



# From Prioritization to Implementation: Advancing Pedestrian Safety Through Road Safety Assessments



**2026**  
**TEXAS PEDESTRIAN  
SAFETY FORUM**  
Austin, Texas May 6, 2026

Chelsea St. Louis, AICP  
Sr. Capital Projects Officer  
Transportation and Public Works  
City of Fort Worth



Nan Jiang, PhD, PE, PMP, RSP1  
Data Science Practice Lead  
Toole Design



# What We'll Cover Today

## **PART 1 – Plan Development**

- Overview of the Fort Worth Vision Zero Safety Action Plan
- From HIN to Priority Corridors: The Prioritization Framework
- Road Safety Assessments: Methodology & Findings
- What the Analysis Means for Fort Worth

## **PART 2 – Implementation**

- Moving from Recommendations to Projects
- Challenges & Approaches
- Funding Strategies & Next Steps

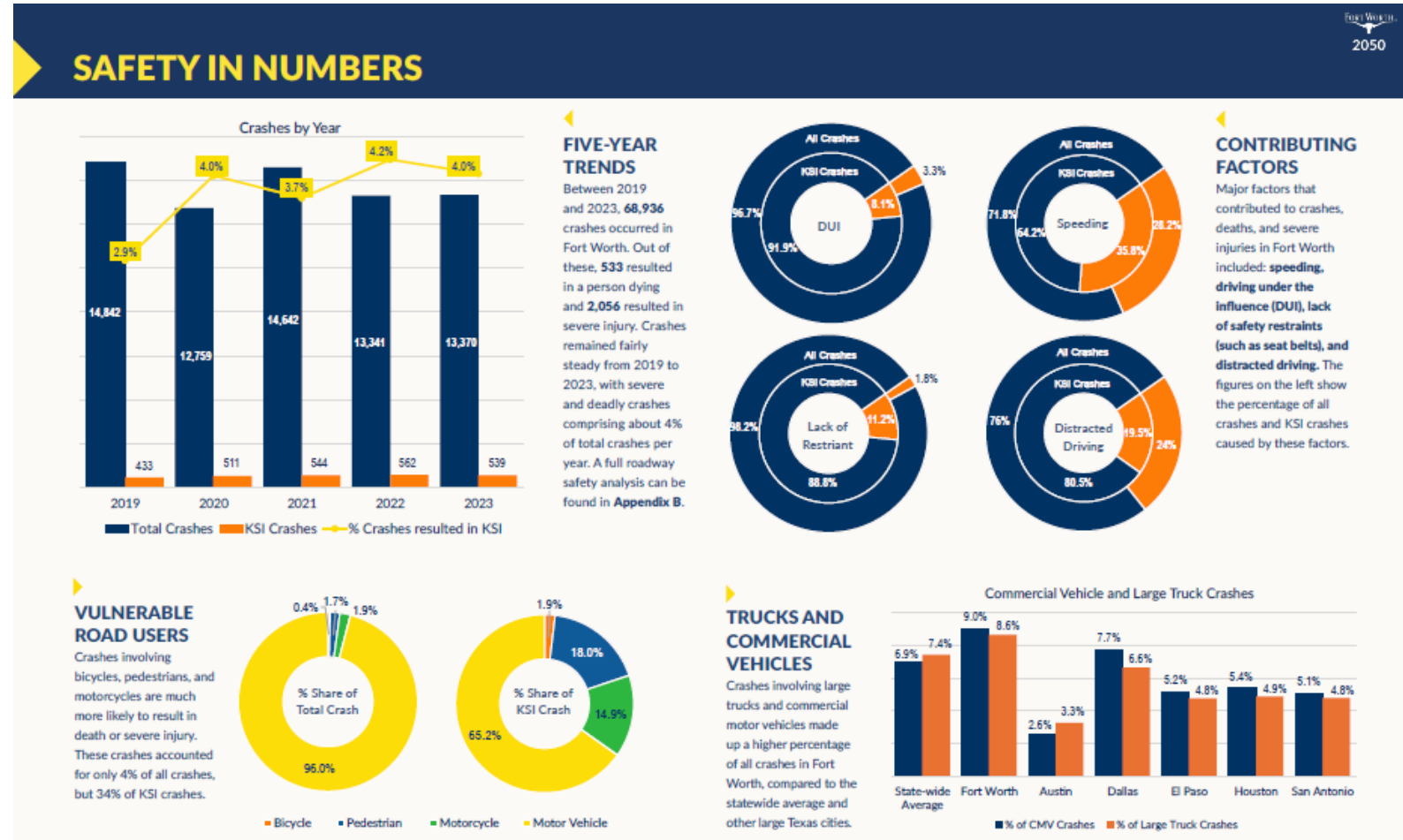
# The Problem: Safety in Fort Worth

# 500+

people killed or severely injured every year

## ▶ Top Contributing Factors (KSI Crashes)

- ▶ Speeding — 28.2% of KSI crashes
- ▶ Distracted driving — 24.0% of KSI crashes
- ▶ DUI — 8.1% of KSI crashes
- ▶ Lack of restraint — 11.2% of KSI crashes



# Fort Worth Vision Zero Safety Action Plan

**GOAL: Zero traffic fatalities and severe injuries on City of Fort Worth roadways BY 2050**

## Safe System Approach — 6 Principles

- ▶ Death & severe injury is unacceptable
- ▶ Humans make mistakes — the system must protect them
- ▶ Humans are vulnerable — design must account for biology
- ▶ Responsibility is shared across all transportation actors
- ▶ Safety is proactive, not reactive
- ▶ Redundancy is crucial — layered protections

## 5 Safe System Elements

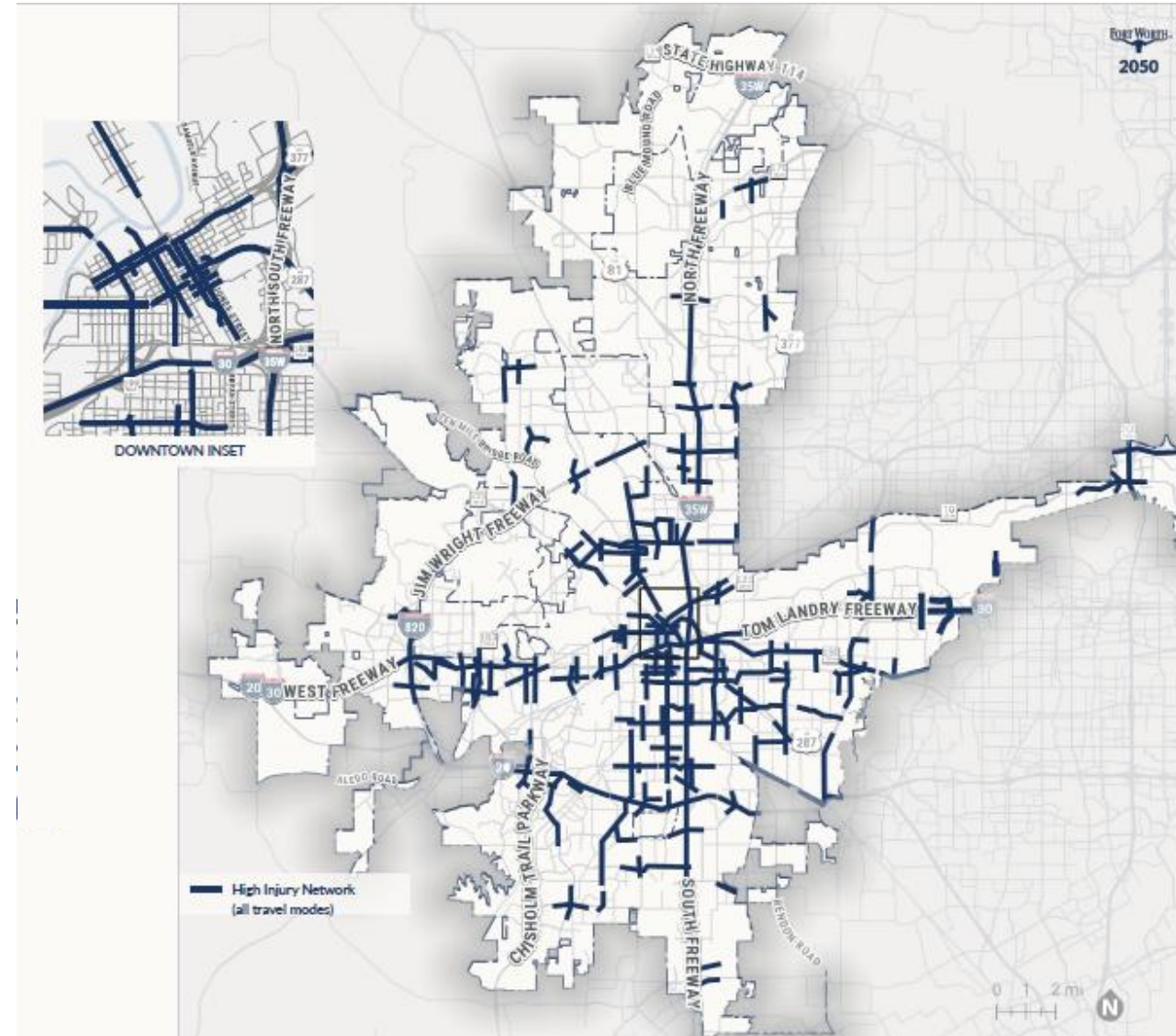
- ▶ Safe Road Users
- ▶ Safe Vehicles
- ▶ Safe Speeds
- ▶ Safe Roads
- ▶ Post-Crash Care

# The High Injury Network

**6%** of streets  
accounts for 54% of all KSI crashes

## Mode-Specific High Injury Networks:

- ▶ Motor vehicle
- ▶ Pedestrian
- ▶ Bicycle
- ▶ Motorcycle
- ▶ Commercial motor vehicle



# Goals, Action Strategies & Priorities

## GOAL 1

### Vision Zero — Paradigm Shift

Organizational commitment, coordination, education, data & reporting tools

## GOAL 2

### Safe Speeds — Designing for Life

Speed limit policy, traffic calming, corridor speed management

## GOAL 3

### Reduce Conflicts — Prevent Crashes

Crossings, intersections, active transportation networks, access management

## GOAL 4

### Policy & Program — Embed Safety

Design standards, pavement/striping, RSA program, transit coordination

## 4 Safe System Priorities

- ▶ Setting Safe Speeds
- ▶ Managing Truck Traffic
- ▶ **Prioritizing Specific Projects**
- ▶ Implementing a Traffic Safety Campaign

*34 total action strategies across 18 focus areas*

# Corridor Prioritization: The Approach

**Challenge: The HIN spans hundreds of miles. Where do you invest first?**

## **Prioritization Scoring Factors:**

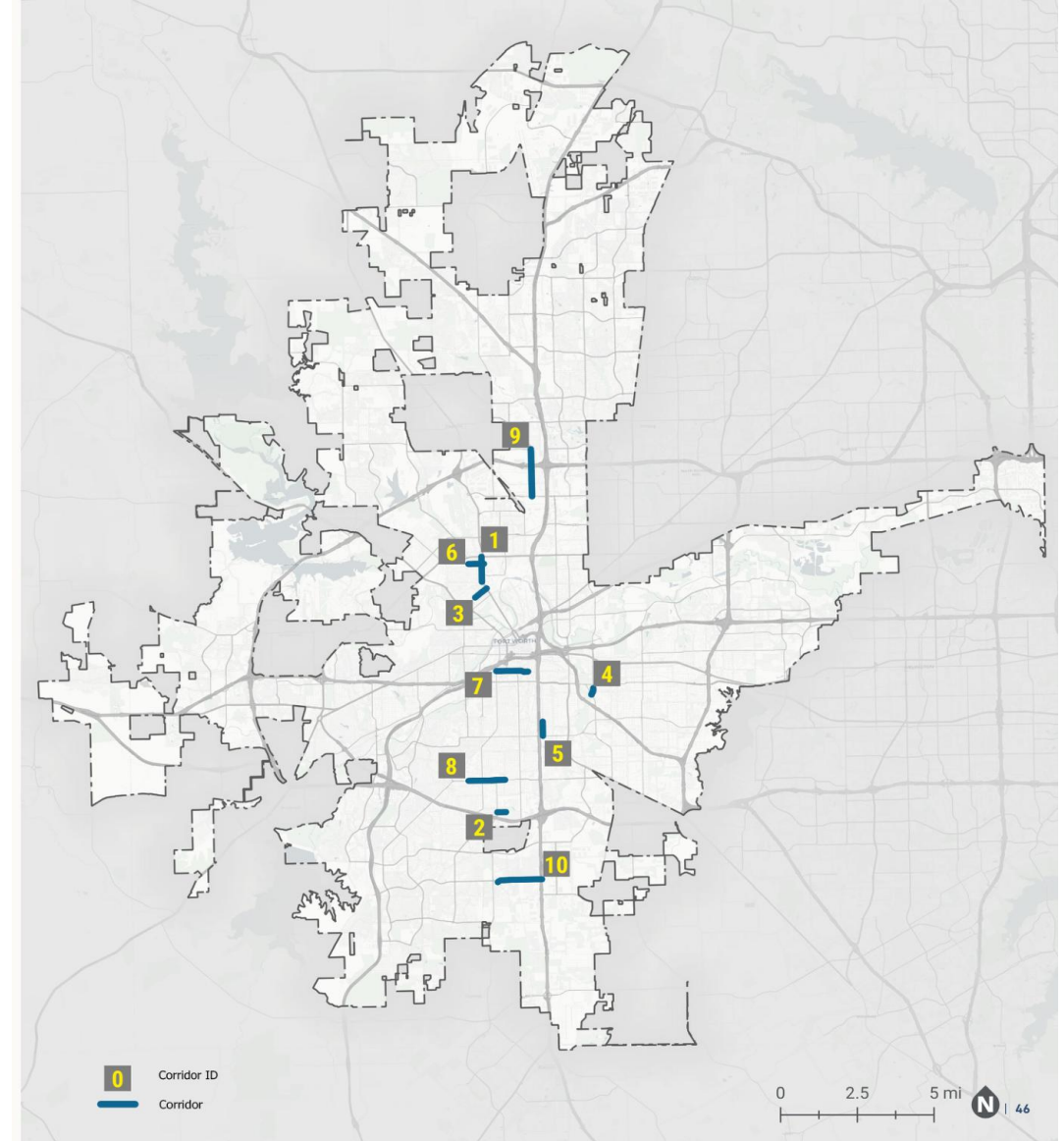
- ▶ Crash history & severity (KSI-weighted)
- ▶ Roadway characteristics (speed, width, lane count)
- ▶ Land use & activity context
- ▶ Social Vulnerability Index (CDC SVI)
- ▶ Presence on multiple modal HINs

## **Result:**

- ▶ Top corridors identified from the HIN
- ▶ 10 corridors selected for full Road Safety Assessment
- ▶ Each corridor appears on 1–3 modal HINs
- ▶ Mix of residential streets and major arterials

# Corridors Selected for Road Safety Assessment

#	Corridor	Class
1	Ellis Ave	Residential
2	Evans Ave	Minor Art.
3	Mark IV Pkwy	Major Art.
4	NW 14th St	Residential
5	NW 26th St	Residential
6	Pennsylvania Ave	Minor Art.
7	S Beach St	Major Art.
8	Sharondale St	Residential
9	Sycamore School Rd	Minor Art.
10	W Seminary Dr	Major Art.



# RSA Methodology: A Three-Part Process

## STEP 1 Field Data Collection

- ▶ On-foot observations, December 2024
- ▶ Fulcrum app on mobile devices
- ▶ Geo-tagged photos & crash data overlay
- ▶ Assessed: infrastructure, operations, ADA compliance

## STEP 2 Crash Data Analysis

- ▶ 2019–2023 crash data for each corridor
- ▶ Location, mode, severity, collision manner
- ▶ Time of day & lighting conditions
- ▶ Speed limit vs. crash density

## STEP 3 Countermeasure Recommendations + Benefit- Cost

- ▶ FHWA Proven Safety Countermeasures (PSCi)
- ▶ Crash Modification Factors (CMF)
- ▶ Short / Medium / Long-term timeframes
- ▶ 20-year lifecycle B/C analysis

# Step 2: Data Analysis

## What we examined for each corridor:

- ▶ Crash locations — mid-block vs. intersection
- ▶ Crash mode — pedestrian, bicycle, motor vehicle
- ▶ Crash severity — KSI vs. non-KSI
- ▶ Collision manner — angle, rear-end, same/opposite direction
- ▶ Contributing factors — top 5 per corridor
- ▶ Time of day and lighting conditions
- ▶ Speed limit and crash density by speed zone

## WEST SEMINARY DRIVE FROM 6TH AVENUE TO RECTOR AVENUE (1.18 MILES)

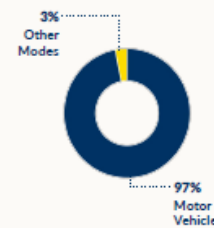
### CONTEXT

This is a major arterial with residential uses and key destinations such as Rosemont Middle School, Rosemont Park, and Southwestern Baptist Theological Seminary on its eastern end. An at-grade railroad crossing is located between William Fleming Court and Frazier Avenue. The roadway has four travel lanes and a center lane that functions as a turn lane or median. Sidewalks are mostly continuous on both sides, and a Trinity Metro bus route serves the corridor. Pavement width, including medians, ranges from 58 to 70 feet. The corridor is part of the Pedestrian High Injury Network (HIN) and Bicycle HIN.

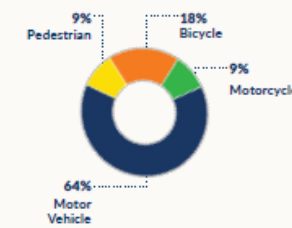
TOTAL CRASHES  
(2019-2023)  
**176**

FATAL & SEVERE  
INJURY CRASHES  
**11**

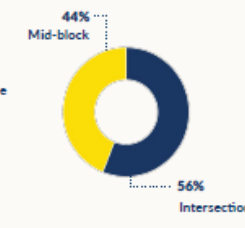
### TOTAL CRASHES



### FATAL & SEVERE CRASHES



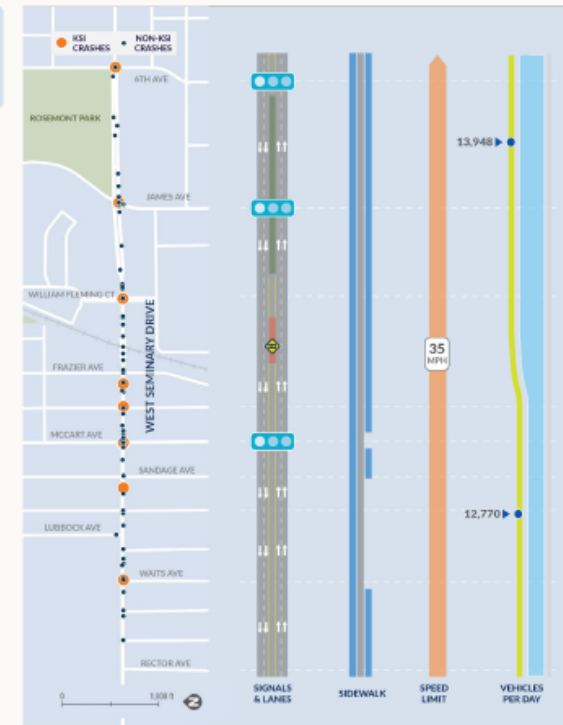
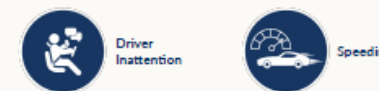
### CRASH LOCATION



### KEY CRASH TYPES



### KEY CONTRIBUTING FACTORS



# Step 3: Countermeasure Selection

## Speed Management

Road diets, speed feedback signs, speed humps, lane narrowing

## Pedestrian / Bicyclist

High-vis crosswalks, sidewalks, RRFBs, bike lanes, shared-use paths

## Access Management

Hardened centerlines, raised medians

## Intersections

Raised intersections, LPIs, curb extensions, refuge islands

## Crosscutting

Safety lighting, ADA ramps, access management

### Selected Crash Modification Factors (CMF):

Countermeasure	CMF	Crash Type
Install sidewalks	0.35	Pedestrian
Rectangular Rapid Flash Beacon (RRFB)	0.40	Pedestrian
Upgrade safety lighting	0.51	Night crashes
High-visibility crosswalks	0.90	Pedestrian
Neighborhood traffic circles	0.18	All modes
Raised intersection	0.78	All modes
Install curb extensions	N/A	All modes

# Benefit-Cost Analysis

## Benefit

- ▶ Monetized value of crashes prevented over 20-year project life using TxDOT 2021 Safety Investment Index Calculator
- ▶ CMFs applied to project future crash reduction

## COST (20-year lifecycle)

- ▶ Construction costs from TxDOT bid tab averages
- ▶ Annual maintenance from HSIP unit costs
- ▶ Service life varies by countermeasure type
- ▶ All values in 2025 dollars

## Benefit / Cost Ratio

Higher B/C = greater return on safety investment.

The B/C ratio helps the City rank projects for capital programming and grant applications.

HSIP and most federal safety programs require this type of analysis as part of project eligibility.

# Results: Safety Investment Portfolio

#	Corridor	Cost	Benefit	B/C Ratio
1	Ellis Ave	\$2.7M	\$57.3M	22.78
2	Evans Ave	\$3.4M	\$18.8M	5.54
3	Mark IV Pkwy	\$5.1M	\$92.5M	18.26
4	NW 14th St	\$1.4M	\$66.0M	48.08 ★
5	NW 26th St	\$1.6M	\$10.4M	6.69
6	Pennsylvania Ave	\$3.6M	\$109.9M	30.90 ★
7	S Beach St	\$1.2M	\$20.1M	17.04
8	Sharondale St	\$0.8M	\$16.9M	22.07
9	Sycamore School Rd	\$4.9M	\$129.0M	26.56 ★
10	W Seminary Dr	\$4.6M	\$164.0M	35.82 ★
	<b>TOTAL</b>	<b>\$29.0M</b>	<b>\$684.9M</b>	<b>23.62</b>

**Every \$1  
invested  
generates  
\$23.62  
in safety  
benefits**

★ = top-priority  
corridors

# Corridor Spotlight: West Seminary Drive

## WEST SEMINARY DRIVE FROM 6TH AVENUE TO RECTOR AVENUE (1.18 MILES)

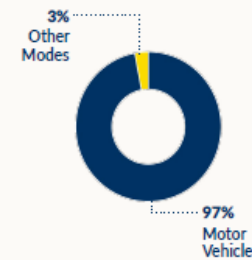
### CONTEXT

This is a major arterial with residential uses and key destinations such as Rosemont Middle School, Rosemont Park, and Southwestern Baptist Theological Seminary on its eastern end. An at-grade railroad crossing is located between William Fleming Court and Frazier Avenue. The roadway has four travel lanes and a center lane that functions as a turn lane or median. Sidewalks are mostly continuous on both sides, and a Trinity Metro bus route serves the corridor. Pavement width, including medians, ranges from 58 to 70 feet. The corridor is part of the Pedestrian High Injury Network (HIN) and Bicycle HIN.

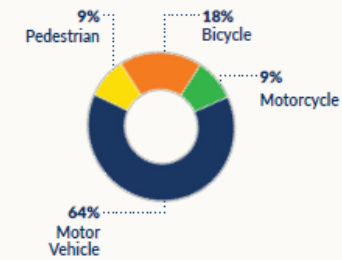
TOTAL CRASHES  
(2019-2023)  
**176**

FATAL & SEVERE  
INJURY CRASHES  
**11**

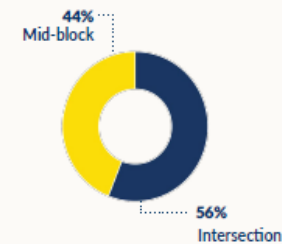
### TOTAL CRASHES



### FATAL & SEVERE CRASHES



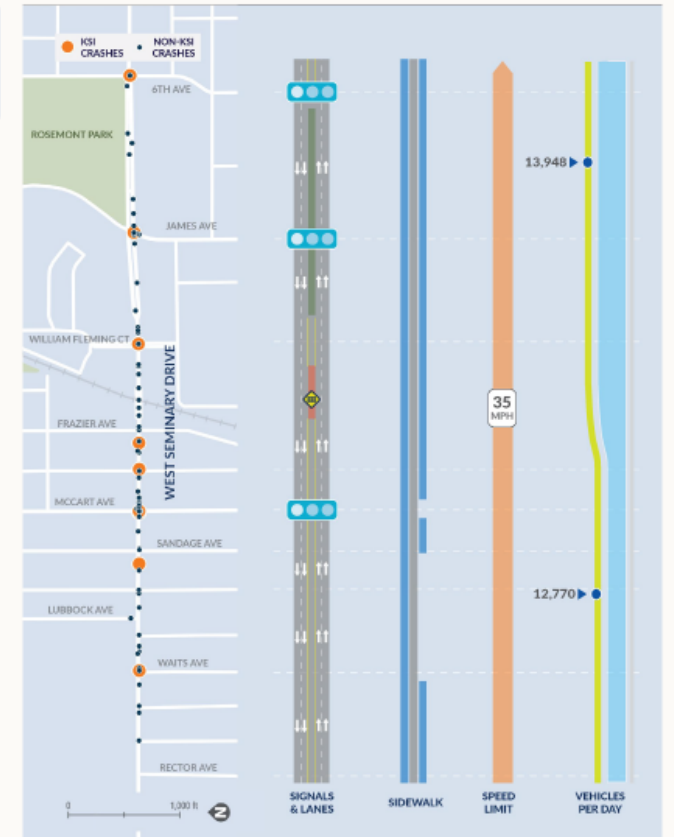
### CRASH LOCATION



### KEY CRASH TYPES



### KEY CONTRIBUTING FACTORS



**Pedestrian HIN  
Bicycle HIN**

**Key destinations**

**35 mph**

**4 travel lanes and  
1 center turning  
lane**

**1.18 miles**

**AADT: 13,000+**

# Corridor Spotlight: West Seminary Drive

## What We Found:

- ▶ **Speed-related risk:** Wide 4- to 5-lane roadway design encourages higher speeds, especially during lower-traffic periods.
- ▶ **Pedestrian safety gaps:** Long crossings, missing/faded crosswalks, inaccessible pushbuttons, and limited pedestrian signal treatments were found throughout the corridor.
- ▶ **ADA and sidewalk deficiencies:** Many curb ramps are missing, non-compliant, or misaligned; sidewalks are narrow, damaged, obstructed, or have connectivity gaps.
- ▶ **Bicycle facility gap:** Corridor is on the Bicycle HIN and designated as a bike route, but no dedicated bicycle facilities currently exist.
- ▶ **Access management concerns:** Multiple closely spaced commercial driveways create conflict points for drivers, pedestrians, and bicyclists.
- ▶ **School and park exposure:** Several issues occur near Rosemont Middle School, Rosemont Elementary School, and Rosemont Park, increasing concern for student pedestrian safety.



*Midblock crossing of W Seminary Drive without curb ramps or markings*



*Bus Stop Bench Obstructing Sidewalk*

# Corridor Spotlight: West Seminary Drive

## CORRIDOR-WIDE RECOMMENDATIONS



## FINAL BENEFIT/ COST RATIO

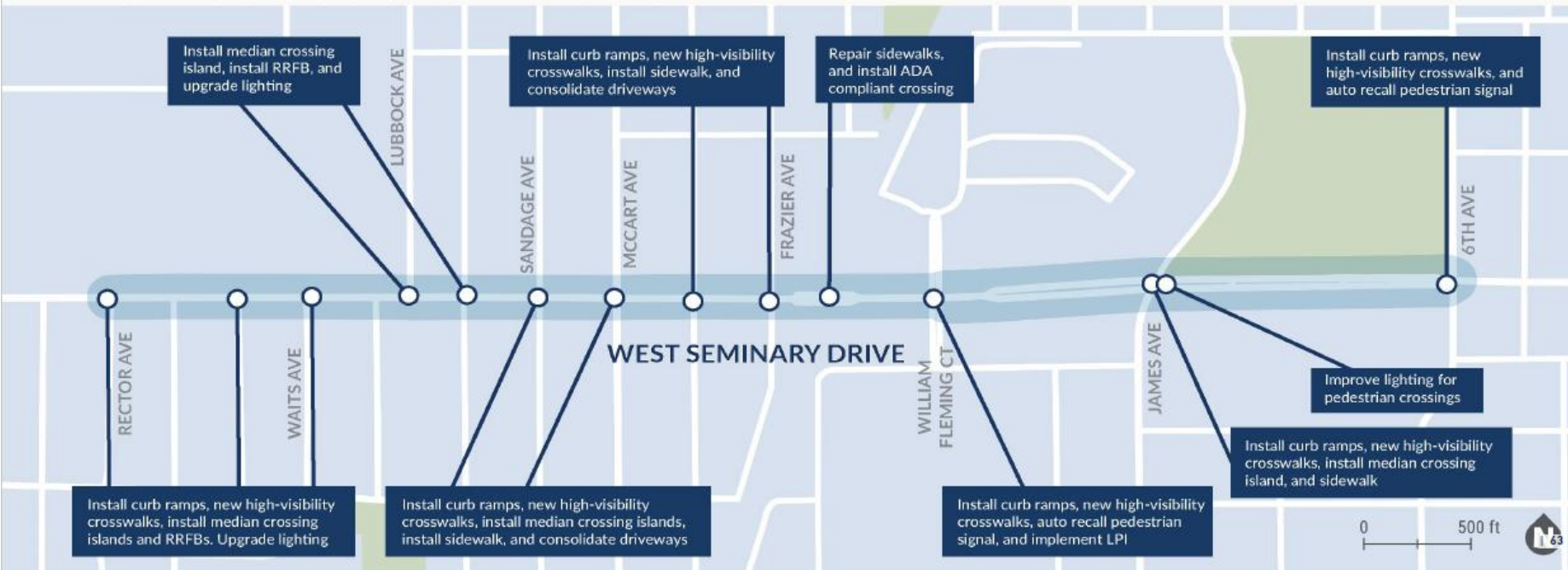
**35.82**

BENEFITS  
\$164,000,000

PROJECT COST  
\$4,578,300

CONSTRUCTION COST	SHORT TERM (0-2 YEARS)	MEDIUM TERM (2-5 YEARS)	LONG TERM (5+ YEARS)
SEGMENT	\$223,029	\$147,840	\$0
INTERSECTION	\$221,964	\$466,088	\$0
TOTAL	\$444,993	\$613,928	\$0

## MAP OF INTERSECTION SPECIFIC RECOMMENDATIONS



**Construction cost:  
\$1.92M**

**Lifecycle cost (20yr):  
\$4.58M**

**Estimated Benefit:  
\$164M**

**B/C Ratio: 35.8**

# Key Themes Across All 10 Corridors

## 1. Lighting Gaps

Nighttime/dusk crashes overrepresented on nearly every corridor. Safety lighting upgrades recommended system-wide.

## 2. Pedestrian Crossing Deficiencies

Faded or missing crosswalks and stop bars. Long crossing distances with no refuge. ADA non-compliant curb ramps.

## 3. Street Design Encouraging Speeding

Multiple corridors over-designed for volume/speed. Road reconfiguration (e.g., 4→3 lane) recommended on Ellis Ave & Evans Ave.

## 4. Sidewalk Gaps & Quality

Narrow, overgrown, or discontinuous sidewalks on residential corridors.

## 5. Intersection Control & Visibility

Stop-controlled intersections with poor sight lines. Full signalization, curb extensions, LPIs identified.

# Bridging Planning & Project Delivery

## **SAFETY ACTION PLAN**

Vision & Priorities  
HIN identifies  
where to look

## **CORRIDOR PRIORITIZATION**

Scoring framework  
Narrows HIN to  
top corridors

## **ROAD SAFETY ASSESSMENT**

Fieldwork + crash  
analysis → project-  
ready scope

## **CAPITAL PROJECTS**

Fundable scope,  
cost estimates,  
grant-ready B/C

## **Project-Ready Scope**

Countermeasures identified, costs estimated, CMFs quantified — ready for design

## **Defensible Prioritization**

B/C ratios rank all investments by expected impact per dollar spent

## **Funding Justification**

HSIP, RAISE, SS4A, and TxDOT grants all require exactly this type of analysis



# Fort Worth's Implementation Approach



# Translating Analysis Into Capital Programming

- ▶ Understand program offerings in departments that deliver capital projects
  - Transportation and Public Works
  - Water Department
  - Development Services
- ▶ Understand how projects are evaluated and prioritized for implementation
  - What are the evaluation criteria and how are they weighted
- ▶ Understand your agency's capital project funding mechanisms and cycles, as well as those of partner agencies
  - Bond
  - Annual operations budget
  - County, state and federal funding

# Translating Analysis Into Capital Programming

## Example: CFW Transportation and Public Works Transportation Management Division

### PayGO/Annual Operating

- ▶ Vision Zero Safety Action Plan Implementation
- ▶ 26,000+ customer service requests annually
- ▶ Traffic signal design, operations and maintenance
- ▶ Pavement marking maintenance
- ▶ Streetlight maintenance
- ▶ Signs maintenance
- ▶ Sidewalks
- ▶ School Crossing Guard Program
- ▶ School Traffic Safety
- ▶ Traffic Calming

### Bond

- ▶ Vision Zero Corridor Improvements
- ▶ Traffic Signals
- ▶ Intersections
- ▶ Streetlights
- ▶ Sidewalks
- ▶ Safe Routes to School

# Translating Analysis Into Capital Programming

## How Fort Worth is using RSA outputs to drive the CIP and project pipeline:

### Programming & Prioritization

- ▶ B/C ratios and CMF analysis inform internal budget requests
- ▶ RSA countermeasure tables feed directly into project scoping
- ▶ Short-term items fast-tracked through maintenance programs
- ▶ Medium/long-term items enter CIP queue for funding

### Connection to Existing Programs

- ▶ Alignment with TPW Capital Improvement Program (CIP)
- ▶ Integration with bond program priorities
  - RSA Projects - Potential 2026 Bond
    - Ellis Ave; NW 21<sup>st</sup> St to NW 28<sup>th</sup> St
    - NW 26<sup>th</sup> St; Main St to Angle Ave
    - S. Beach St; Avenue H to Mitchell Blvd
    - NW 14<sup>th</sup> St; Main St to Gould Ave
    - Sharondale St; 6<sup>th</sup> Ave to James Ave

# Interdepartmental & Interagency Coordination

**Vision Zero implementation cuts across departments – and requires deliberate coordination structures.**

## Transportation & Public Works (TPW)

Lead agency for safety projects, CIP, and signal timing

## Planning & Development

Land use alignment, development review

## Communications

Public outreach, Vision Zero messaging, transparency

## Police Department

Enforcement, speed management, crash reporting data

## Parks & Recreation

Safe Routes to parks, trail crossings, lighting

## TxDOT

State-owned corridors on the HIN – key partnership

## Trinity Metro

Bus stop access, crossing improvements at transit stops

## City Council

Policy support, Vision Zero Task Force authorization

# Considerations in Moving from Plan to Project

## Funding Gaps

Gap between RSA-identified improvements and current budget. Strategic grant pursuits needed to close the gap.

## Right-of-Way Constraints

Some corridors have limited ROW for desired treatments such as road diets or protected crossings.

## State-Owned Roads

TxDOT approval process and jurisdictional coordination adds complexity and time to delivery.

## Community Acceptance

Road right sizing and parking changes require public engagement and may face opposition.

## Project Delivery Capacity

Staff and consultant bandwidth to advance multiple corridors simultaneously is a constraint.

## Sustaining Momentum

Keeping safety projects moving through design, environmental, and construction over multi-year timelines.

# Funding Strategies

## Federal & State Funding Sources

**HSIP:** Highway Safety Improvement Program — primary federal safety funding; CMF & B/C analysis directly supports eligibility

**RAISE:** Competitive discretionary grants for significant infrastructure projects

**SS4A:** Safe Streets & Roads for All — DOT program for safety action plans and implementation

**CDBG:** Community Development Block Grant — for corridors in socially vulnerable areas

**NCTCOG/TxDOT:** TIP suballocations; TxDOT HSIP; statewide safety programs

**City Bond:** Local capital funding for matching requirements and project delivery

## The RSA as a Grant Tool

- ▶ Project-level cost estimates ready for grant budgets
- ▶ CMFs quantify expected crash reduction — required for HSIP
- ▶ B/C ratios demonstrate cost-effectiveness to funders
- ▶ Crash data analysis satisfies safety need documentation
- ▶ Positions Fort Worth competitively for federal discretionary grants

# Looking Forward: Next Steps

## NEAR-TERM 0–2 Years

- ▶ High-vis crosswalks, stop bars, lighting on HIN corridors
- ▶ Establish Vision Zero Task Force / Road Safety Advisory Committee
- ▶ Develop Safe Speeds Policy and Methodology
- ▶ Apply for HSIP funding for priority corridor projects

## MEDIUM-TERM 2–5 Years

- ▶ Advance design for high B/C corridors
- ▶ Expand RSA methodology to additional HIN corridors
- ▶ Implement Safe Routes to School (SRTS) program expansion

## LONG-TERM 5+ Years

- ▶ Capital project delivery on all 10 study corridors
- ▶ Annual crash data updates to track progress on HIN
- ▶ Citywide network improvements aligned with MTP
- ▶ Build toward Vision Zero 2050: zero KSI fatalities & severe injuries

# Key Takeaways

1

**The Texas HIN challenge is solvable:** Fort Worth's two-stage approach — system-level prioritization → corridor RSA — is a replicable model for Texas communities.

2

**FHWA Proven Safety Countermeasures work:** Data-driven countermeasure selection backed by CMFs provides credibility with funders and decision-makers.

3

**Benefit-cost analysis is your friend:** A 23.62 overall B/C ratio is a powerful, evidence-based argument for capital investment in safety.

4

**The RSA bridges planning and delivery:** It produces project-ready scope, defensible priorities, and grant-ready documentation — closing the gap from plan to project.

5

**Implementation takes coordination:** Interdepartmental buy-in, community engagement, and sustained leadership are as important as the technical analysis.

• • •

# Thank You

## Questions?



**2026**  
**TEXAS PEDESTRIAN  
SAFETY FORUM**  
Austin, Texas May 6, 2026

Chelsea St. Louis, AICP  
Sr. Capital Projects Officer  
Transportation and Public Works  
City of Fort Worth



Nan Jiang, PhD, PE, PMP, RSP1  
Data Science Practice Lead  
Toole Design

