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Data Driven Pedestrian Safety Improvements

Namoo Han, PE Sr. Professional Engineer Transportation and Public Works City of Fort Worth



Agenda

- Existing Traffic Safety Approach
- Enhanced Data Driven Approach
- High Injury Network and Roadway Safety Audits
- Long Term Projects
- Next Steps

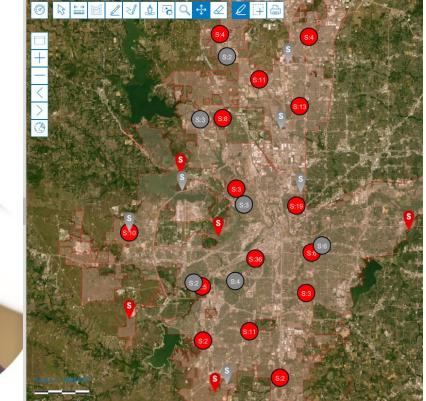


- TPW engages in extensive maintenance activities for all assets such as traffic signals, street lights, pavement markings, streets, etc.
- Beyond maintenance activities, the City of Fort Worth has a customer service response management system.
- Transportation Management Division of Transportation and Public Works receives a high volume of requests.
 - 25,000+ service requests

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• 1,500 traffic safety requests





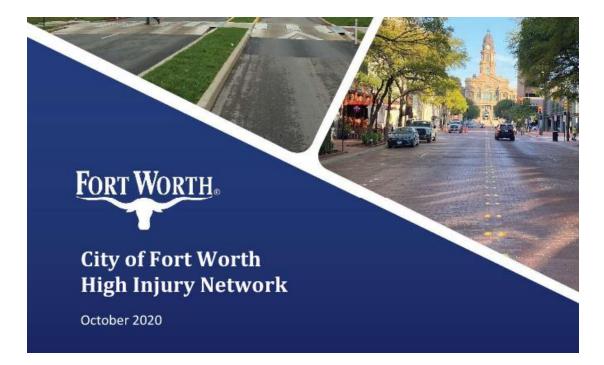
Enhanced Data Driven Approach

- Evaluate crash data to identify areas where specific capital projects are needed to enhance traffic safety
 - Example

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- Vision Zero High-Injury Network and Roadway Safety Audits
- Utilizing city's asset inventory and proactive field assessments to target maintenance activities.
 - Examples
 - School zones on four-year maintenance cycle
 - Pavement markings transitioning to three-year cycle

Vision Zero High Injury Network Development



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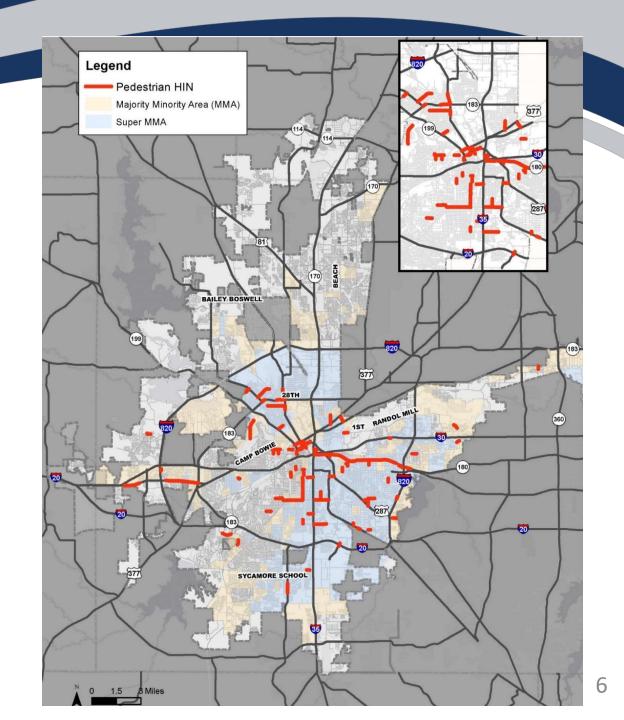
- Collision data for the most recent five years (2015-2019) was collected and mapped
- The HIN represents where 50% (44,240) of all vehicle, pedestrian, and bicycle collisions occurred
- Fatal and severe injury crashes are used to rank/prioritize HIN locations for future study and countermeasure implementation.

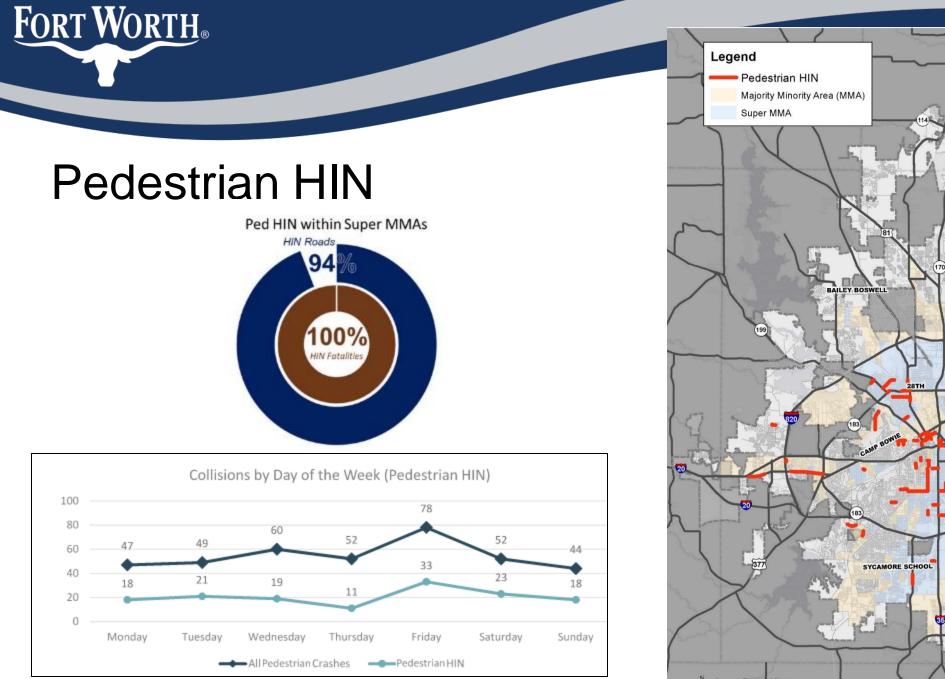
Pedestrian HIN

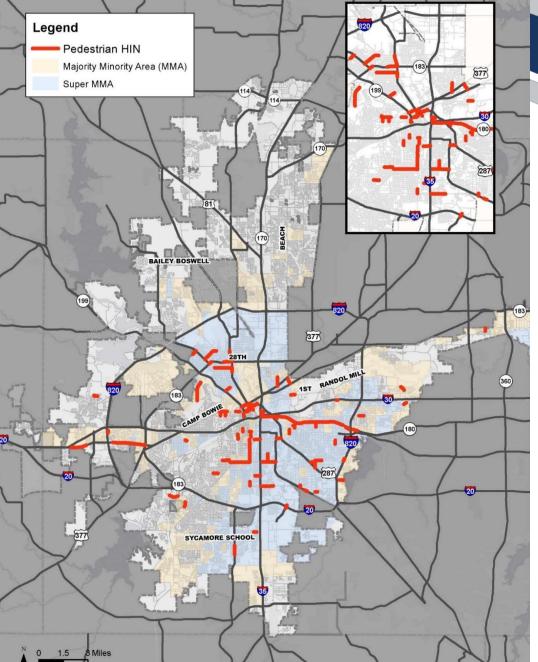
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All Pedestrian Fatalities & Severe Injuries by Year					
Year	Year Pedestrian Pedestrion Year Fatalities Injurie		Total		
2015	24	59	83		
2016	29	50	79		
2017	33	58	91		
2018	34	44	78		
2019	22	44	66		
Total	142	255	397		

HIN Pedestrian Fatalities & Severe Injuries by Year					
Year	/ear Pedestrian Sei Fatalities Inju		Total		
2015	6	23	29		
2016	10	21	31		
2017	18	24	42		
2018	9	15	24		
2019	4	18	22		
Total	47	101	148		









	CORRIDOR	LIMIT	LIMIT	Crashes Per Mile	Length (mi)	Total Collisions	HIN Collisions	Lanes	Speed Limit	SMMA
1	Camp Bowie W	Renzel Blvd	Williams Rd	10.5	1.43	15*	4	6	35	Yes
2	E Lancaster Ave	Kentucky St	Oakland Blvd	9.1	3.40	31*	21	6	40	Yes
3	W Long Ave	Azle Ave	Angle Ave	6.6	0.91	6*	2	4	35	Yes
4	Hemphill St	W Allen Ave	W Berry St	6.5	1.39	9*	6	4	40	Yes
5	Isbell Rd	Ohio Garden Rd	White Settlement Rd	3.4	1.17	4*	3	2	35	Yes
6	Main St	W Weatherford St	W 9th St	70	0.10	7	7	2	30	No
7	E Berry St	Evans Ave	S Riverside Dr	13.25	0.83	11	5	4	40	Yes
8	E Belknap St	Henderson St	N Houston St	8.8	0.34	3	2	4 one-way	30	No
9	E Seminary Dr	South Fwy	Carter Park Dr	7.9	0.76	6	2	4	30	Yes
10	Eastland St	Miller Ave	S Edgewood	5.0	0.40	2	2	4	40	Yes

*Indicates where a segment includes a fatal collision

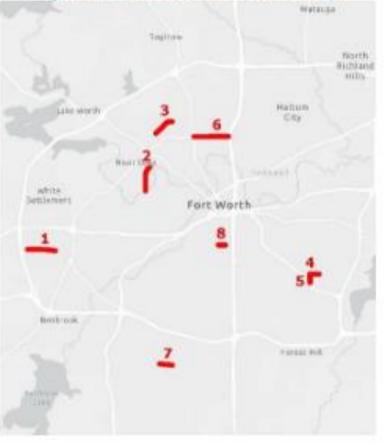
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Road Safety Audits (RSA)

	Corridor	Limits	High Injury Network
1	Camp Bowie W	Renzel Blvd to Boston Ave	Pedestrian
2	Isbell Rd	White Settlement Rd to Ohio Garden Rd	Pedestrian
3	Long Ave	Azle Ave to Angle Ave	Pedestrian
4	Eastland St	Miller Ave to Edgewood Terr	Pedestrian
5	Miller Ave	Eastland St to Hardeman St	Vehicle
6	NE 28 th St (SH 183)	Clinton St to I-35W SBFR	Vehicle
7	Altamesa Blvd	Woodway Dr to McCart Ave	Vehicle
8	Allen Ave	Hemphill St to Main St	Bicycle

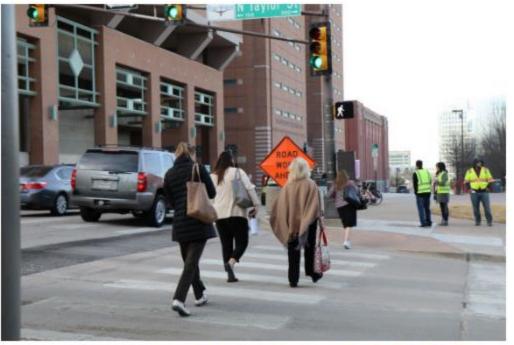
Figure 1: Evaluation Corridor Map



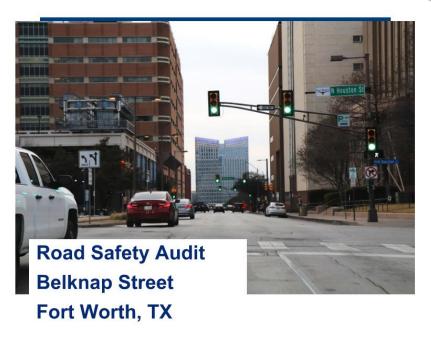


Road Safety Audits: FHWA

Corridor	Limits	Network
E Belknap St	Pecan St to Lexington St	Pedestrian







APRIL 29, 2022

Facilitated by: Amelia (Millie) Hayes, P.E., PTOE, RSP₂₁ FHWA Texas Division U.S. Department of Transportation Federal Highway Administration



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FORT WORTH. EVALUATION CORRIDOR 3: LONG AVENUE From Azle Avenue to Angle Avenue **Location Key Map** HIN-Rank: Pedestrian-3 Road Classification: Neighborhood Connector Speed Limit: 35 mph Existing Cross Section: Four-Lane Divided Segment Length: 0.91 mi Estimated Traffic Volumes: 15,000 vpd Haltom City W LONG AVE White Fort Worth Forest Hill

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Long Ave – Existing Conditions





Long Ave at Dolores Huerta Elementary

Long Ave at NW 35th St

Long Ave – RSA

• Recommendations:

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- Upgrade Signal at Azle Ave to improve pedestrian movement
- Close median opening
- Install left turn bays with positive offset

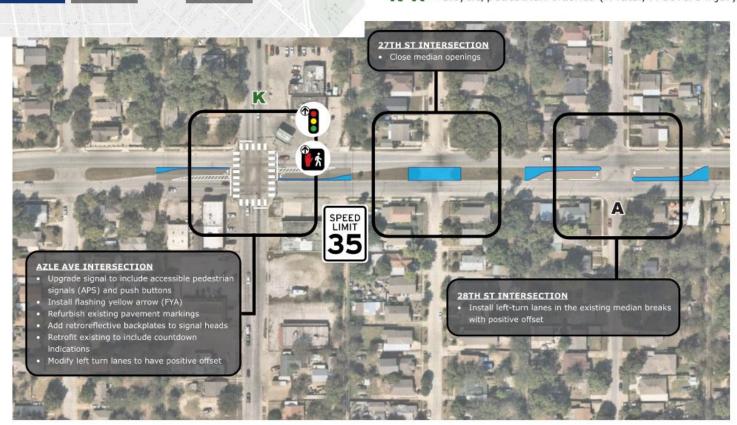
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ORTH EVALUATION CORRIDOR 3: LONG AVENUE

From Azle Avenue to Angle Avenue

Recommended Countermeasures (Part 1 of 3):

K A = vehicular crashes (K-fatal, A-severe injury)
K A = bicycle/pedestrian crashes (K-fatal, A-severe injury)



Long Ave – RSA

• Recommendations:

FORT WORTH.

- Close median openings
- Install left turn bays with positive offset



EVALUATION CORRIDOR 3: LONG AVENUE

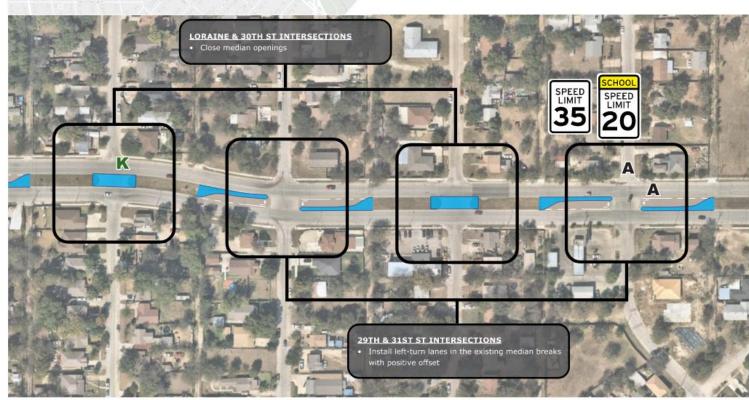
From Azle Avenue to Angle Avenue



2

K A = vehicular crashes (K-fatal, A-severe injury)





Long Ave – RSA

Recommendations: •

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- Install RRFB at school •
- Close median opening
- Install new signal at ٠ intersection with highest crash rate



EVALUATION CORRIDOR 3: LONG AVENUE

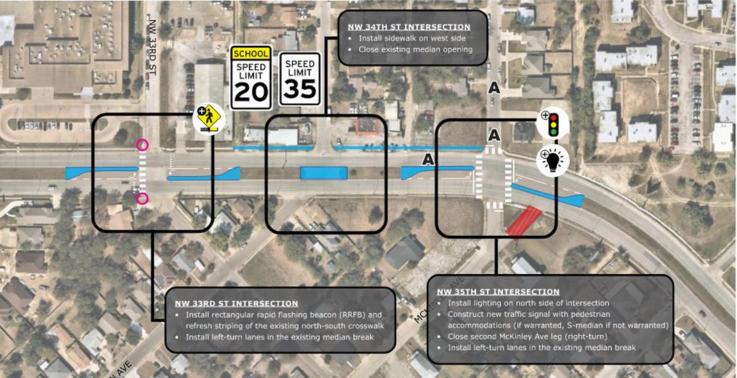
From Azle Avenue to Angle Avenue

Recommended Countermeasures (Part 3 of 3):



K A = vehicular crashes (K-fatal, A-severe injury)





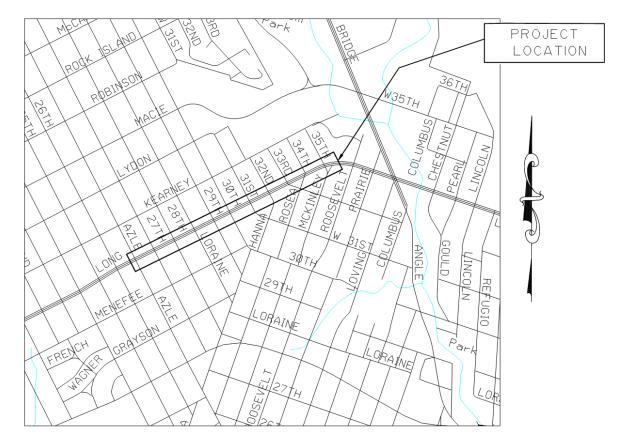


Funding - \$6M

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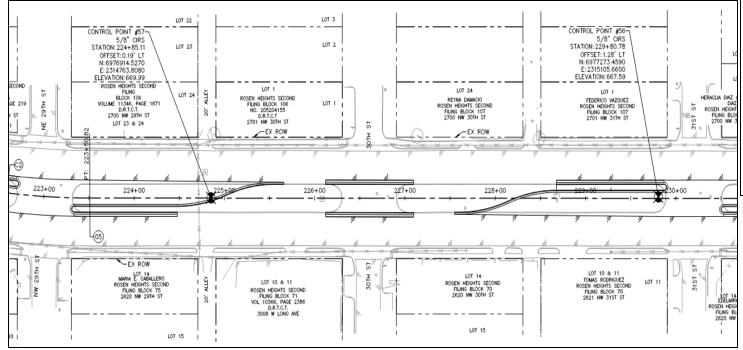
- America Rescue Plan Act (ARPA)
- 2022 Fort Worth Bond

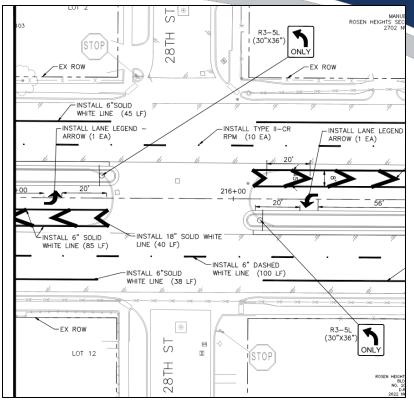
LONG AVE FROM AZLE AVE TO MCKINLEY AVE



Long Ave - Median Closings and Positive Offset Left Turns

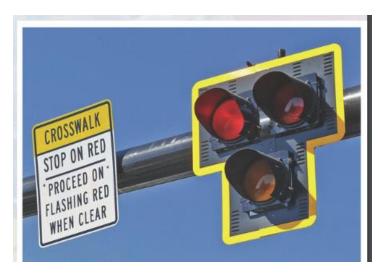
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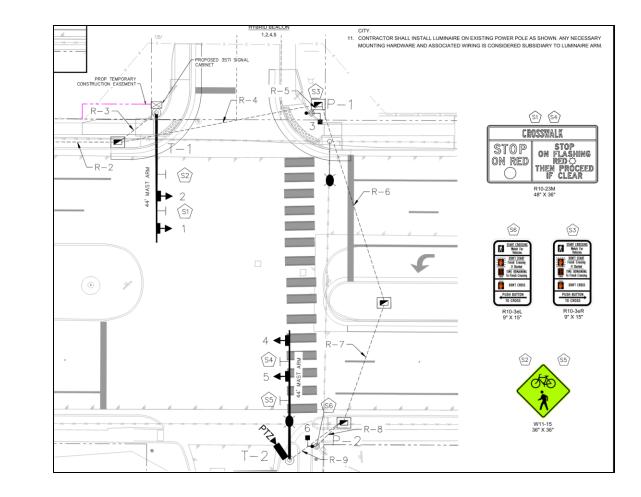






Long Ave - PHB Improvement





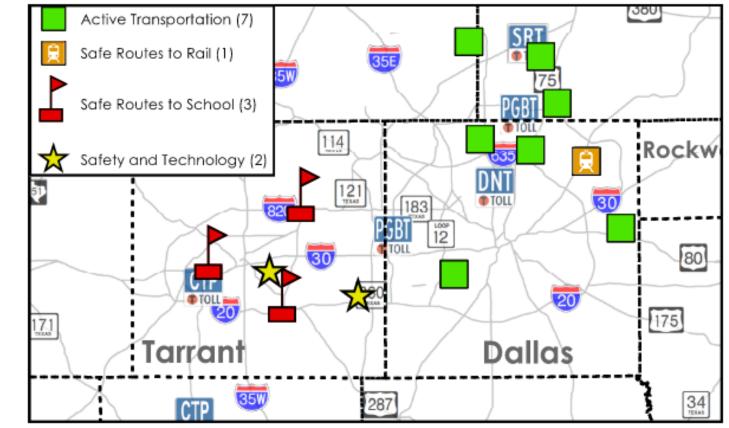
Long Term Projects: Safe Routes To School

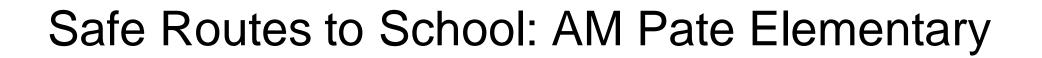
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- Spring 2022 RSA's completed
- Summer 2022 Projects identified and submitted to North Central Texas Council of Governments Transportation Alternatives Set-Aide call for projects
- \$2.5M in federal funding awarded for two projects

2022 Regional Transportation Alternatives Set-Aside Program Funded and Approved Projects

Approved by the Regional Transportation Council (12/08/2022)





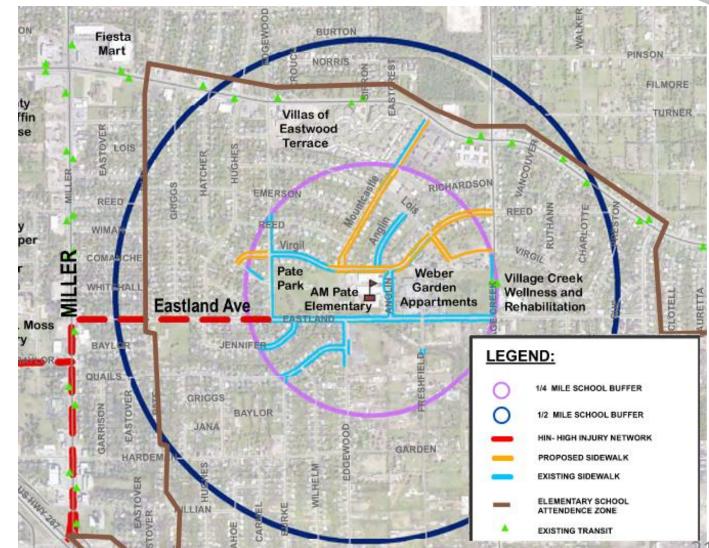
FORT WORTH. EVALUATION CORRIDOR 4: EASTLAND STREET

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From Miller Avenue to Edgewood Terrace **Location Key Map** HIN-Rank: Pedestrian-10 Road Classification: Local Keller Speed Limit: **Two-Lane Undivided** 25 mph Existing Cross Section: Estimated Traffic Volumes: Segment Length: 0.40 mi 2,600 vpd Saginaw Hateom Cev White Fort Worth Settlemen EASTLAND ST Benbrook Fores Hill

Safe Routes to School: AM Pate Elementary

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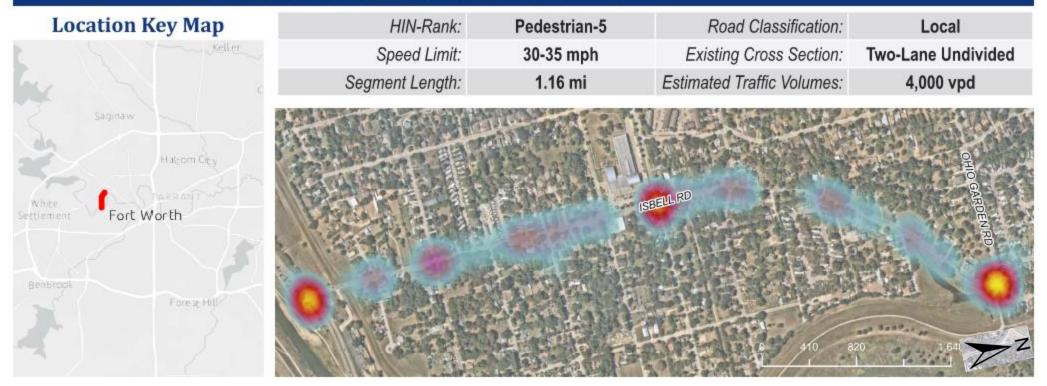


Safe Routes to School: AV Cato Elementary

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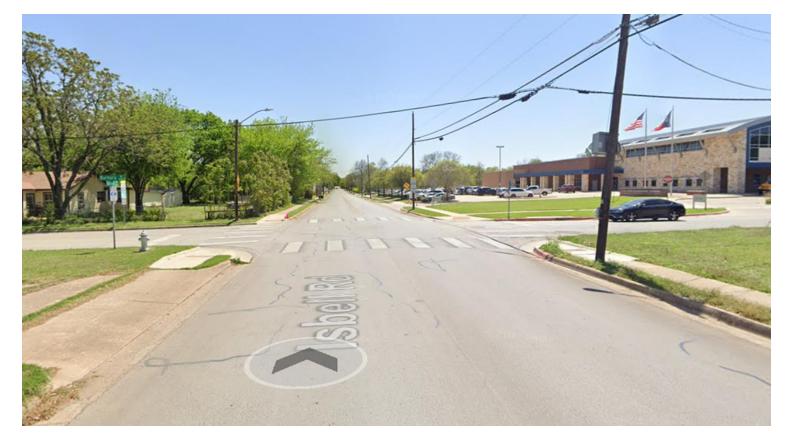
FORT WORTH. EVALUATION CORRIDOR 2: ISBELL ROAD

From White Settlement Road to Ohio Garden Road





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Isbell Rd at Barbara Rd

AV Cato Elementary -RSA

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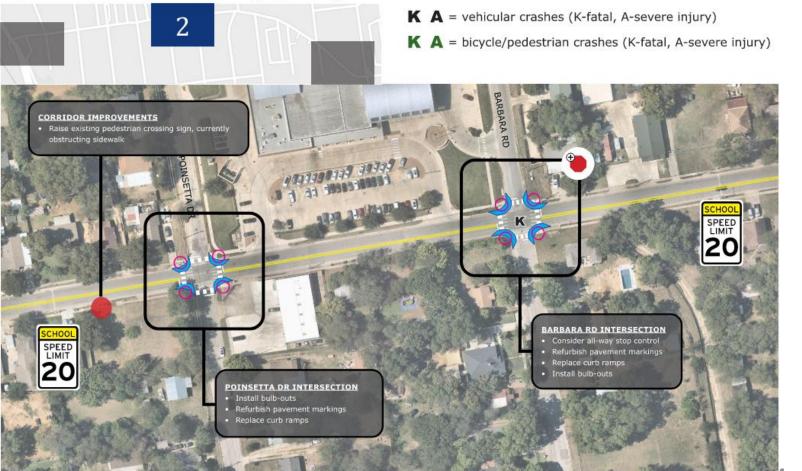
- Recommendations:
 - Install bulbouts at the two intersections
 - Add sidewalk where missing



ORTH EVALUATION CORRIDOR 2: ISBELL ROAD

From White Settlement Road to Ohio Garden Road

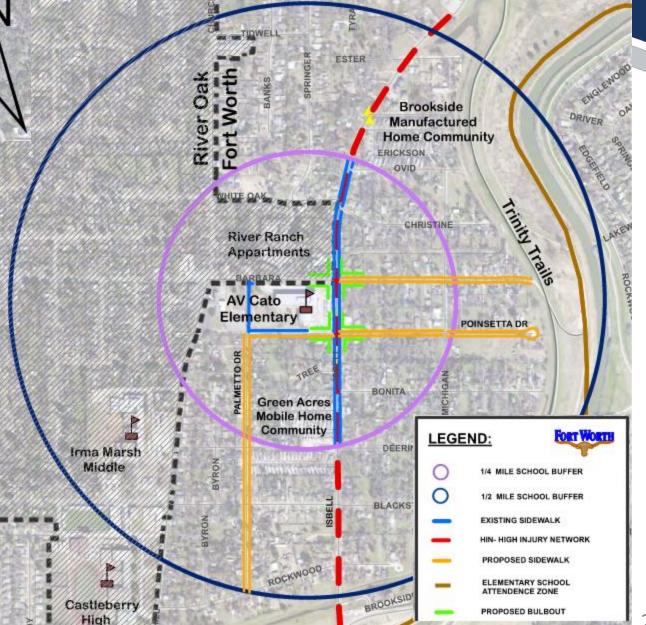
Recommended Countermeasures (Part 2 of 3):



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Safe Routes to School: AV Cato Elementary

URNE



Safety/Mobility - Vision Zero Bond Category

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Fort Worth Proposition A - Streets and Mobility		
Infrastructure Improvements		
Arterials/Corridors - Added Network Capacity		
Neighborhood Street		
Bridge Rehabilitation		
Streetlights		
Intersections		
Traffic Signals		
Neighborhood/School Safety		
Sidewalks		
Bicycle Facilities		
Everman Parkway Connector - Grade Separated		
Railroad Crossing		
Railroad Safety Crossings		
Safety/Mobility - Vision Zero Program	Citywide installation of multimodal transportation improvements to help reduce fatalities and severe injuries involving vehicles, bicycles, and pedestrians; including, but not limited to sidewalks, crosswalks, new streetlights, pavement markings, signs, flashing beacons, ADA ramp, and intersection geometric improvements.	\$ 5,000,000

Next Steps

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- 18-month Comprehensive Safety Action Plan development process kicked off in April 2024
 - In 2023, the City of Fort Worth received a \$419k federal funding award to develop a Comprehensive Safety Action Plan.
- Prepare for 2026 Bond Program



Image: USDOT