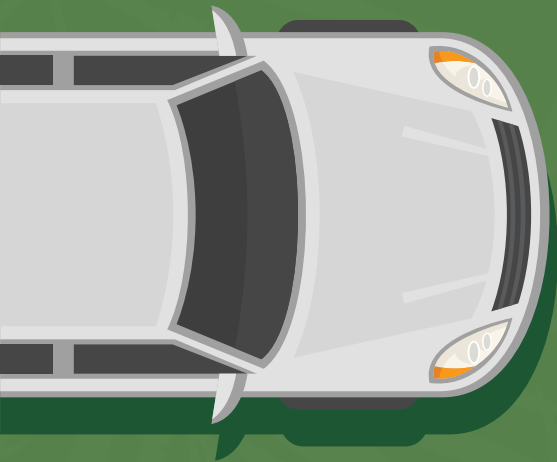




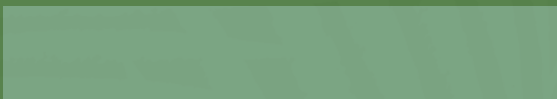
Evolution of Vision Zero

Where We All Start

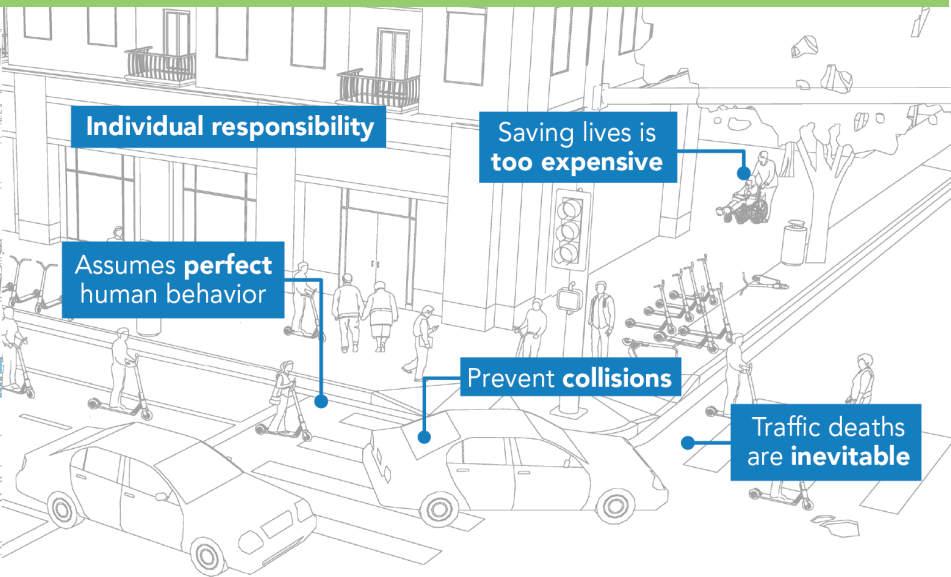


One serious injury or fatality
on public roads is **one** too many.

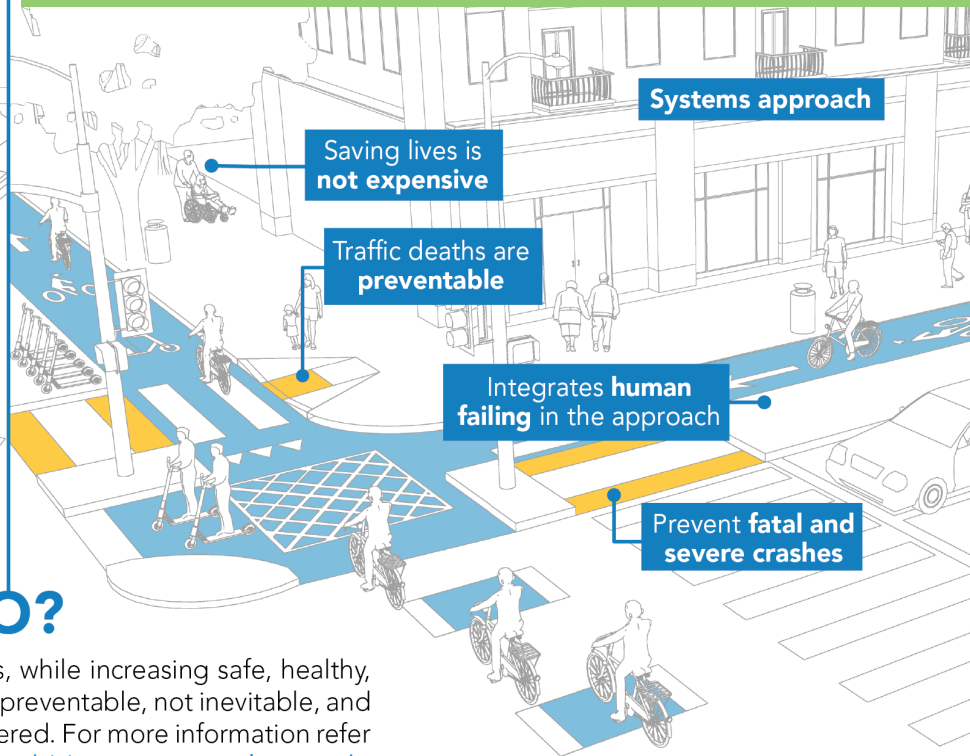
Charlotte County-Punta Gorda MPO's Call to Action



Traditional Approach To Safety



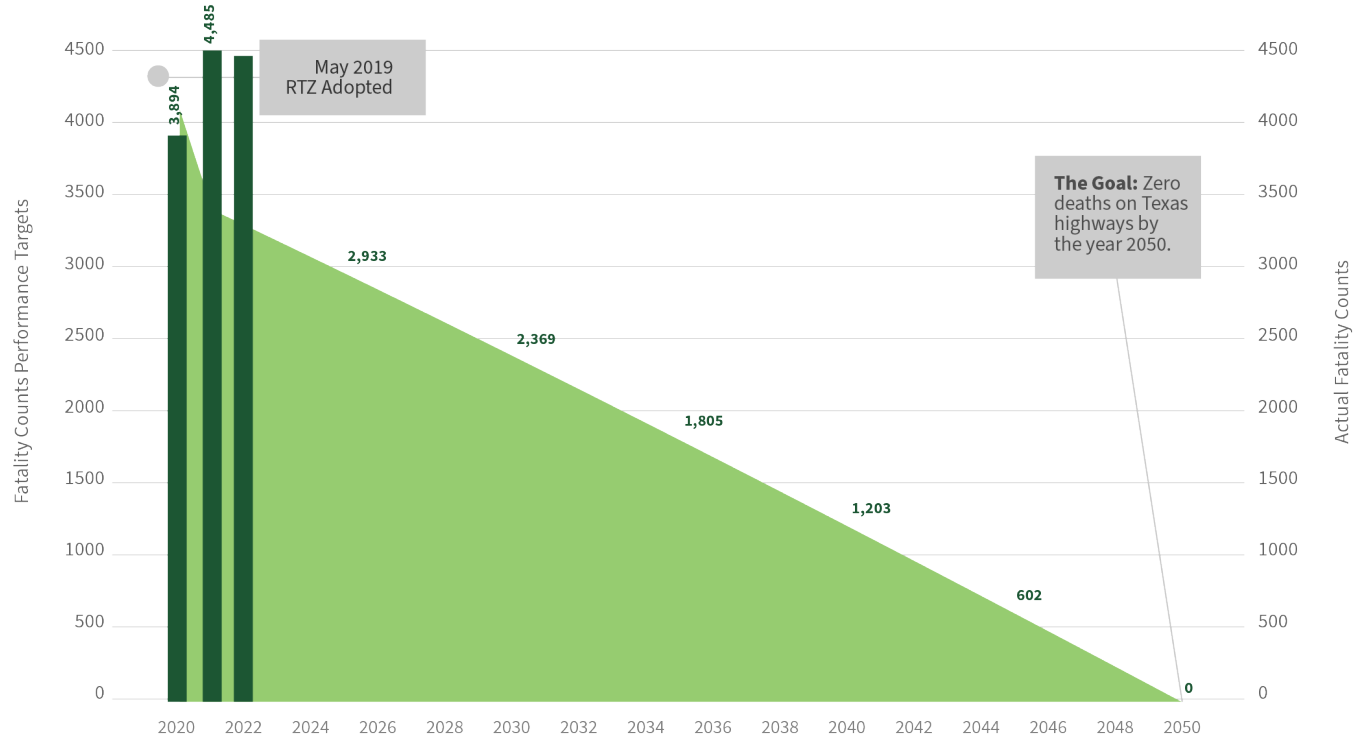
Vision Zero Approach To Safety



WHAT IS VISION ZERO?

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. The Vision Zero approach views traffic fatalities as preventable, not inevitable, and relies on multi-disciplinary collaboration and is data-driven and equity-centered. For more information refer to the Vision Zero Core Elements at <https://visionzeronet.org/resources/vision-zero-core-elements/>.

Road to Zero Performance Goals vs. Actual Fatality Counts



Vision Zero Process



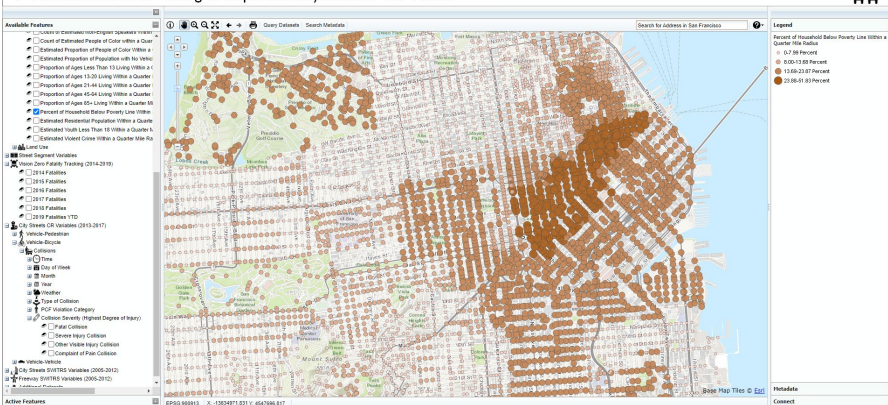


Evolution of Vision Zero

The Process

Engage: Stakeholders

TransBASE: Linking Transportation Systems to Our Health



EMERGING MOBILITY INJURY MONITORING IN SAN FRANCISCO, CALIFORNIA UTILIZING HOSPITAL TRAUMA RECORDS: A METHODOLOGY

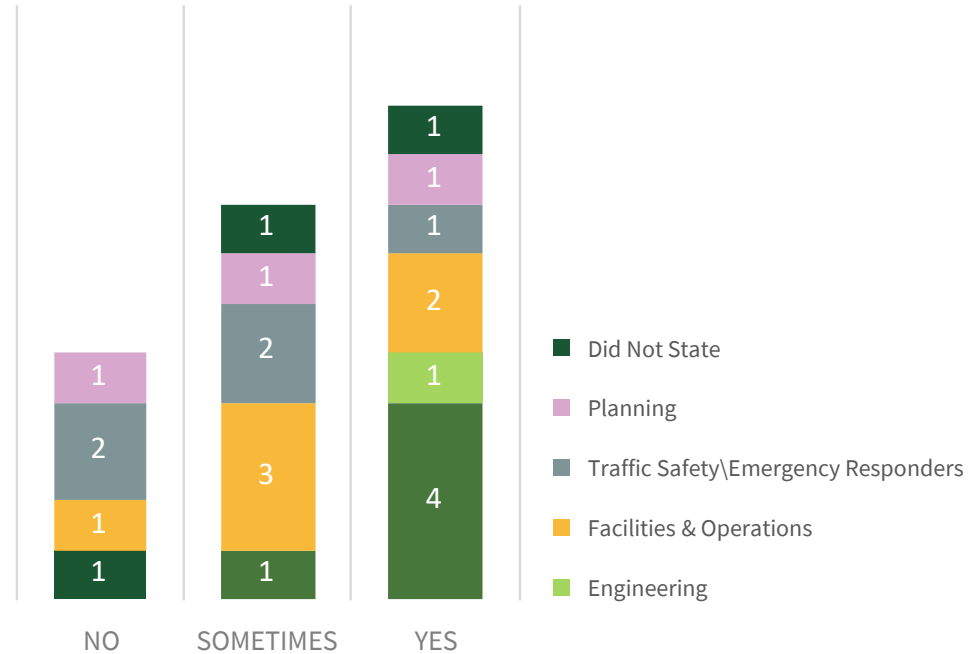
VERSION 2.0
SAN FRANCISCO, CALIFORNIA
JUNE 2019

Vision Zero SF Injury Prevention Research Collaborative
A Collaboration between the
San Francisco Department of Public Health's Program on Health, Equity and Sustainability
and the Zuckerberg San Francisco General Hospital and Trauma Center

Engage: Stakeholders

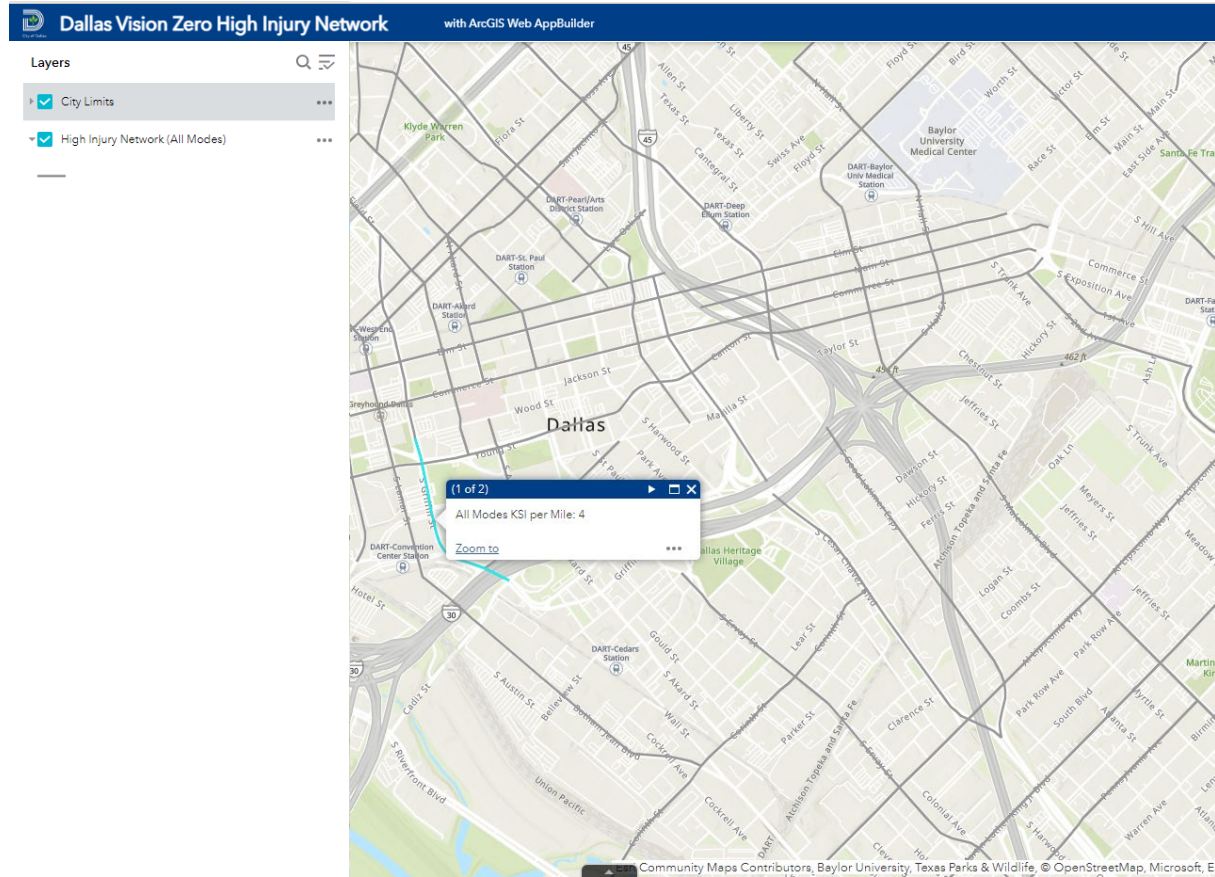
Question 1:

Do You Feel that Street Design in Denton Prioritizes Safety Over Speed?





Analyze: High Injury Network Development





Analyze: High Injury Network Development

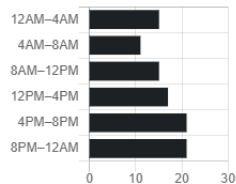
Traffic Crashes ⓘ

Filters

All ♥ Fatal 🚑 Serious Injuries

- 🚶 Pedestrian
- 🚲 Bicyclist
- 🚗 Motorist
- 🏍️ Motorcyclist
- ⋮ Other

01/01/2019 - 07/29/2023 📅



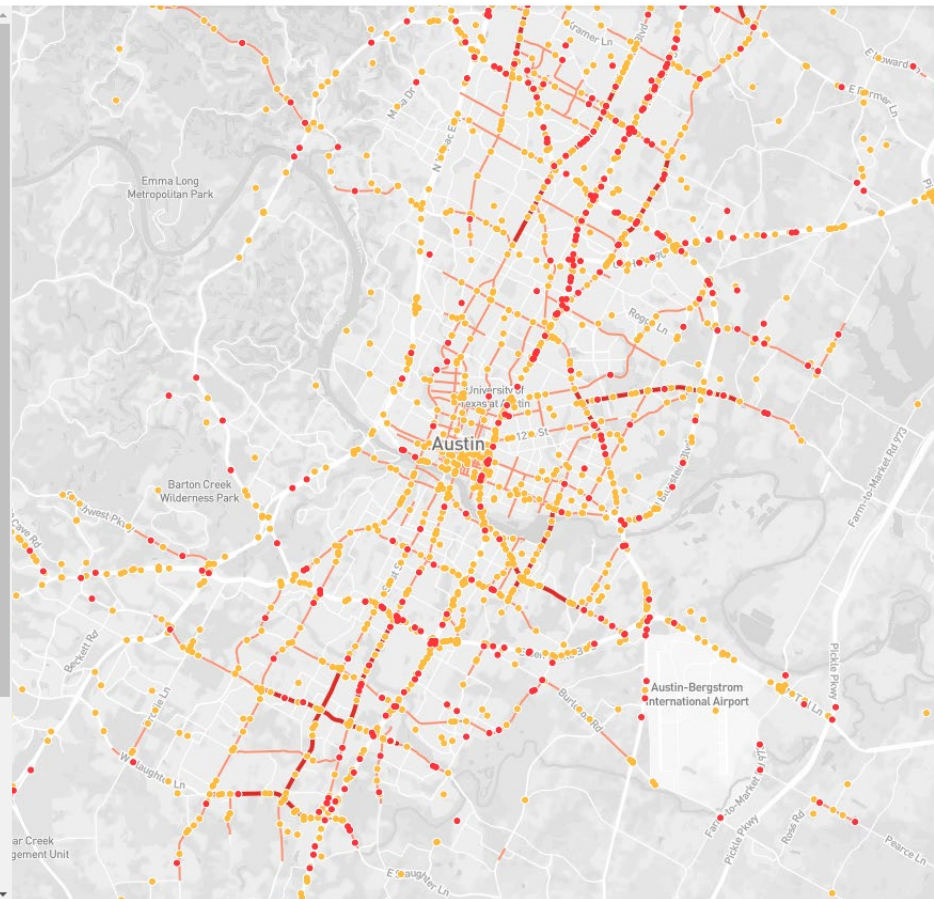
All Times

Overlays ⓘ

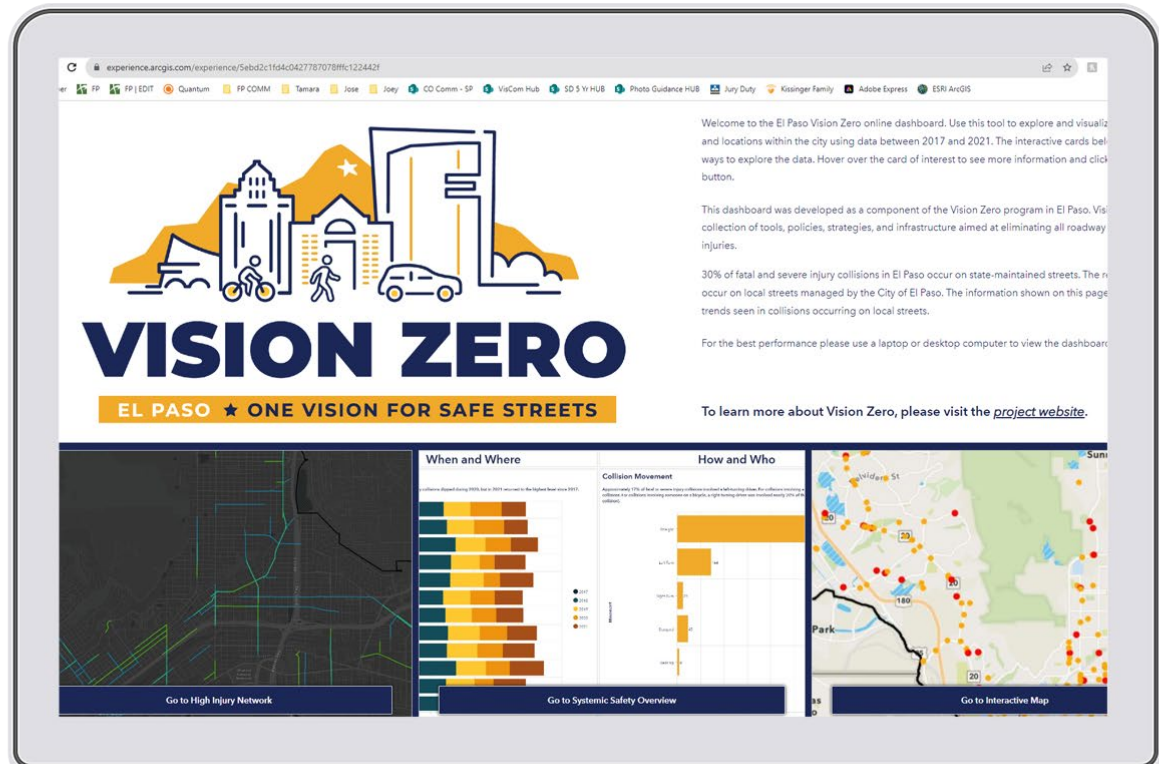
ASMP Street Levels

High Injury Network

Austin City Council Districts



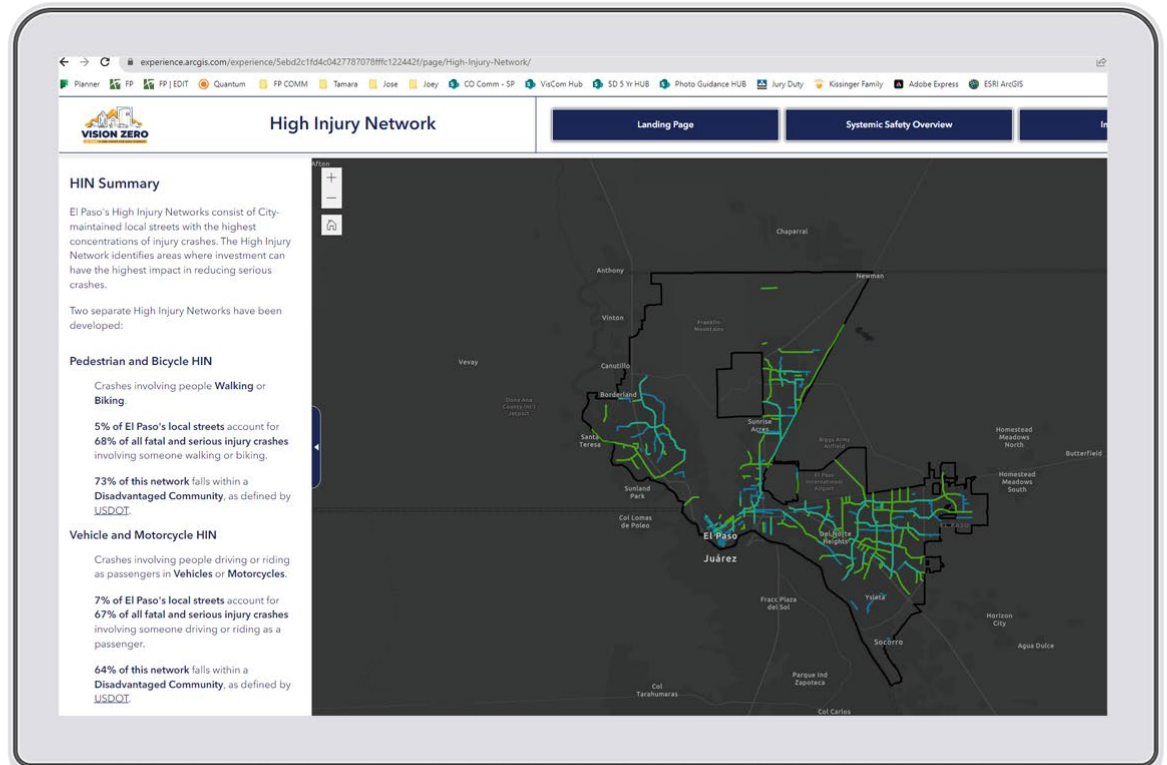
Analyze: High Injury Network Development



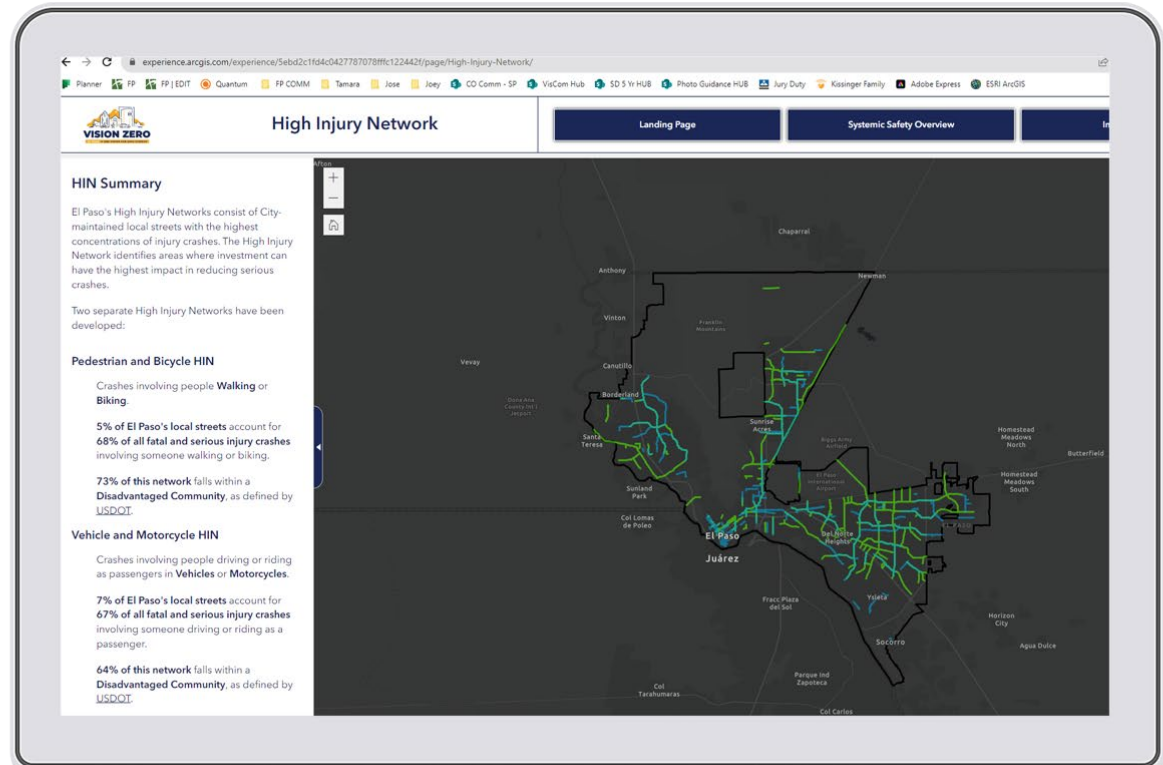
1. Initial dataset ~100K collisions
2. Removed
 - Records without lat/long
 - Crashes on unowned/maintained facilities
 - Non-injury PDO collisions
3. ~20K Crashes in dataset

Analyze:

High Injury Network Development



- Weighting of collisions based on severity
- Spatial joining of collisions to intersection and/or segment
- HIN Index (score) for each link
- Iterative process to define thresholds for HIN
- Final HIN: 68% of KSI on 5% of roadway network
- Identify important combinations of collision factors and contextual factors
- Account for significant % of KSI
- Collision types that result in high KSI, contextual factors that account for high proportion of collisions



Rolling Analysis Approach

The screenshot shows a web browser displaying a map of El Paso, Texas, titled "High Injury Network". The browser's address bar shows the URL: <https://experience.arcgis.com/experience/5ebd2c1f04c0427787078ff1c122442f/page/High-Injury-Network/>. The browser's address bar also shows several open tabs: Planner, FP, FP | EDIT, Quantum, FP COMM, Tamara, Jose, Joey, CD Comm - SP, VisCom Hub, SD 3 W HUB, Photo Guidance HUB, Jury Duty, Kissinger Family, Adobe Express, and ESRI ArcGIS.

The application header includes the "VISION ZERO" logo and the title "High Injury Network". Below the title are two navigation buttons: "Landing Page" and "Systemic Safety Overview".

The main content area is divided into two columns. The left column contains a "HIN Summary" section with the following text:

HIN Summary

El Paso's High Injury Networks consist of City-maintained local streets with the highest concentrations of injury crashes. The High Injury Network identifies areas where investment can have the highest impact in reducing serious crashes.

Two separate High Injury Networks have been developed:

Pedestrian and Bicycle HIN

Crashes involving people **Walking** or **Biking**.

5% of El Paso's local streets account for 68% of all fatal and serious injury crashes involving someone walking or biking.

73% of this network falls within a Disadvantaged Community, as defined by [USDOT](#).

Vehicle and Motorcycle HIN

Crashes involving people driving or riding as passengers in **Vehicles** or **Motorcycles**.

7% of El Paso's local streets account for 67% of all fatal and serious injury crashes involving someone driving or riding as a passenger.

64% of this network falls within a Disadvantaged Community, as defined by [USDOT](#).

The right column contains a map of El Paso, Texas, showing the High Injury Network. The map is dark-themed and displays a network of streets highlighted in green and blue. The map includes labels for various neighborhoods and landmarks, such as Anthony, Vinton, Canutillo, Bordefield, Santa Teresa, Sunland Park, Col Lomas de Palms, El Paso, Juárez, Fracci Plaza del Sol, Socorro, Tjella, Parque Ind Zamora, Col Tarahumaras, Col Carlos, Chaparral, Newman, Fraccion Mountain, Homestead Meadows North, Butterfield, Homestead Meadows South, Horizon City, Agua Dulce, and Col Carlos. The map also shows the border between El Paso, Texas and Juárez, Mexico.

Be Proactive

experience.arcgis.com/experience/Sebd2c1f44-0427787076#f1c123442f/page/High-Injury-Network/

ON ZERO

High Injury Network

Landing Page Systemic Safety Overview Interactive M...

1% of this network falls within a disadvantaged Community, as defined by USDOT.

Factors Summary

on Zero El Paso Action Plan identifies y characteristics that contribute to an d share of severe injury and fatal collisions so. The risk factor network highlights segments that have 5 or more of these risk present, regardless of collision history. By ing these segments, El Paso can take a ve approach to making roadway safety ements. Roadway risk factors are:

- to 5 lanes
- gnals with permissive left turns
- ajor unsignalized intersections
- ajor arterial streets
- reets near commercial land uses
- ansit stops
- edestrian activity centers
- reets within USDOT Disadvantaged omunities

ie Layers icon to change the visibility of er and add it to the map.

Layers

Layer Legend

- HIN Data
- Roadways with more risk factors
- Equity Indicators
 - Zero Vehicle Household Tracts (Top 2 Percentile)
 - High Poverty Tracts (Top 2 Percentile)
 - USDOT Disadvantaged Communities
 - Environment Index Census
- Basemap Data
 - Roads Clipping
 - City Boundaries

El Paso

Col Hidalgo

Frac. Americas

Frac. Cordoba Americas

Frac. Cordoba del Norte

Cond Vista Del Sol

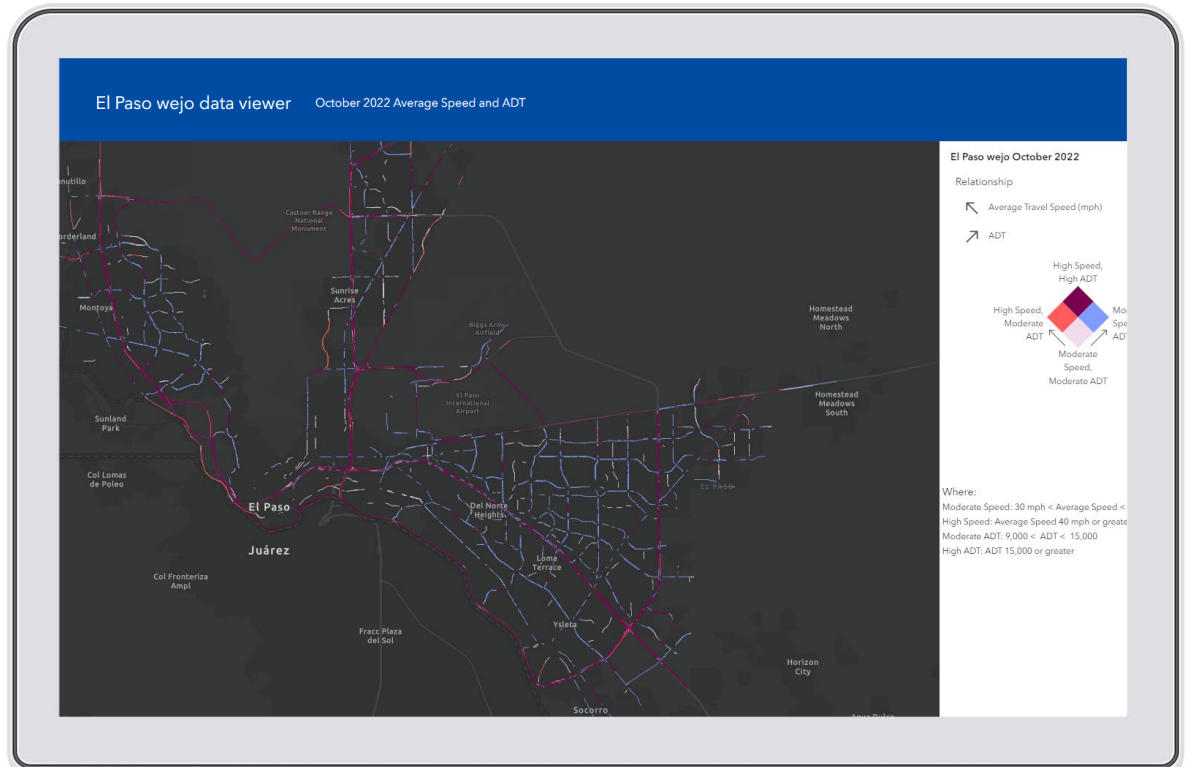
Avenida Imperial

Avenida Franklin

Avenida Del Sol

City of El Paso (MP, Texas Parks & Wildlife, CCNANP, Esri, HERE, Garmin, FourSquare, SafeGraph, GeoTechnologies, Inc, MET/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA) City of El Paso GIS Division

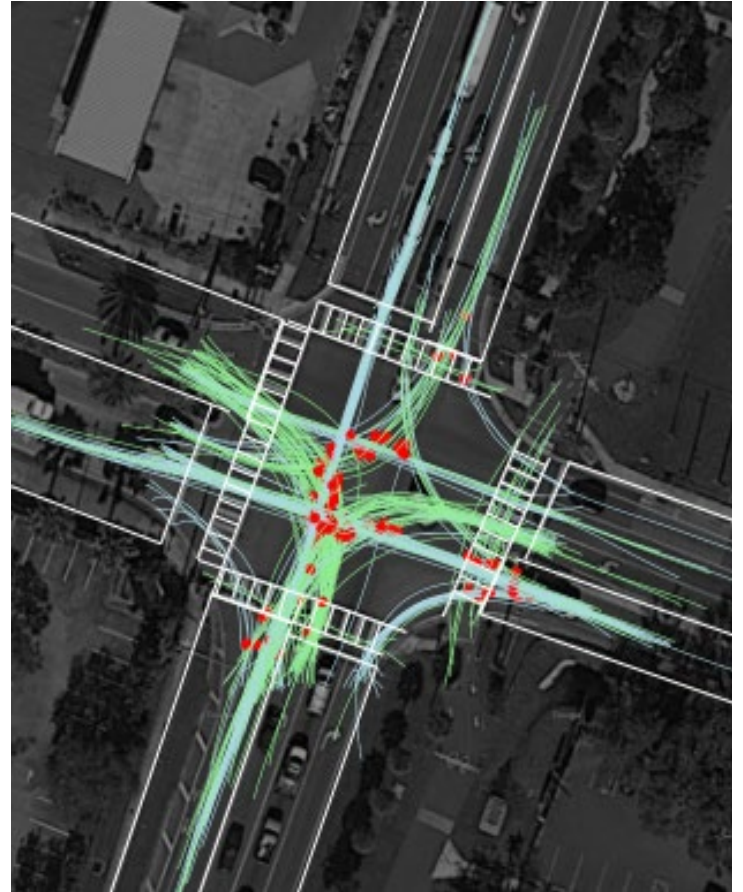
Be Proactive



Leveraging Technology to Understand Roadway Behavior

Near Miss Analysis:

- 360 drivers were observed driving 10 or more mph over the posted speed limit
- 60 people driving ran a red light
- 61 people walking or bicycling crossed on red
- Over 3,000 potential near-misses were observed



Emerging Technology



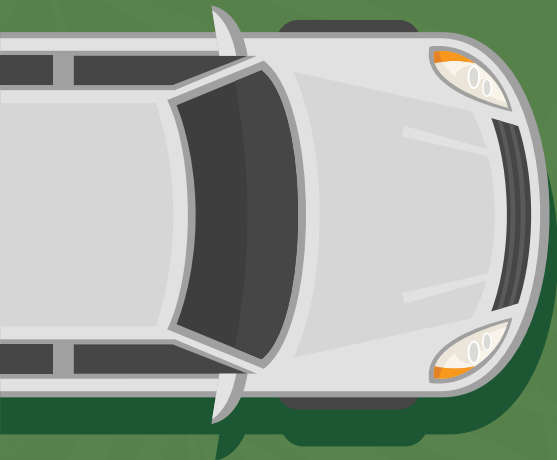
Emerging Technology



Safer Crossings: UTA Researchers Deploy Lidar Pedestrian Safety Tech in Arlington and Irving Intersections

The research team has deployed the Helius Smart Lidar System at two North Texas intersections, using real-time 3D object detection and tracking to analyze pedestrian behavior. They've also deployed a dynamic flashing yellow arrow system that can change the way traffic lights work when pedestrians are detected.





One serious injury or fatality
on public roads is **one** too many.

Thank you!

*Josh Peterman | PE, RSP1
j.peterman@fehrrandpeers.com*

