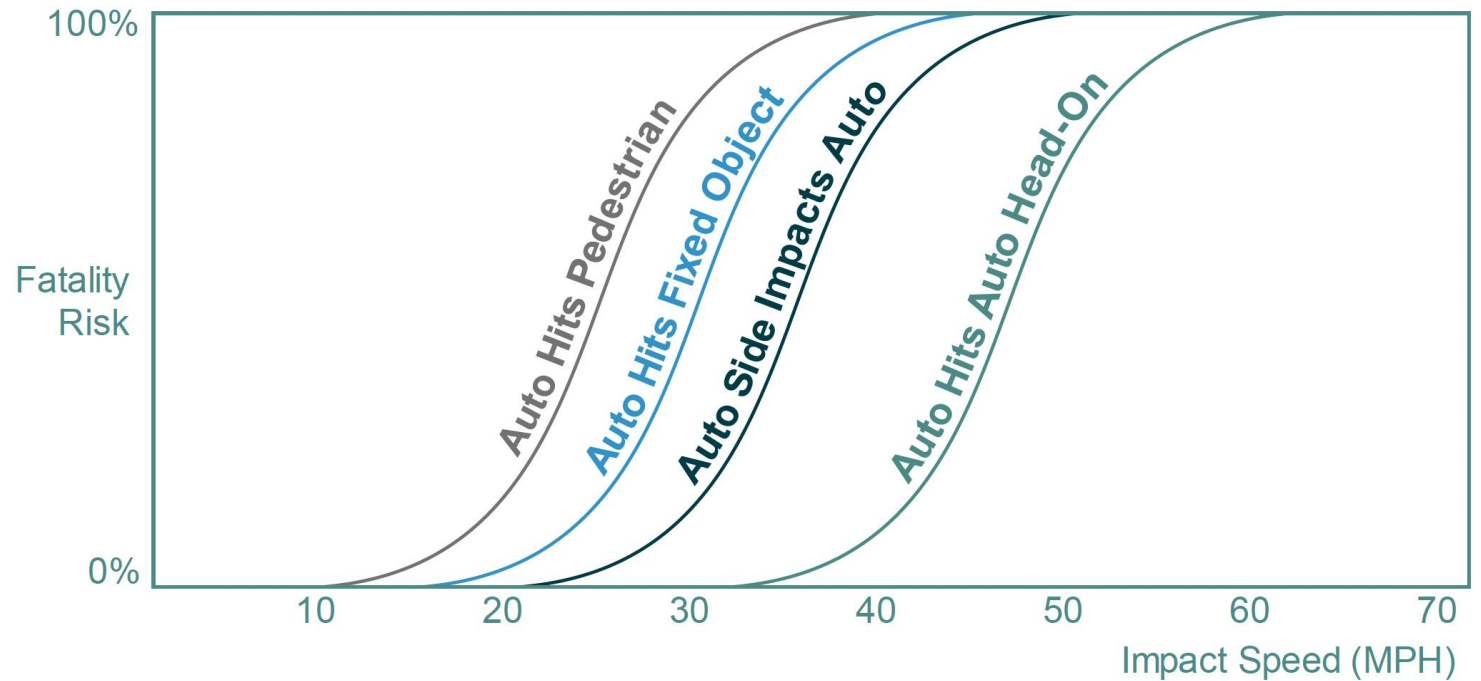
Harmful Speeds: Vehicle-Vehicle Interactions

Framework

Risk = Speed + Exposure +
Decision Uncertainty

Where:

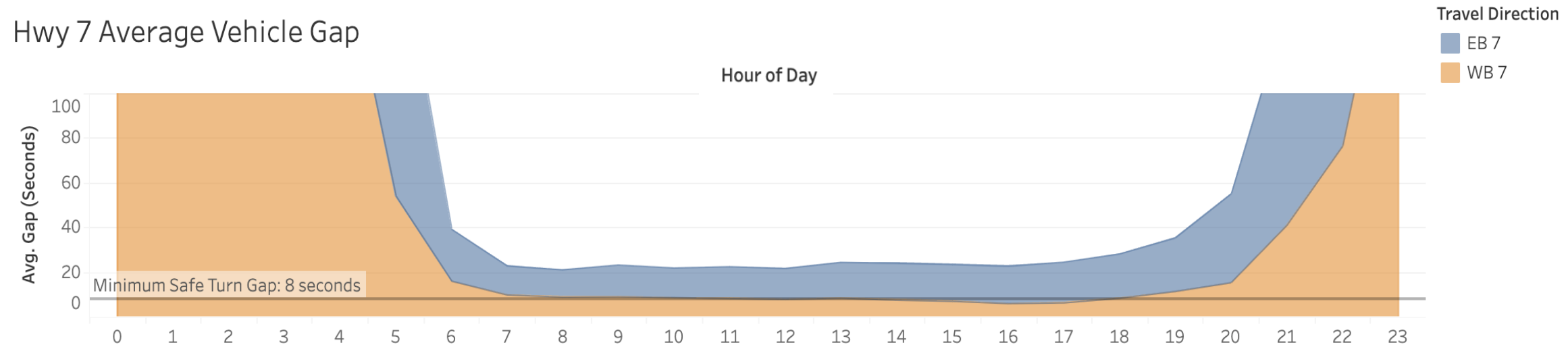
- Speed = severity if a collision occurs
- Exposure = number of left-turn maneuvers
- Decision Uncertainty = pressure to accept a smaller-than-safe gap



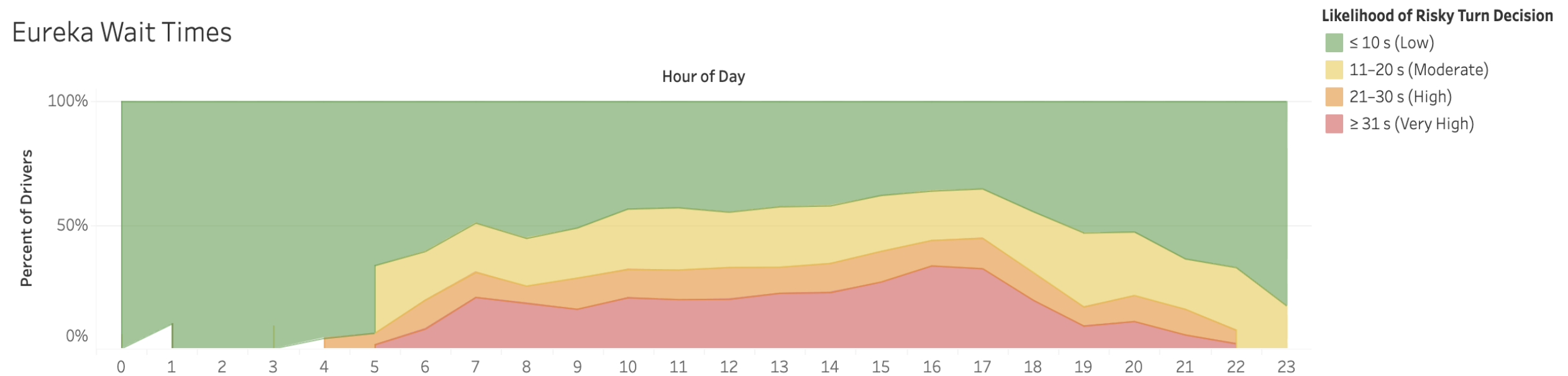
Source: FHWA

Left Turn Opportunity Analysis

Hwy 7 Average Vehicle Gap



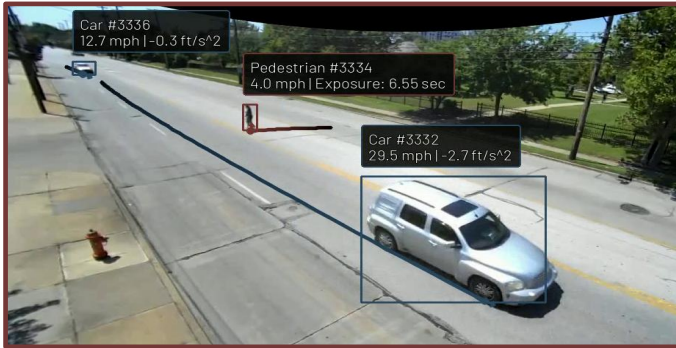
Eureka Wait Times



A Practical Harmful Speed Framework

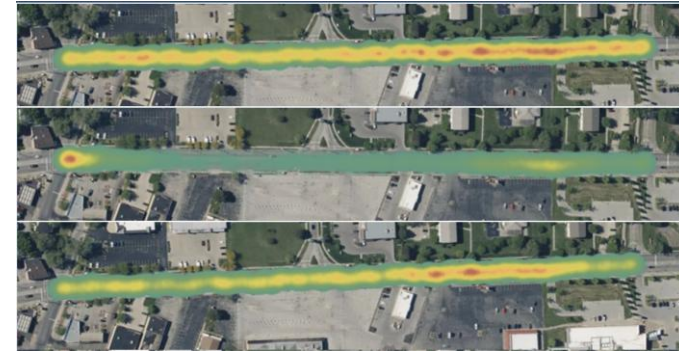
1

Measure Road User Interactions



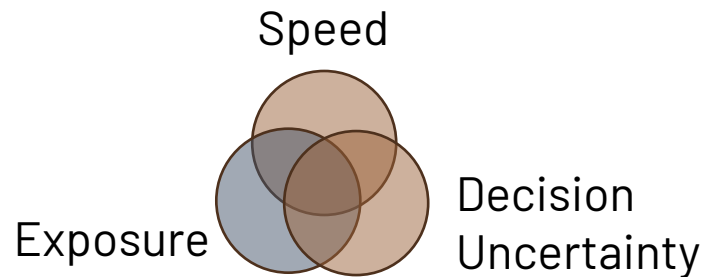
2

Quantify Harmful Speed Risk Factors



3

Identify Harmful Speed Locations



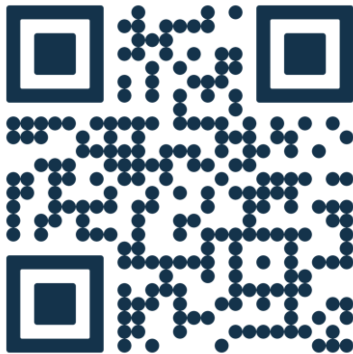
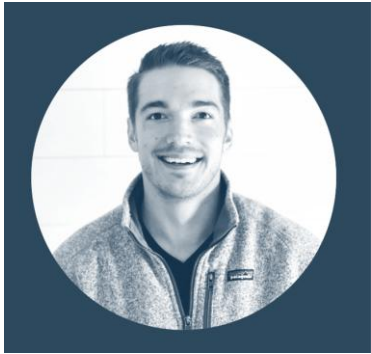
4

Prioritize Safety Investments





Thank you



Let's connect!

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