Using Data to Craft a Safety Narrative: High Injury Networks

June 9, 2021

1:00 – 2:30 p.m.

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INNOVATING FOR A BETTER TOMORROW

Presentations

Presentation #1: Overview of Regional Conditions, *Go Human* Campaign & HINs

Courtney Aguirre, Program Manager, Public Health & Safety, SCAG

Presentation #2: Collision Concentration Corridors in Los Angeles County

Eric Dunlap, Civil Engineer, Los Angeles County Department of Public Works

Presentation #3: High Injury Network in the City of San Jose

Jesse Mintz-Roth, Vision Zero Program Manager, San Jose Department of Transportation

Presentation #4: How to Use Data to Identify High Injury Networks

Katherine Chen, Senior Policy Analyst, UC Berkeley's SafeTREC

Presentation #5: A Community Based Organization's Interest in High Injury Networks

Kevin Shin, Senior Director of Policy & Partnerships, Los Angeles County Bicycle Coalition

Overview of Regional Conditions & *Go Human* Campaign

Summer 2021

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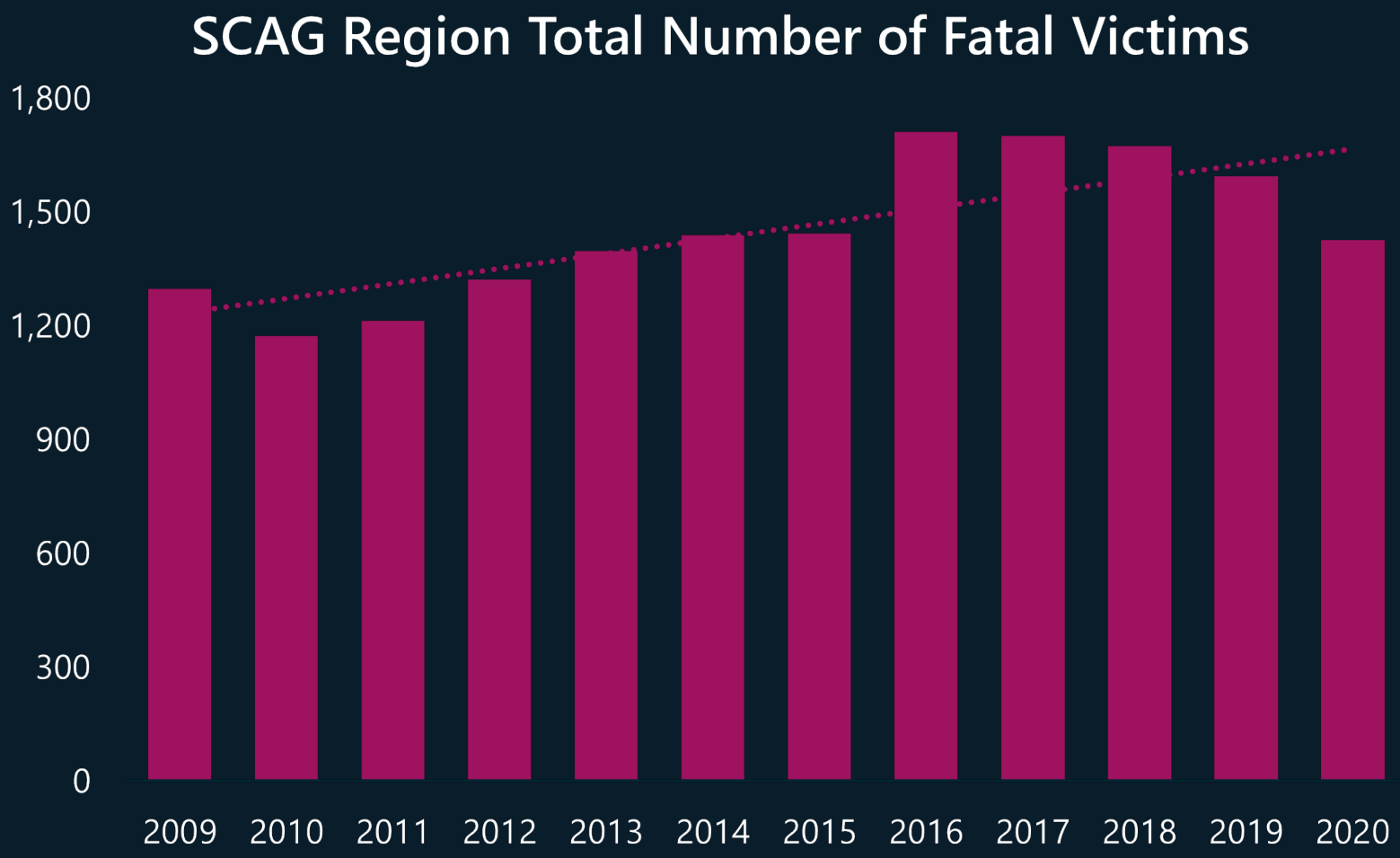
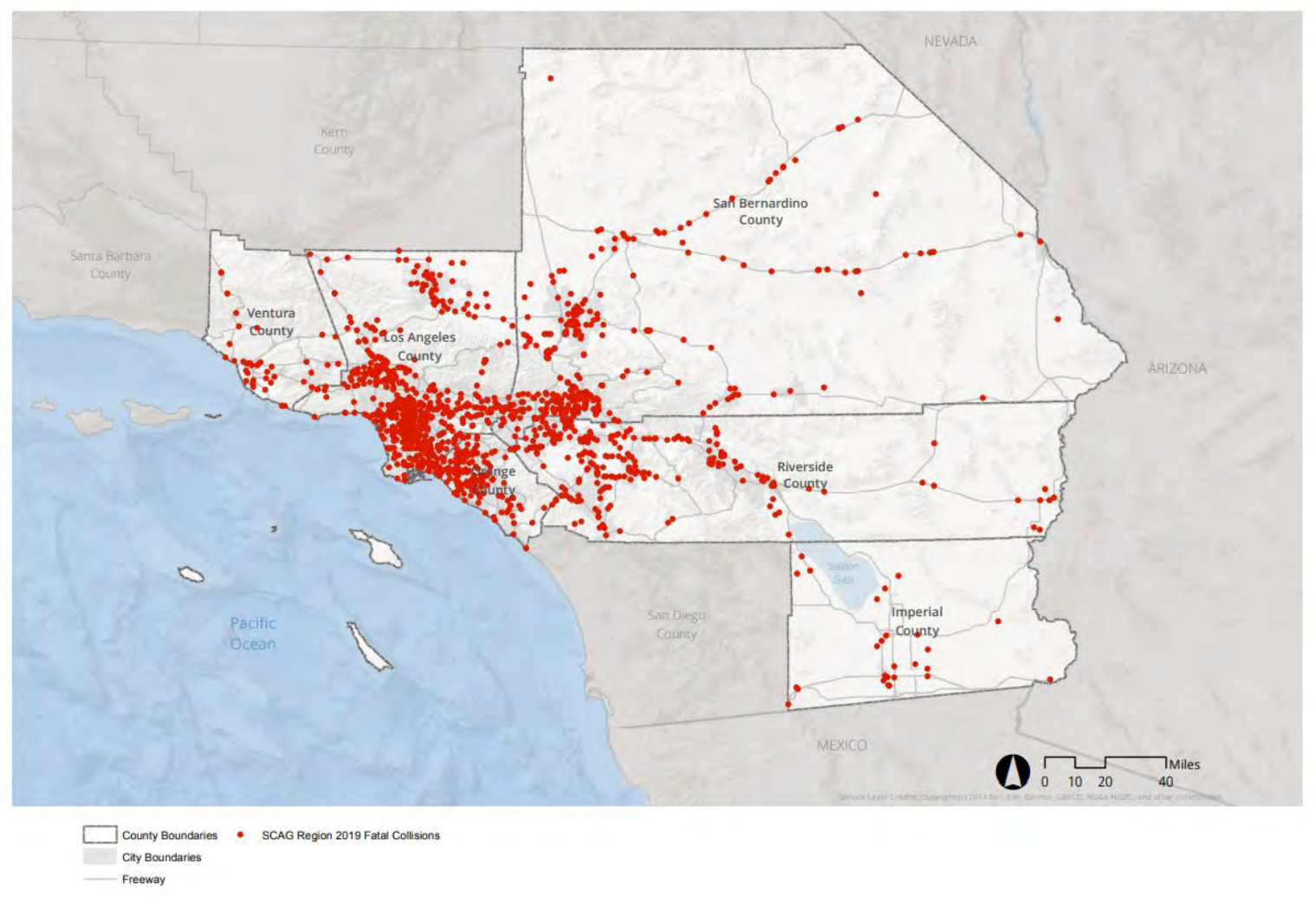
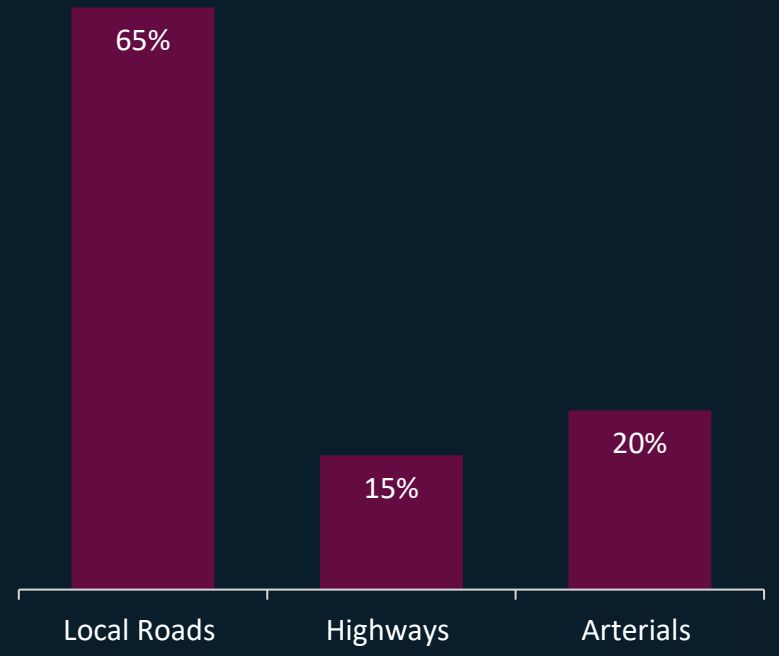
What are the overall trends?



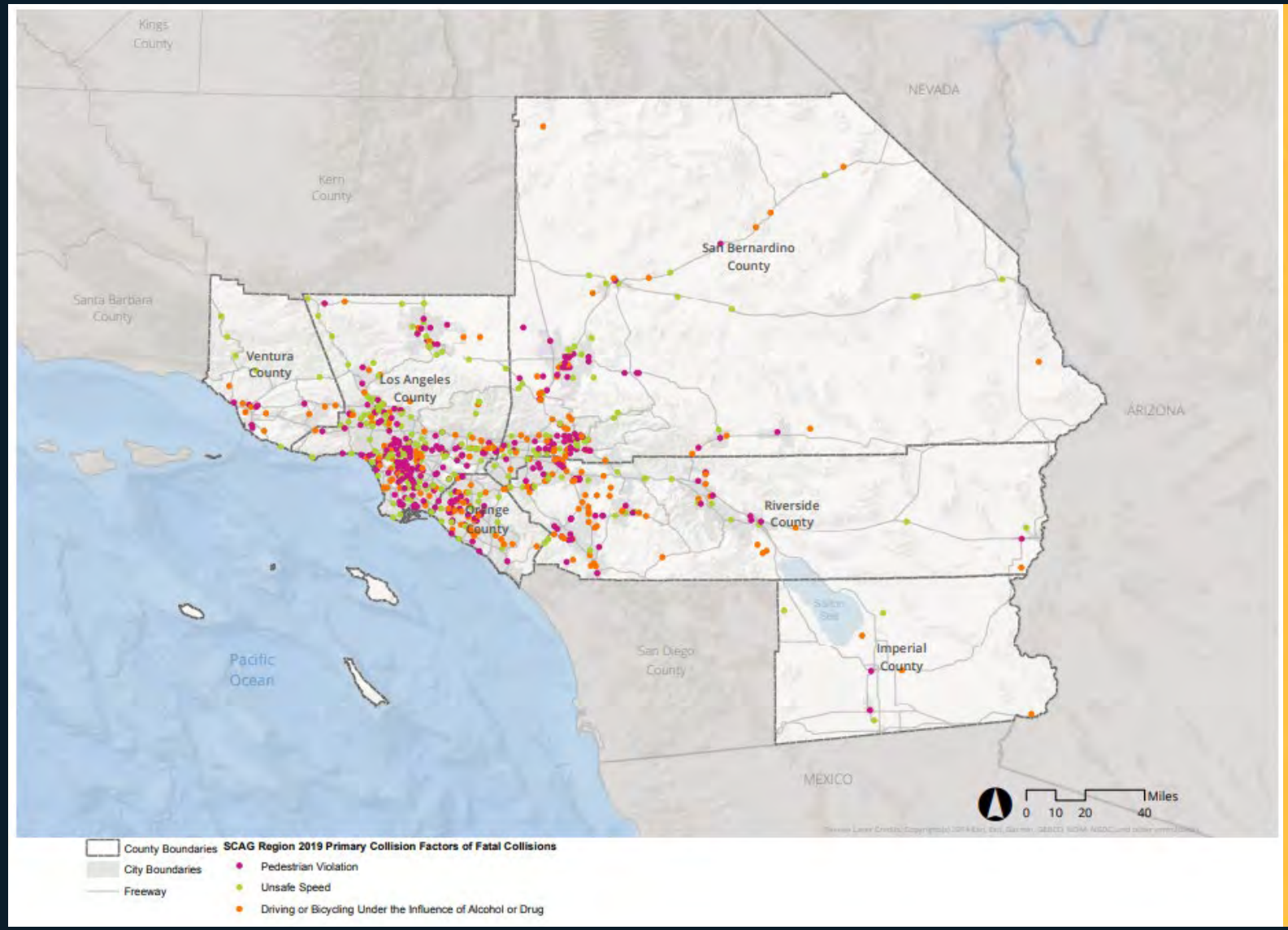
Where are collisions occurring?

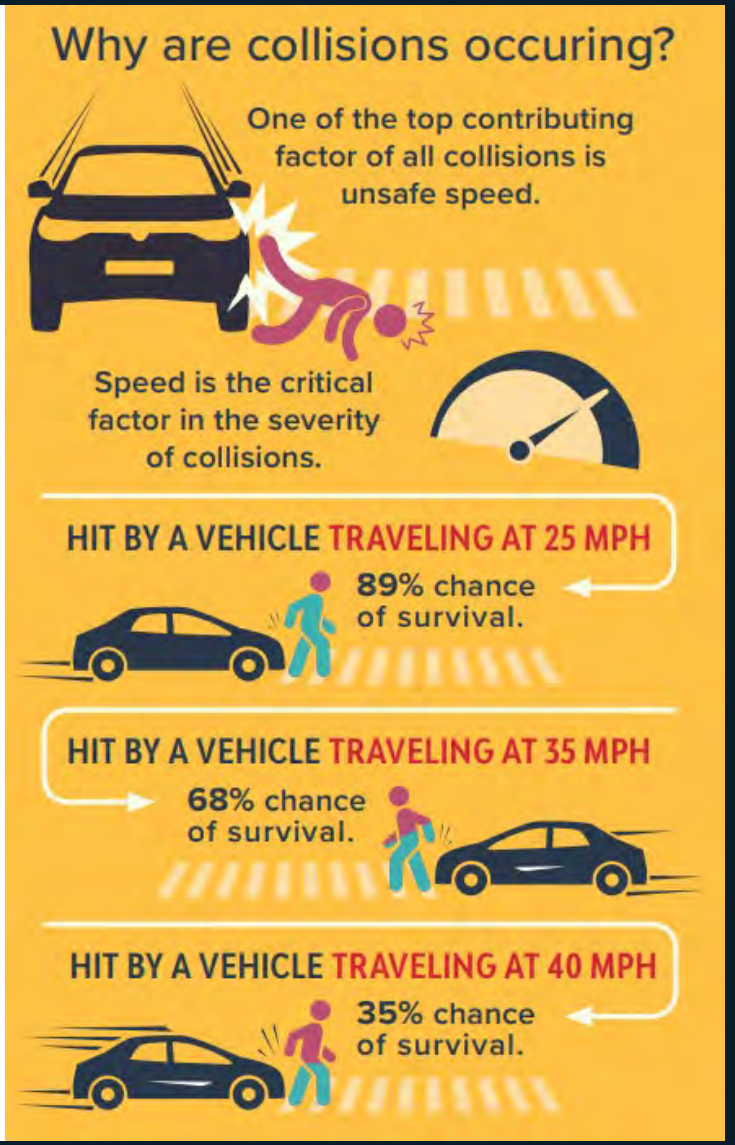


Where Fatal Collisions occurred in the SCAG Region in 2019



Why are collisions occurring?





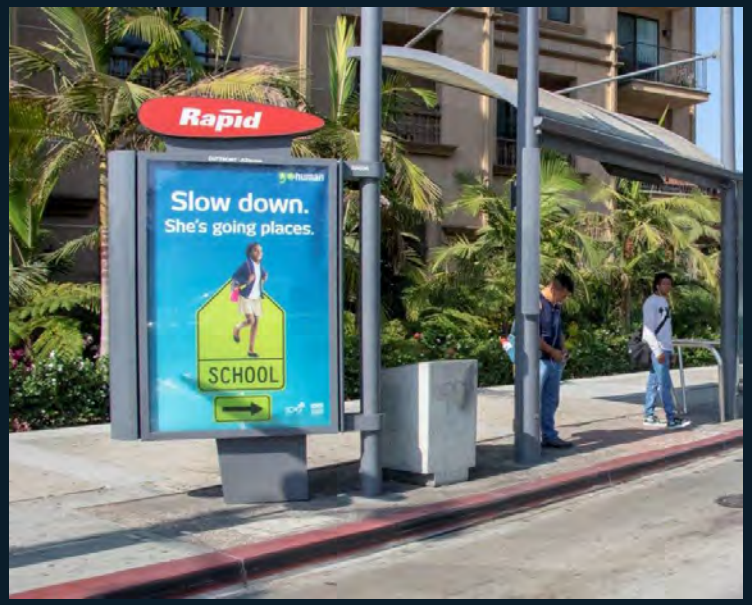
Go Human Active Transportation Safety & Encouragement Campaign

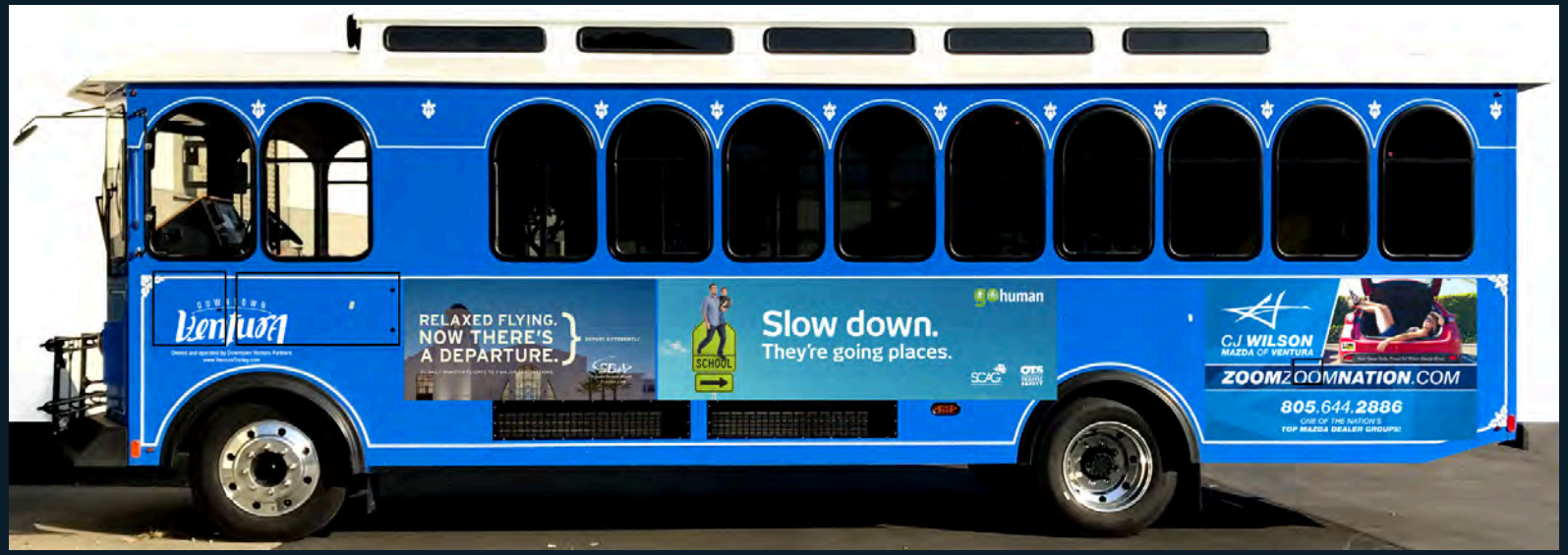
Co-Branding & Regional Advertising Campaign

Temporary Safety Demonstrations & Programming

Safety Workshops, Webinars, and Technical Assistance

Go Human Co-branded Safety Materials





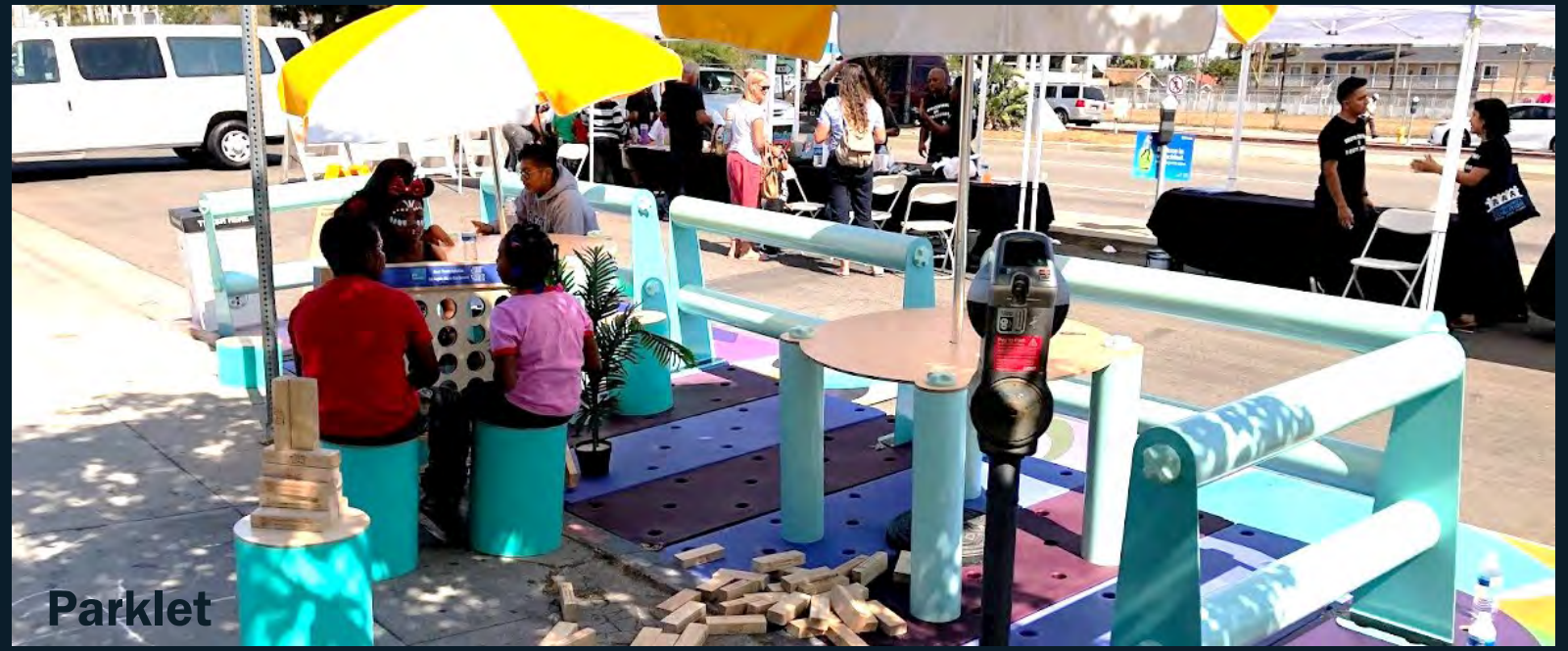
Go Human Kit of Parts


Curb Bulb-outs

Artistic Crosswalk


Bike Lane


Median Refuge Island


Parklet

Go Human Community Streets Mini-Grants

- **Provides up to $10,000 to community organizations**
- **Application closed May 19th**
- **Announcements this week**
- **In 2020, SCAG provided over $210,000 to 28 community-driven projects.**

City Fabrick


Bike Ventura

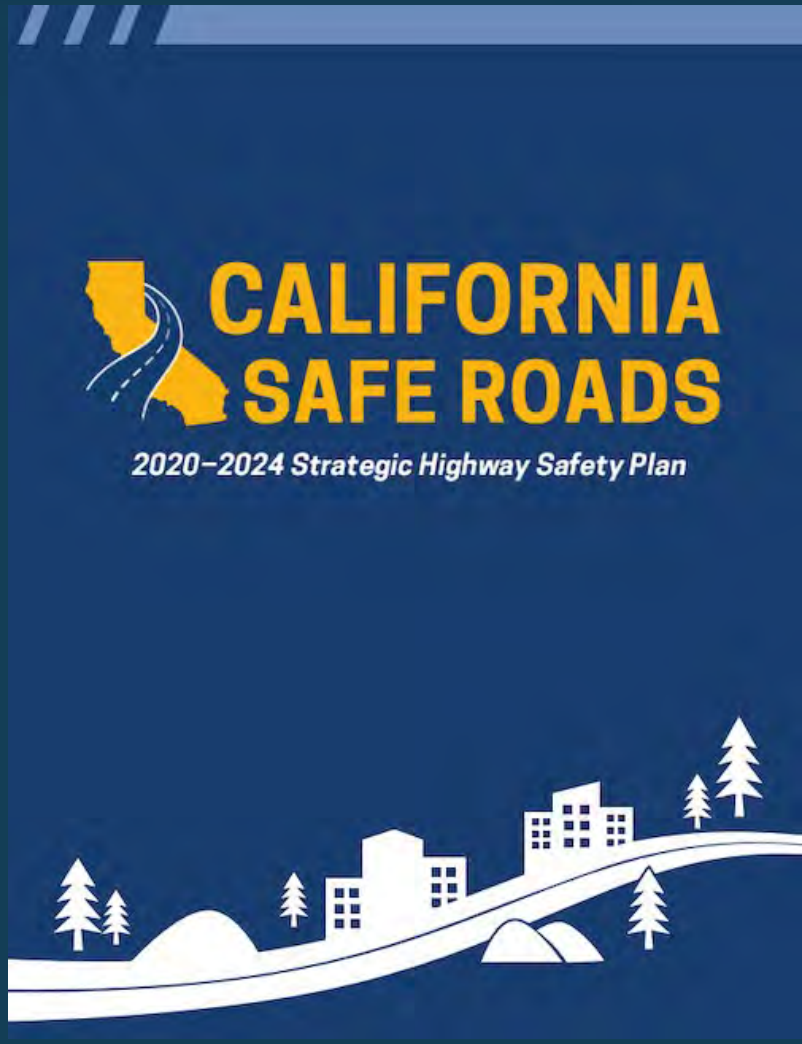
TRUST South LA

Go Human Community Ambassadors

- **Participatory & experiential planning and leadership series**
- **3 counties: Imperial, San Bernardino, Ventura**
- **60 Ambassadors, 6 virtual leadership sessions, and 1 local safety activation by each ambassador in the cohort**
- **Ambassadors are compensated**
- **Currently recruiting**
- **Workshops and trainings in progress!**

Strategic Highway Safety Plan - HIN Action

- High Injury Network Action Item
  - Develop statewide definition of and methodology for High Injury Networks at local level
  - Motivated by recommendations of Zero Traffic Fatalities Task Force
- Convened statewide working group in November 2020



Researching & Understanding High Injury Networks

- Reviewed HIN methodologies at different levels of government - cities, counties, MPOs
- Developed catalogue of 23 methodologies
- Reviewed methodologies & conducted interviews with case studies, including:
  - City of Los Angeles
  - City/County of San Francisco
  - City of San Jose
  - City of Daly City
  - City of Fremont
  - Alameda County
  - Los Angeles County
  - SCAG

California High Injury Network – Definition

- Network of designated corridor-level segments where the highest concentrations of collisions occur
- Typically based on a minimum of 3-5 years of data
- Represents a defined prioritized subset of the overall transportation network
- Most consider fatalities and serious injuries

California High Injury Networks – Core Components

- Years of data
- Level of Analysis
- Roadway facility types included
- Consideration of modes
- Overall thresholds
- Equity
- Weight assignment*
- Normalization*

California High Injury Networks – Challenges

- Access to reliable data
- Education and understanding
- Lack of robust collision data
- Software and staff resources
- Risk and liability concerns
- Potential for over-policing

Implications

- Jurisdictions with HINs could potentially acquire authorization to lower speed limits on a subset of streets
- More jurisdictions with HINs = more data driven decision making
- Could be considered in funding prioritization at state, county, or regional levels
- Ultimate goal = Vision Zero/Toward Zero Deaths

Questions? Comments?

Courtney Aguirre

SCAG Program Manager

aguirre@scag.ca.gov

More information on Go Human can be found at

www.gohumansocal.org

Materials developed with funding provided by the California Office of Traffic Safety.

Chat Box Question #4

What are the most significant benefits of establishing a High Injury Network? (Answer in chat box)

Collision Concentration Corridors in Los Angeles County

Eric Dunlap, Los Angeles County Department of Public Works

Los Angeles County Collision Concentration Corridors

https://pw.lacounty.gov/visionzero/

Public Works
LOS ANGELES COUNTY

Vision Zero Los Angeles County

June 9, 2021

SCAG Traffic Safety Peer Exchange

LOS ANGELES COUNTY PUBLIC WORKS

Our Mission

To deliver regional infrastructure and services improving the quality of life for more than 10 million people in Los Angeles County.

- Nearly 3300 miles of roadway in unincorporated communities

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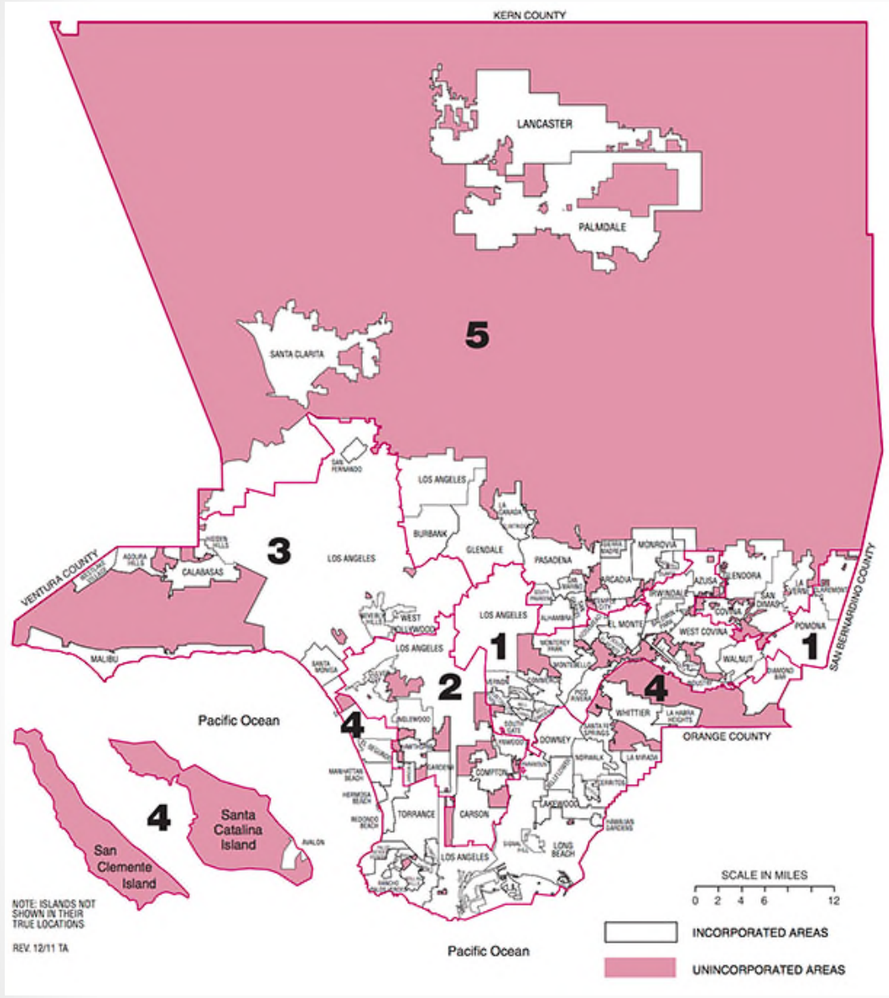
UNINCORPORATED LA COUNTY



What is an unincorporated community?

- Areas of the County outside of the 88 incorporated cities
- County Board of Supervisors acts as their governing body
- County departments provide municipal services

65% of the County is unincorporated. The unincorporated communities are home to one-million people.

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Why Vision Zero?

- Between 2013 – 2017, traffic fatalities increased by **28%** in unincorporated communities[1]
  - Every 5 days, someone loses their life in a traffic collision on a County-managed roadway in unincorporated LA County
- **Countywide, traffic fatalities are:**
  - the leading cause of death for children 5 – 14
  - the second leading cause of death for youth 15 – 24[2]

1. Data set compiled from Los Angeles County Public Works' Collision Database, collisions occurring between 1/1/13 and 12/31/17 for unincorporated county roadways
2. Patterns of Mortality in Los Angeles County, 2008 – 2017. Los Angeles County Department of Public Health. Office of Health Assessment and Epidemiology, Dec 2019

Vision Zero Los Angeles County

- **Feb 2017**: Board directed Public Health and Public Works to co-lead Action Plan
  - Included collaborative, cross-sector effort among departments, agencies, and the community
- **Dec 2019**: Action Plan finalized
- **August 4, 2020:** Board adopted Vision Zero Action Plan

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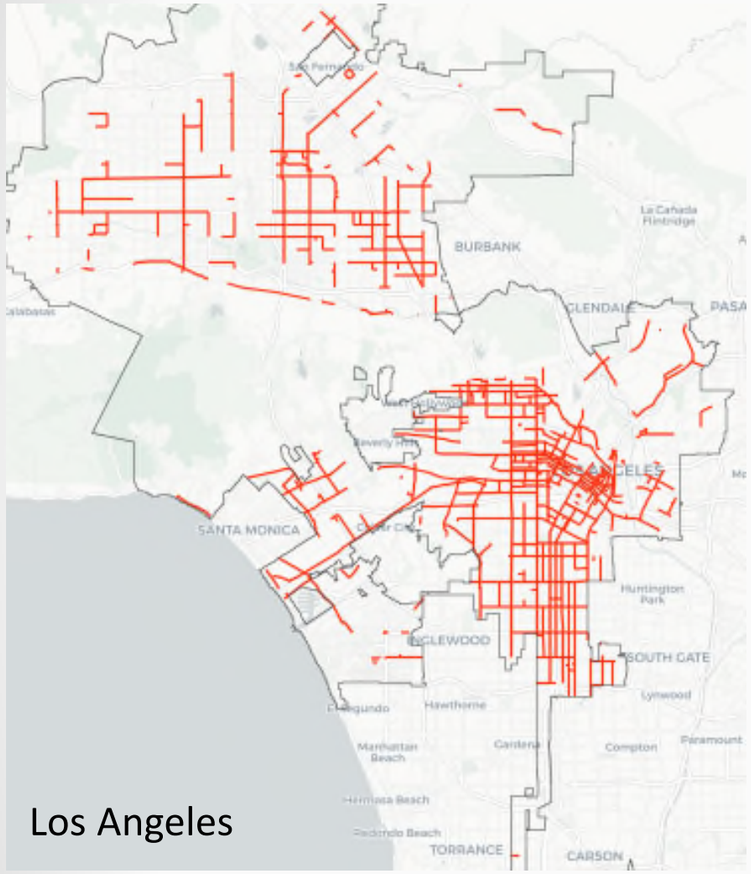
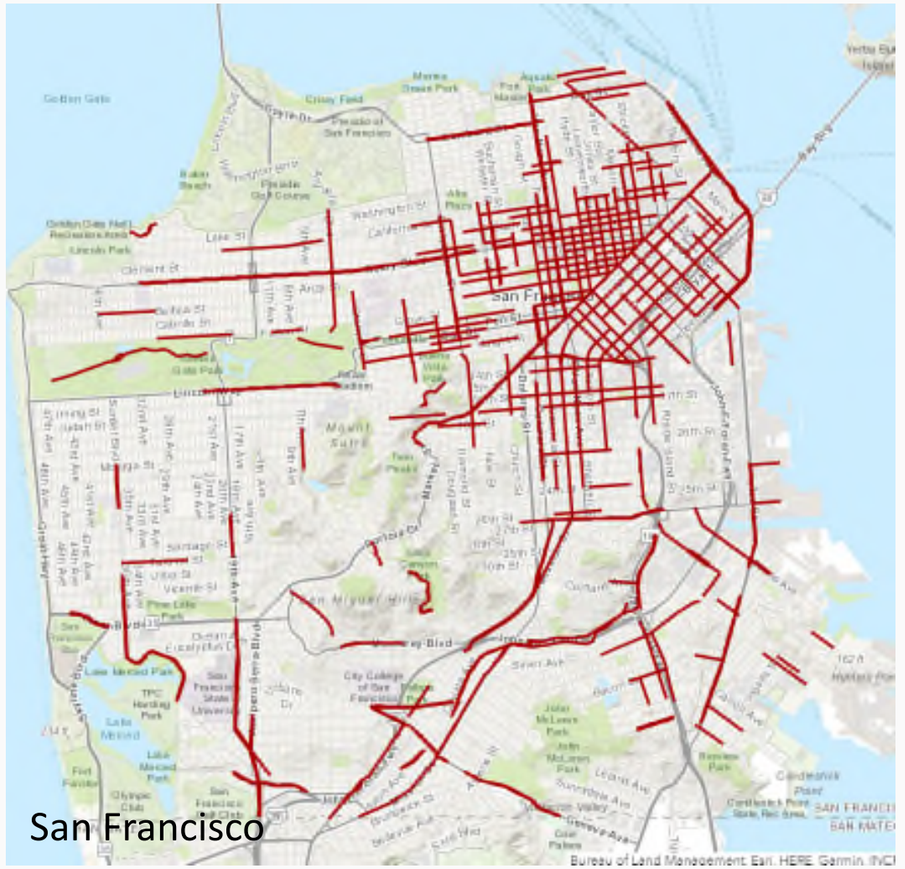
LOS ANGELES COUNTY

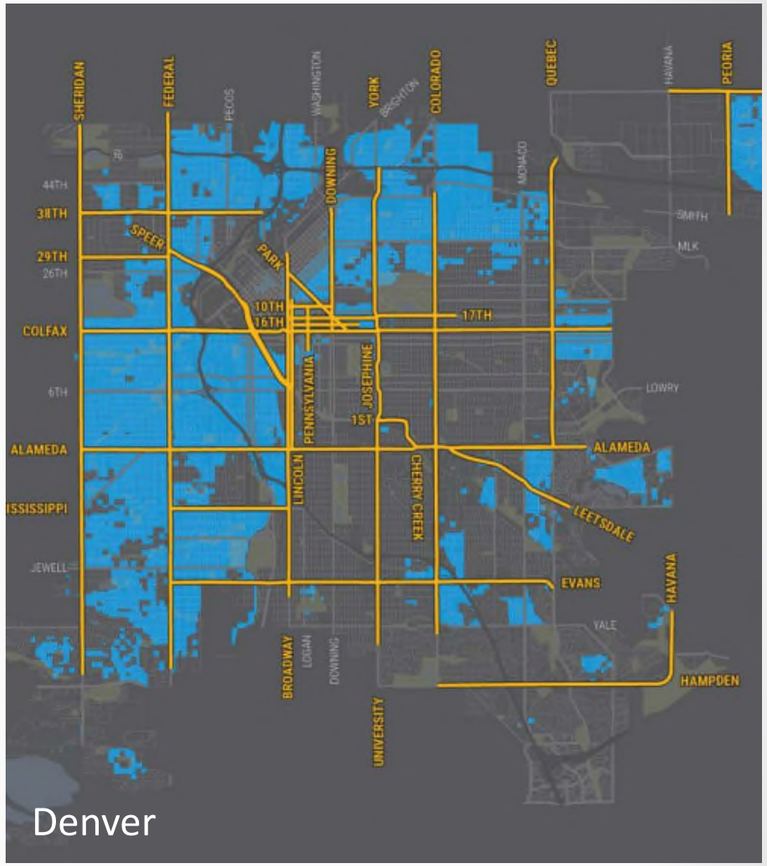
HINs ACROSS THE U.S.



Los Angeles



San Francisco



Denver

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TRAFFIC COLLISION DATA

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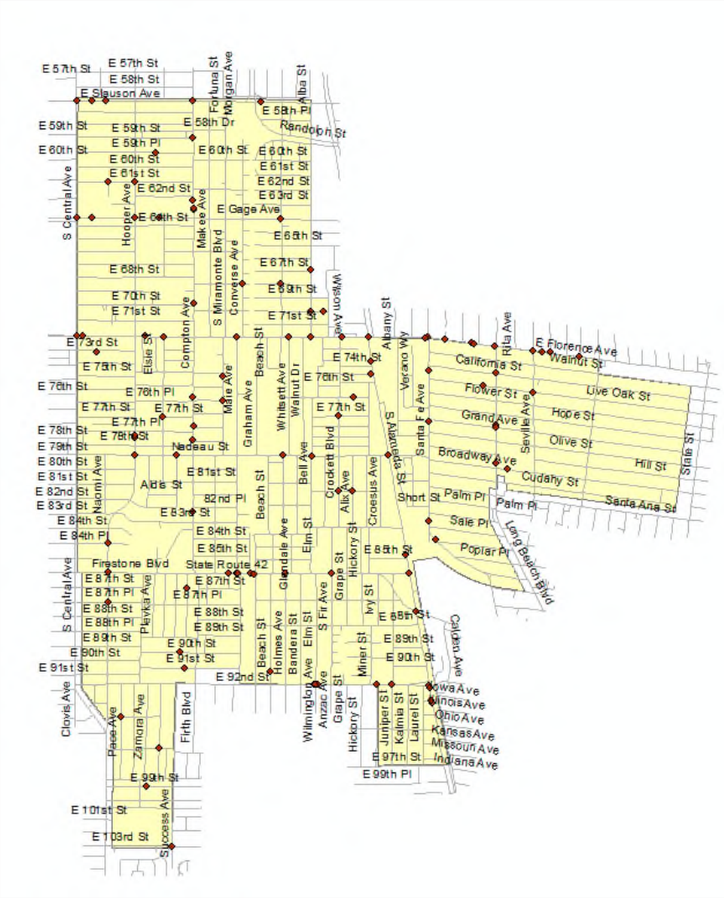
DATA CLEANING



1. Exported Public Works Collision database fatal and severe injury collisions

2. Compared with other publicly available data (TIMS, SWITRS, Medical Examiner-Coroner)

3. Consulted the Traffic Collision Report or California Highway Patrol for discrepancies (location, severity, jurisdiction)

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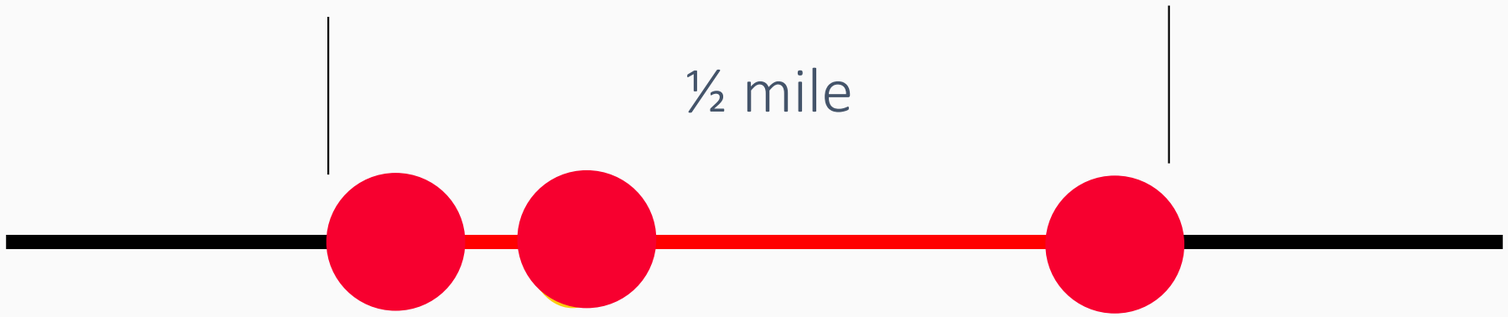
COLLISION CONCENTRATION CORRIDORS

“Collision Concentration Corridors”

Any half-mile roadway segment that contained 3 or more fatal or severe-injury collisions within the last 5 years (2013 - 2017).



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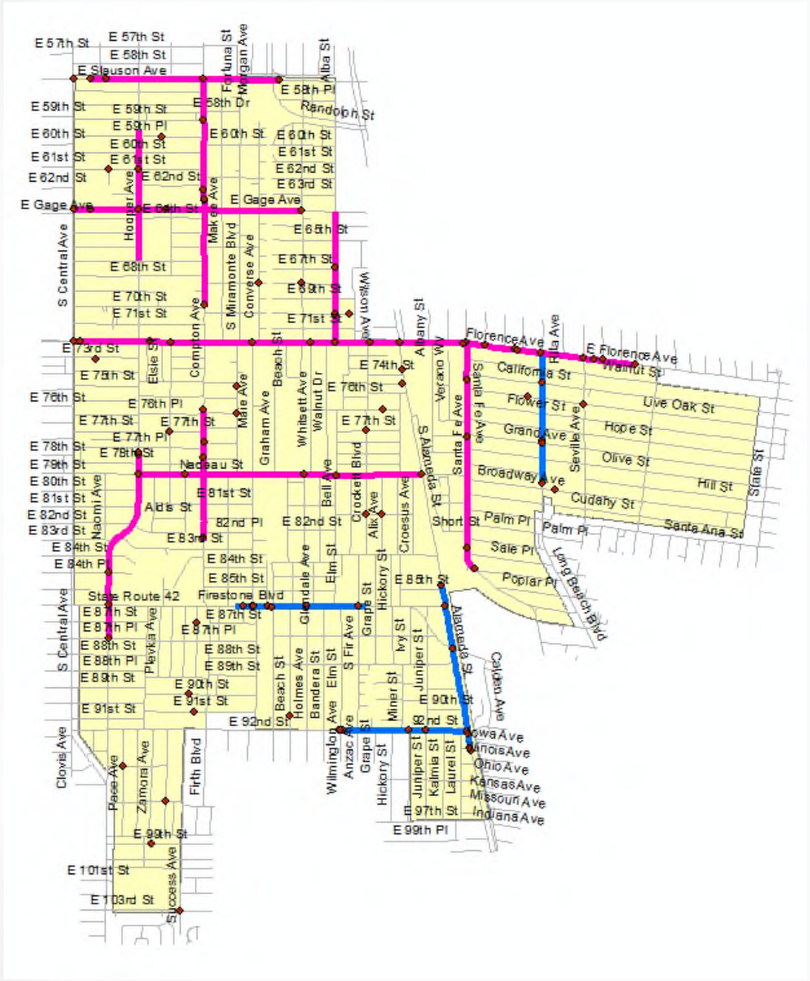
COLLISION CONCENTRATION CORRIDORS



Assumptions

- Identifying streets/corridors
- Minimum 0.5-mile segments
- Intersection collisions would be applied to both streets
- Segments would be combined with adjacent segments that met the 3 collisions/half-mile threshold
- Segments were scored and weighted
- Scores were normalized by dividing the length of the combined segments

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Collision Analysis

50% of fatal and severe injury collisions occurred on less than 4% (125 miles) of the roadways maintained by the County

PRIORITIZATION FORMULA

Prioritization Score Formula

$$\text{COLLISION CONCENTRATION CORRIDOR PRIORITY SCORE} = \frac{\text{Number of Fatal and Severe Injury Collisions} + (0.5 \times \text{Number of Fatal Collisions that involved any type of travel mode}) + (0.25 \times \text{Number of Fatal and Severe Injury Collisions that involved Vulnerable Users}) + (0.25 \times \text{Number of Fatal and Severe Injury Collisions that occurred in the most disadvantaged communities per the Healthy Places Index})}{\text{Segment Length}}$$

Note: The minimum segment length for any location experiencing three or more fatal and/or severe injury collisions was assumed to be 0.5 miles. Also any overlapping segments were combined for clarity.

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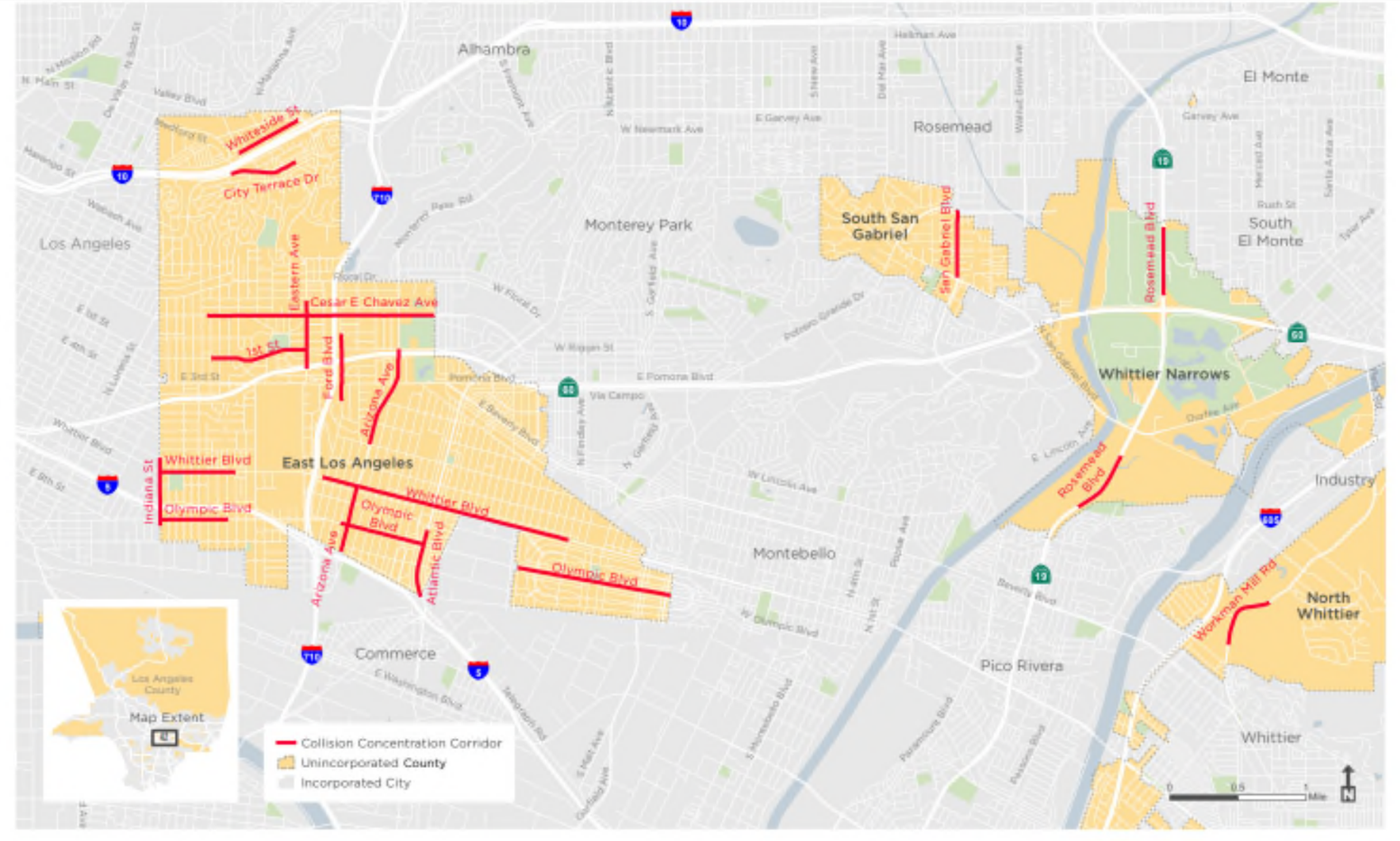
COLLISION CONCENTRATION CORRIDORS



All community maps are available at VisionZeroLACounty.com.

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USING THE HIN

How the HIN is used:

- Prioritization for Vision Zero projects
- Tool for other Public Works and County staff
- Traffic safety communications campaigns
- Public Health Pedestrian Planning efforts

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THANK YOU

VISION ZERO
LOS ANGELES COUNTY

Website: VisionZeroLACounty.com
Email: VisionZero@pw.lacounty.gov

Phone: 1-833-VZ4-LACO
(1-833-894-5226)

Eric Dunlap, Associate Civil Engineer,
edunlap@pw.lacounty.gov
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Chat Box Question #5

What are some barriers to establishing a High Injury Network? (Answer in chat Box)

For example: funding, limited staff time, lack of political or community support, lack of data, other (please list if you feel comfortable sharing)

High Injury Networks in San Jose

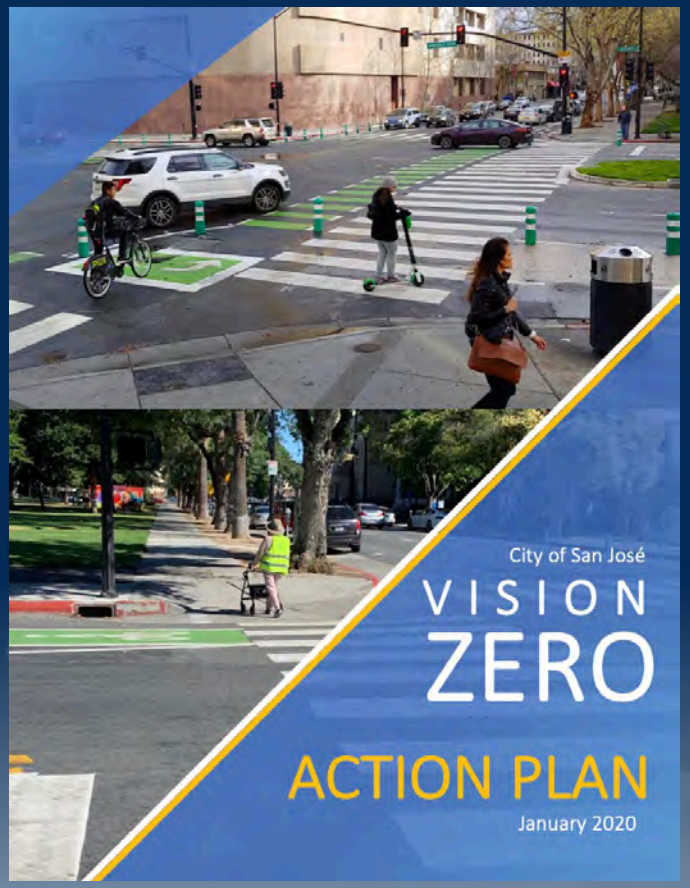
Jesse Mintz-Roth, San Jose Department of Transportation

San Jose HIN:

https://www.sanjoseca.gov/your-government/departments-offices/transportation/safety/vision-zero/maps-data

San José Vision Zero

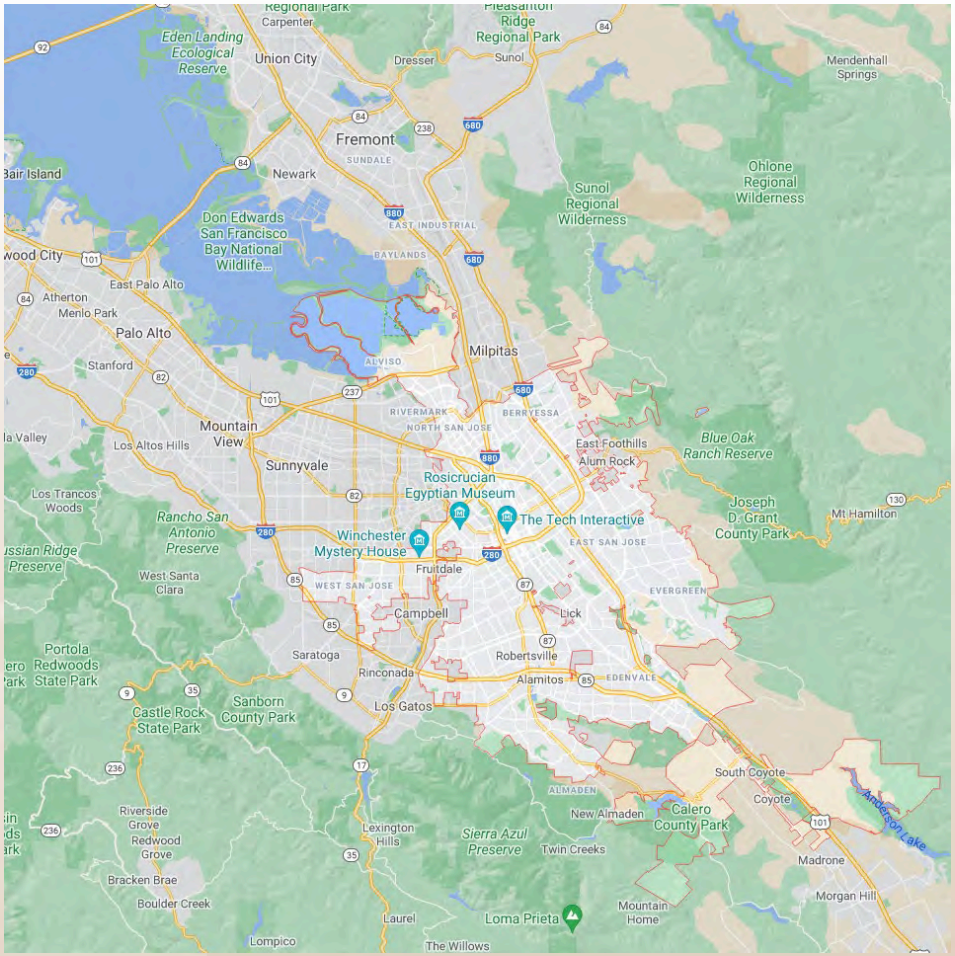
Jesse Mintz-Roth
Vision Zero Program Manager
San José DOT



Southern California Assembly of Governments (SCAG)
June 9, 2021

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

San José, CA



- Population: 1 million (2019)
- 3rd largest city in CA (after LA, SD), 10th largest in US
- 181 square miles
- Mayor: Sam Liccardo
- Founded: 1777
- Major growth: 20th cent., suburban around older core

San José Vision Zero
Program Development

San José adopted Vision Zero in 2015

3 Action Plans: 2015, 2017, 2020

2020 Vision Zero Action Plan was adopted on February 11, 2020

- 6 Priority Action Areas
- Initial $6.8 million city investment in $18 million plan

Complements city goals and policies

- Safety, vulnerable modes, mode shift

Strategy: Data analysis informs investment

Vision Zero Priority Safe Corridors

HIN Development (2015-Present)

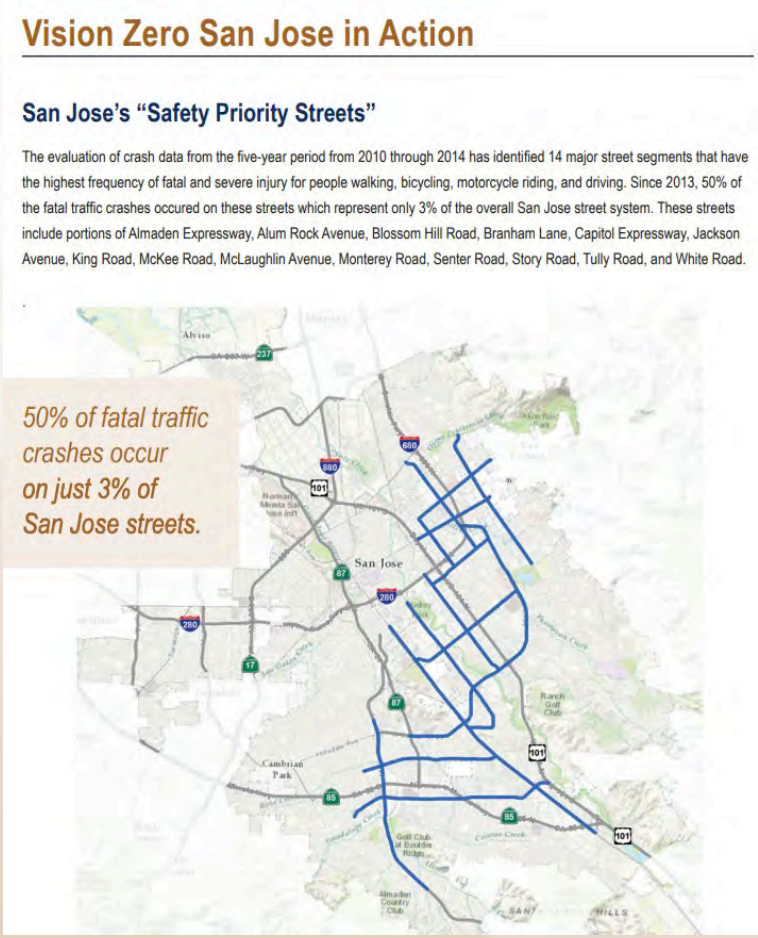
HIN = Safety investment focus

2015 Action Plan: 14 corridors

2016: +3 corridors: 17 corridors
(15 city owned, 2 county owned)

Department Organization/Staff:

- Vision Zero in DOT Operations
- SJPD sends crash reports, DOT maintains city's database
- 1 shared GIS staff (until 2020)
- Action Plans created in-house



2015

Vision Zero Priority Safe Corridors

Current Map

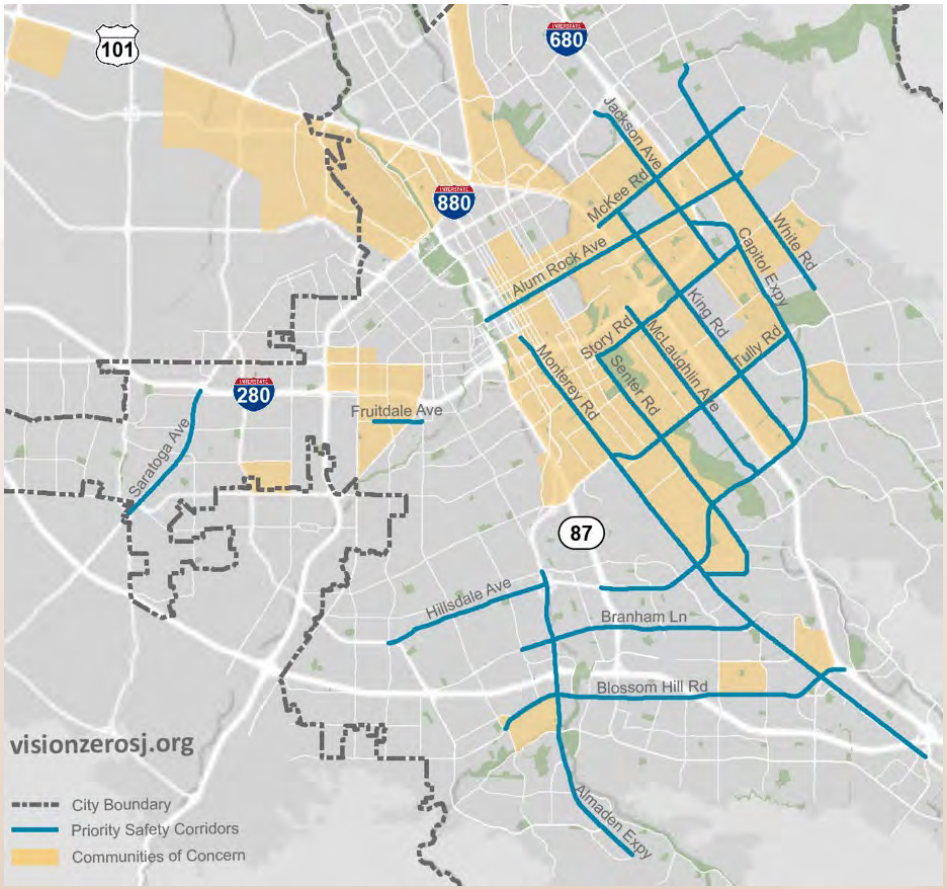
38% of traffic fatalities and 34% of severe injuries (2015-2019) occur on 3% of San José streets

17 Corridors / 70 roadway miles

Overlap with Communities of Concern (shown in yellow)

<u>Future development</u>: working to bring in crash data from

- VTA (on-street light rail)
- County EMS (to link to trauma center data, using SF's model)



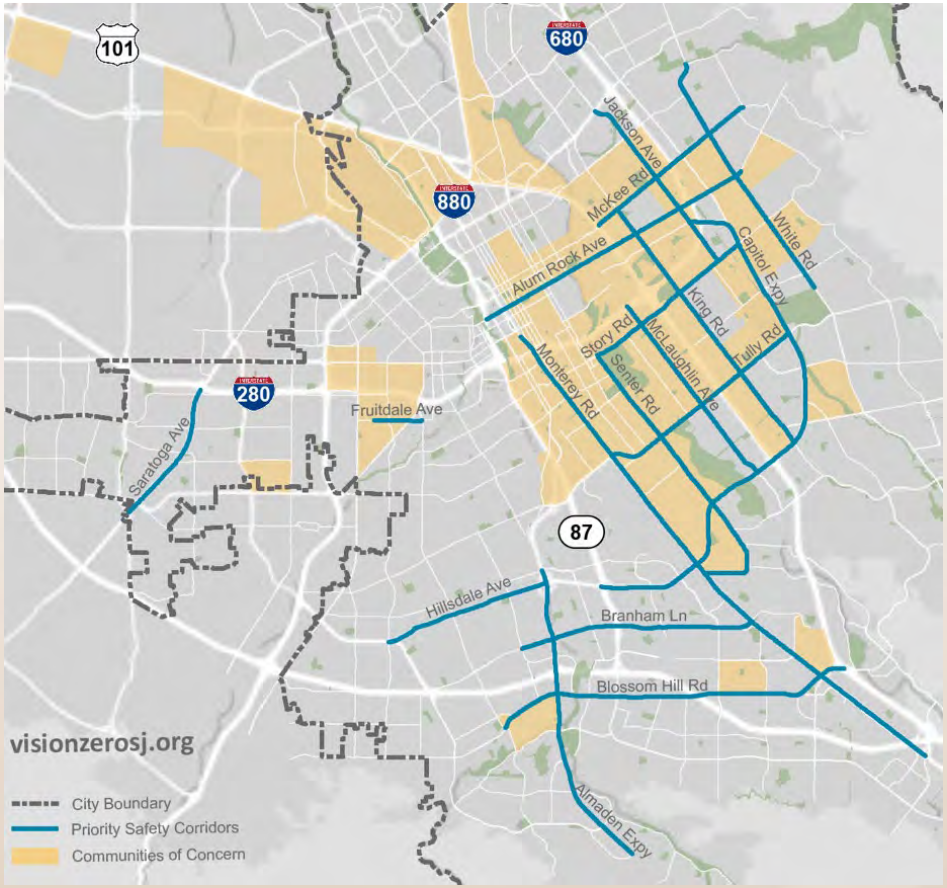
Vision Zero Priority Safe Corridors

How HIN is used

- Walk audits / Safety assessments
- Engineering assessments to reduce speeding, minimize conflicts

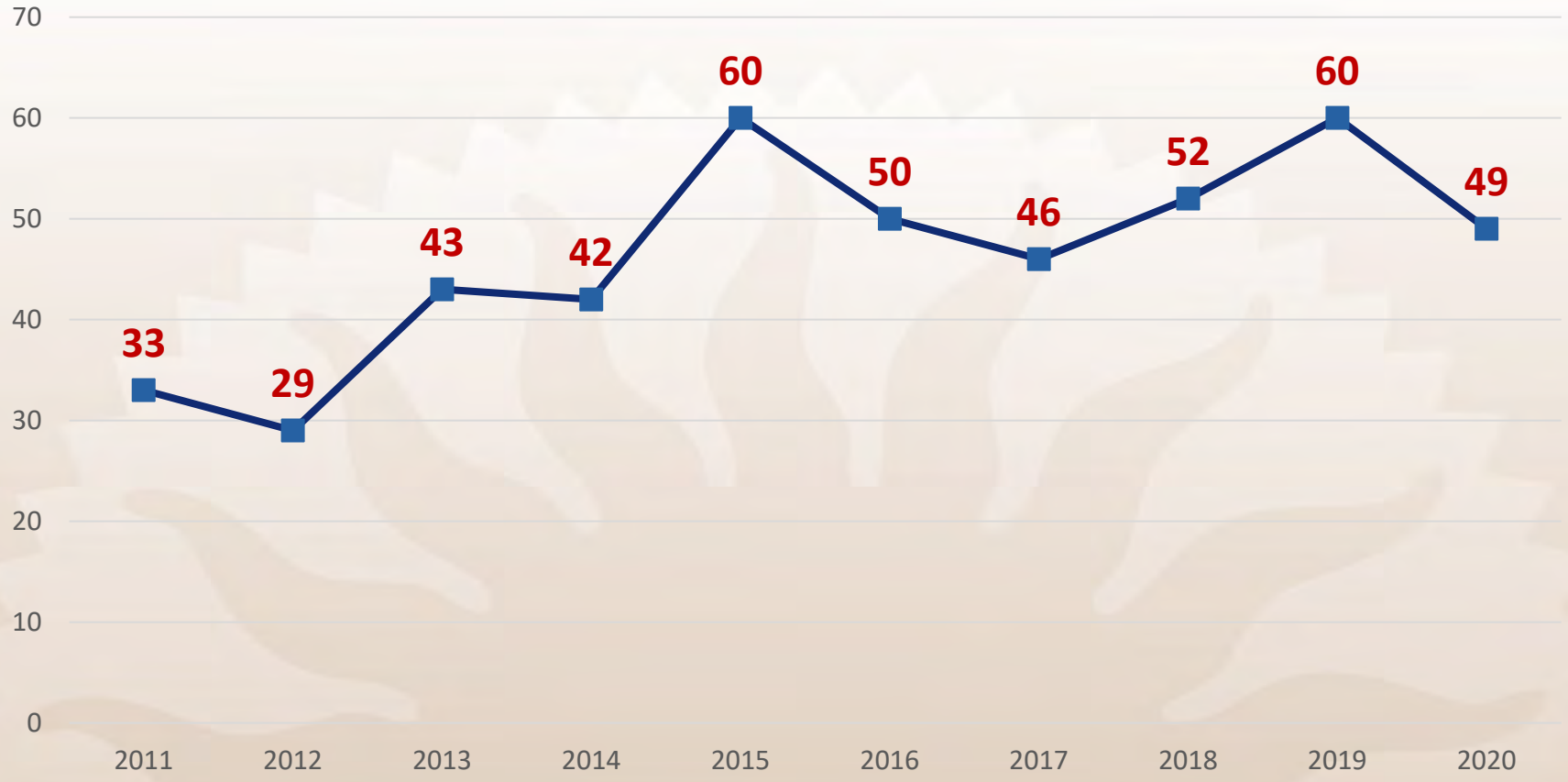
- Apply for safety grant funds
- $25m+ awarded as of 2020

- 2020 Vision Zero Action Plan: Quick Build on VZ PSC all city-owned corridors

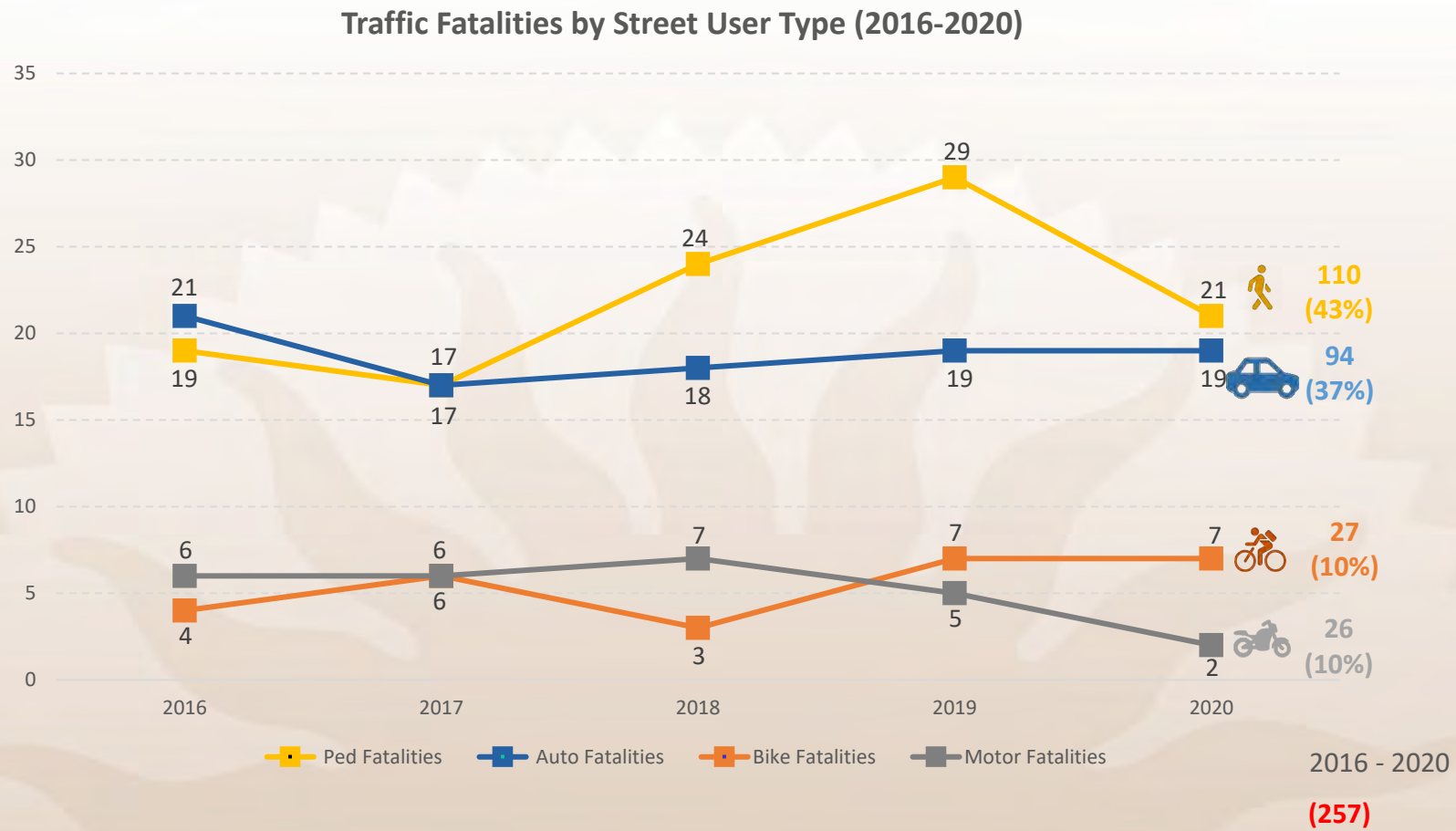


Traffic Fatalities

2015 and 2019 were peak years

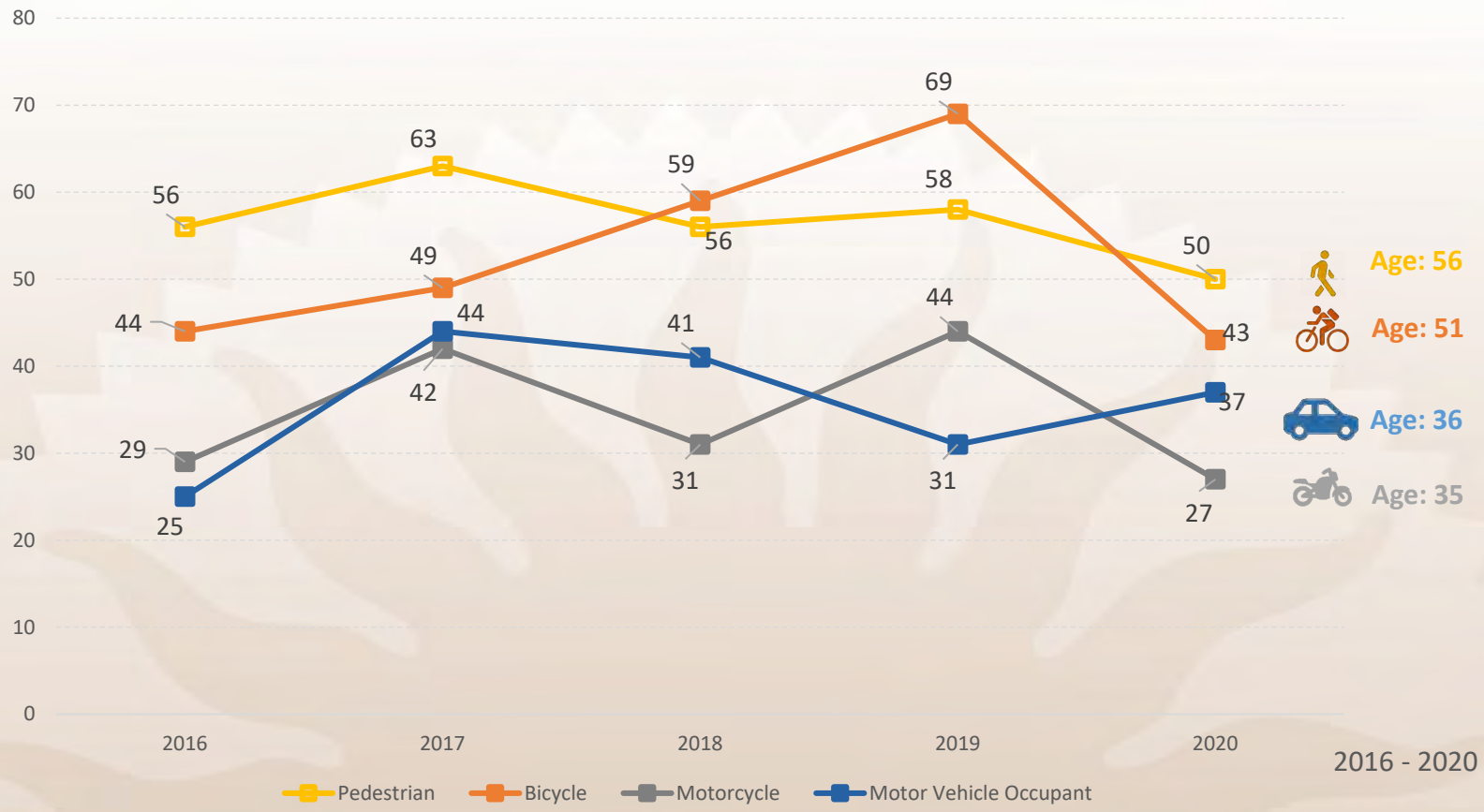


Traffic Fatalities
2016-2020 by Street User Type



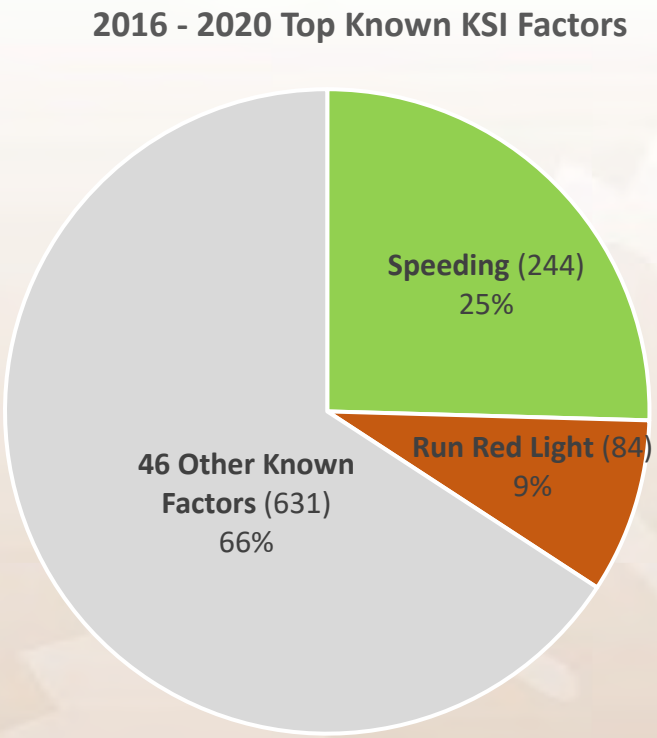
Traffic Fatalities

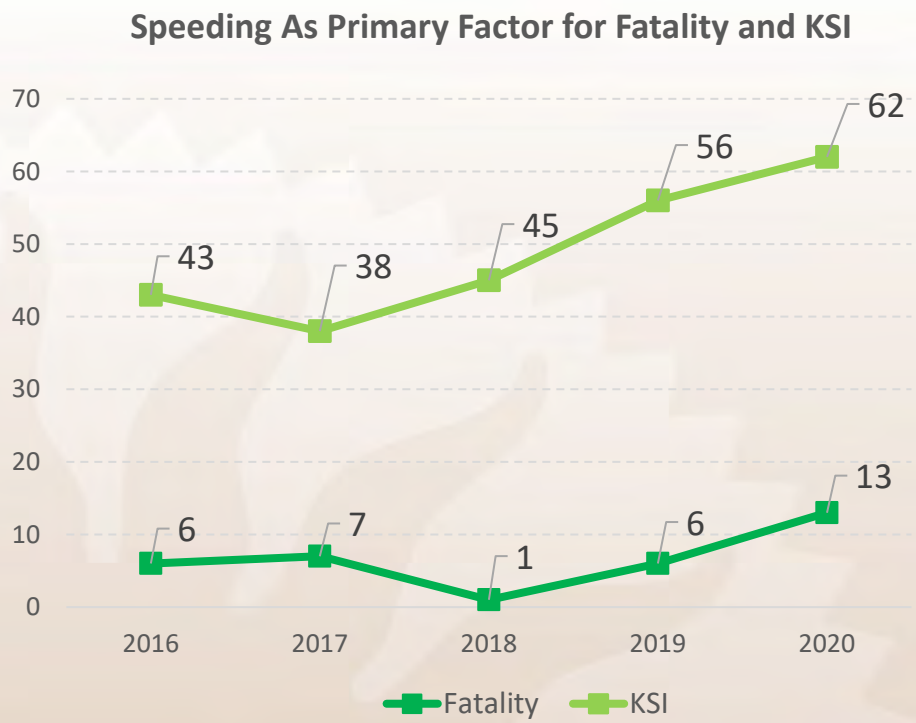
Median Age



Top Known Factors to KSI

Speeding, Red Light Running

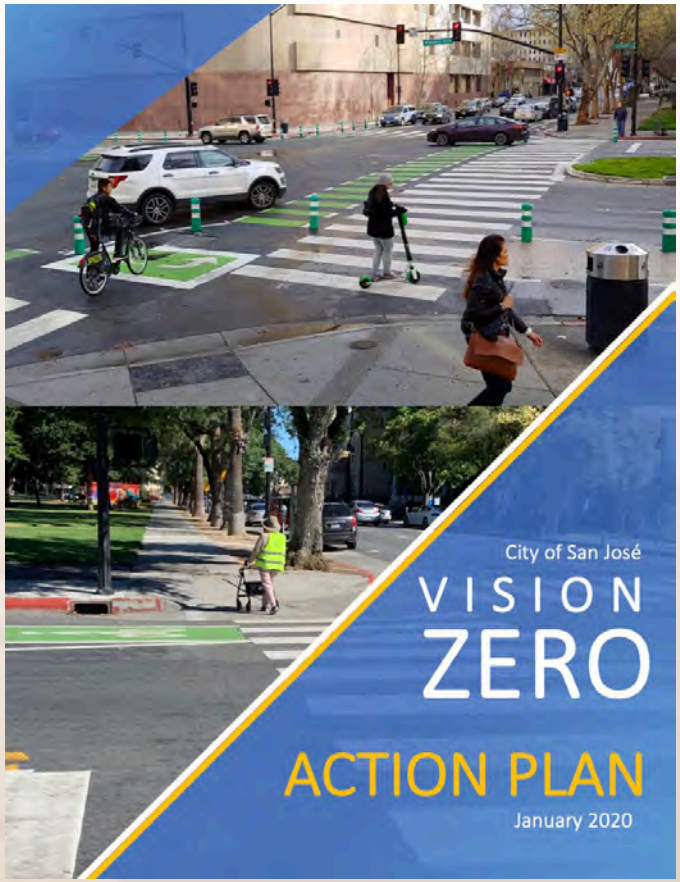




- 2020 Primary Factor - Speeding is 3 times Red Light Running in KSI
- Traffic fatalities caused by Speeding more than doubled from 2019

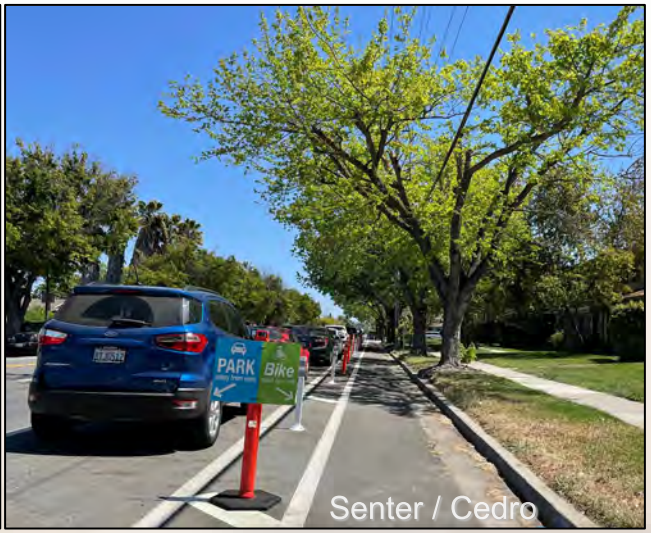
2020 Vision Zero Action Plan

6 Priority Action Areas



1. **Build Robust Data Analytics Tools**
2. **Form a Vision Zero Task Force**
3. **Strategize Traffic Enforcement**
4. **Increase Community Outreach and Engagement**
5. **Implement Quick Build data-driven safety improvements**
6. **Prioritize resources on high-KSI corridors and districts**

Vision Zero Task Force
(5) Quick Build Data-Driven Safety Improvements

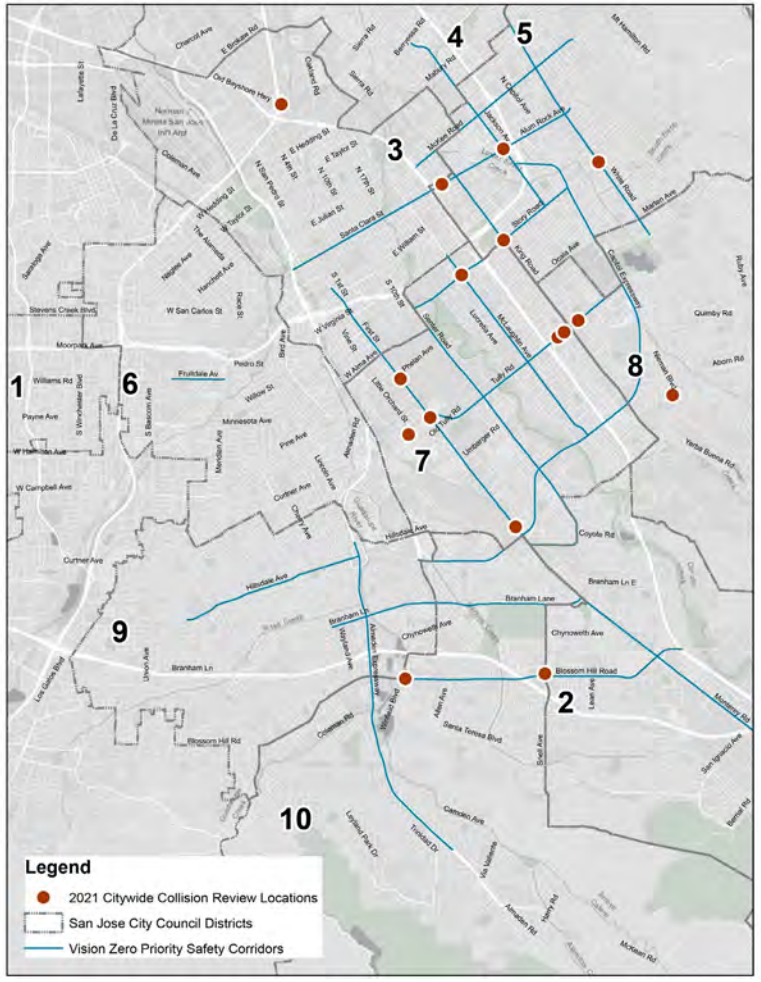


Vision Zero Task Force

(6) Prioritize Resources on High-KSI Corridors and Districts: Citywide Collision Review

16 locations: Selected by crashes, KSI, bike/ped KSI, injuries, other improvements

- Blossom Hill/Snell (CD2/10)
- Old Bayshore/10th St (CD3)
- Story/White (CD5)
- Alum Rock/33rd St (CD5)
- Alum Rock/Jackson (CD5)
- King/Story (CD 5/7)
- McLaughlin/Story (CD7)
- Monterey/Phelan (CD7)
- Monterey/Rancho (CD7)
- Curtner/Tully/Monterey (CD7)
- Curtner/Little Orchard (CD7)
- Alvin/Tully (CD7)
- Seacliff/Tully (CD7)
- Huran/Tully (CD8)
- Daniel Maloney/Nieman (CD8)
- Blossom Hill/Winfield (CD9/10)



Chat Box Question #6

Where might you obtain the data that is needed to develop an HIN? (Answer in chat box)

How to Use Data to Identify High Injury Networks

Katherine Chen, SafeTREC

UC Berkeley SafeTREC

https://safetrec.berkeley.edu/

How to Use Data to Identify High Injury Networks

SCAG Peer Exchange

Katherine L. Chen, MPP
UC Berkeley SafeTREC
June 9, 2021

Overview


1
WHY DATA?
2
SAFE SYSTEM
3
HIGH INJURY NETWORK
& SYSTEMIC ANALYSIS
4
SAFETREC
DATA TOOLS

Importance of Data

In California, from 2010 to 2019 (FARS):

- Traffic deaths increased 32.6%
- Pedestrian deaths increase 61.7%
- Bicyclist deaths increased 33.0%

Helps to determine crash and severity trends to prioritize safety improvements

Critical in competing for data-driven safety funding

Types of Data

- Crash History – SWITRS, CMOD, FARS
- Volume – AADT, ped/bike counts
- Roadway Inventory
- Demographics – Census, ACS
- Other – Needs Assessment, Travel Behavior, Health Data, Street Story, etc.

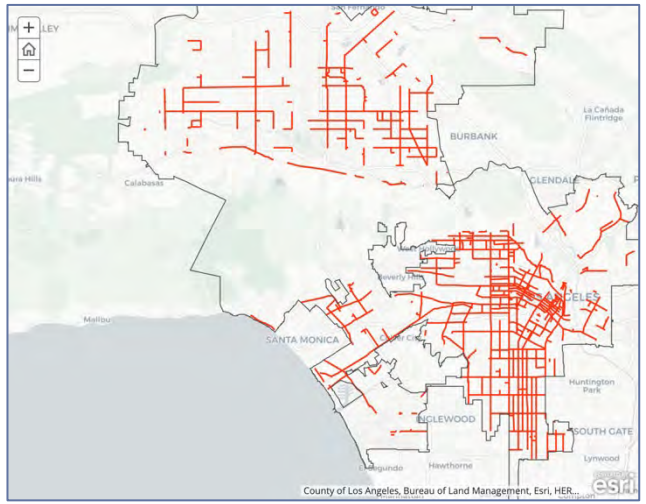
Safe System

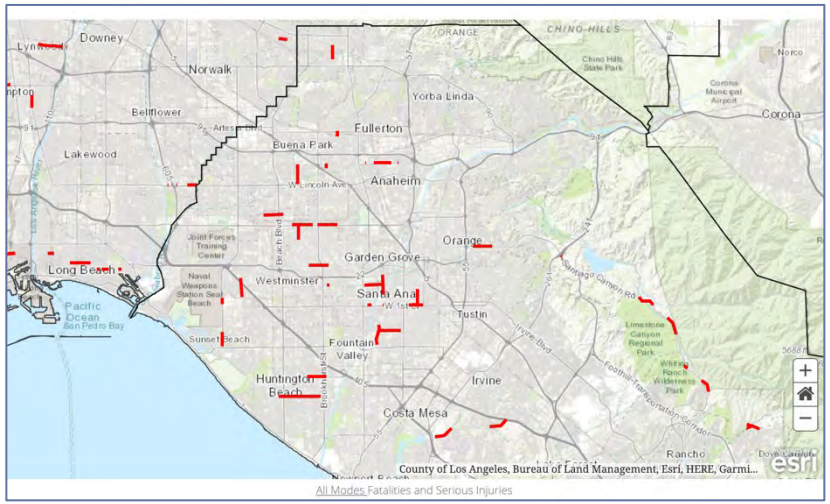
- Supports active transportation, mobility, and safety
- Identifies factors that influence human behavior
- Shares responsibility between all users
- Reduces crash severity

Source: FHWA, 2021

High Injury Network

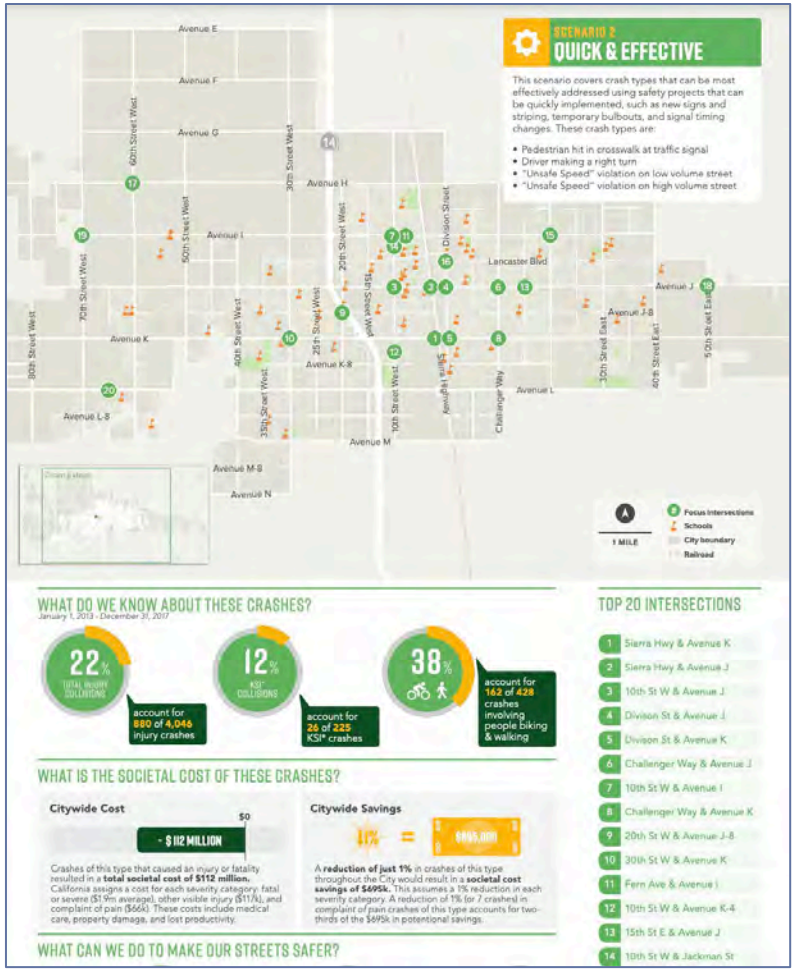
- Identifies where and why crashes occur in large numbers
- Requires sufficient reliable crash data
- Represents a prioritized subset of the transportation network
  - Opportunity for multi-disciplinary engagement and to address issues of equity





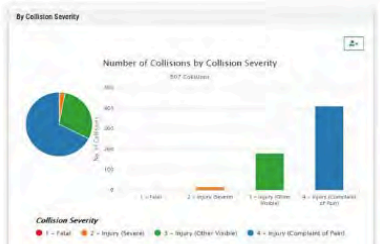
Data & Systemic Analysis

- Uses crash history, roadway context, and land use to identify low-cost countermeasures across the network
- Complements hot-spot analysis and allows for proactive safety improvements in high-risk locations with relatively lower number of crashes



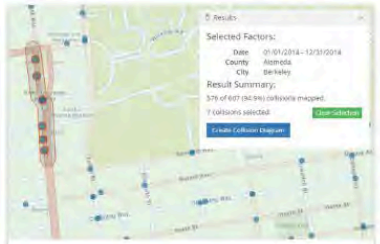
Transportation Injury Mapping System (TIMS)

https://tims.berkeley.edu



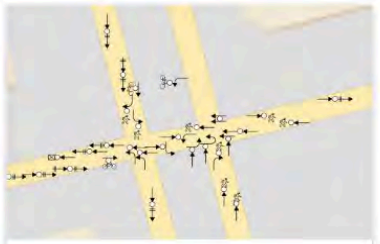
SWITRS Query & Map

A basic tool for accessing fatal or injury collisions from the California Statewide Integrated Traffic Records System (SWITRS).



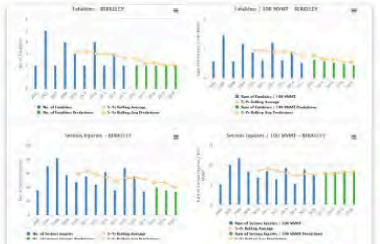
SWITRS GIS Map

The Geographic Information Systems (GIS) offers an interactive map with capability of multiple tasks including Rank by Intersection, Collision Diagram, etc.



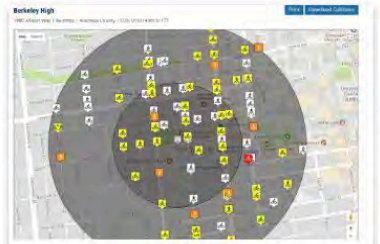
Collision Diagram

The Collision Diagram tool allows users to generate an interactive collision diagram. The Collision Diagram is accessible through SWITRS GIS Map.



California Safety PM Target Setting

California Safety Performance Management (Safety PM) Target Setting Support Tool based on FARS, SWITRS, and HPMS data.

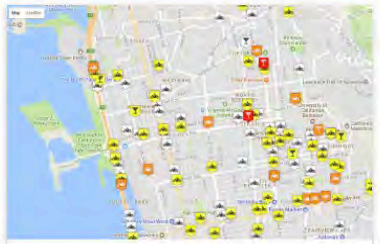


SRTS Map Viewer

Provide a pedestrian and bicycle collision map within half mile radius of public schools in California.

ATP Maps & Summary Data

Utilize multiple collision maps to find pedestrian and bicycle collisions hot spot and generate data summaries within specified project and/or community limits.



Motorcycle Collision Map

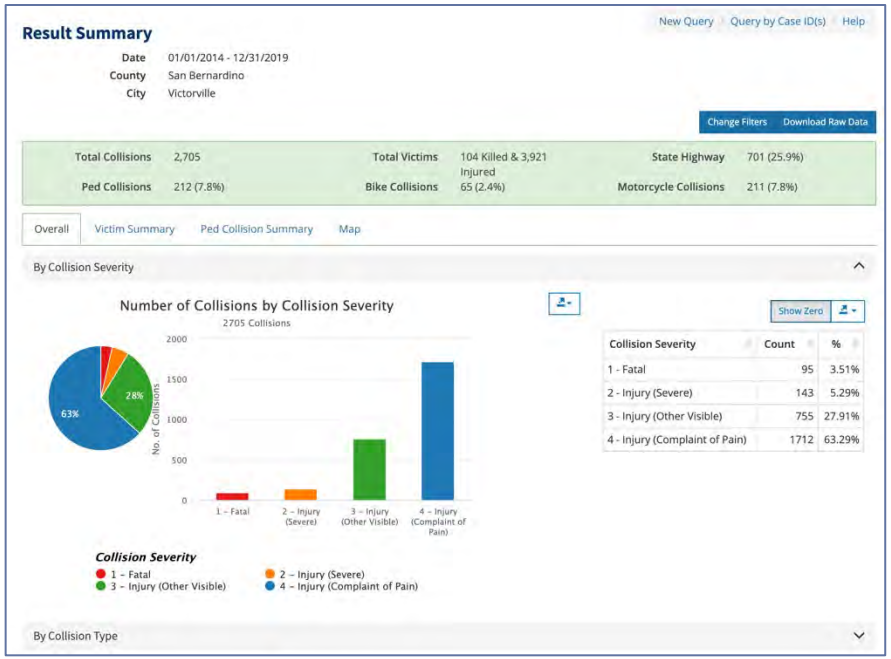
Provide a simple means to explore motorcycle collisions in California by selected county and/or city.

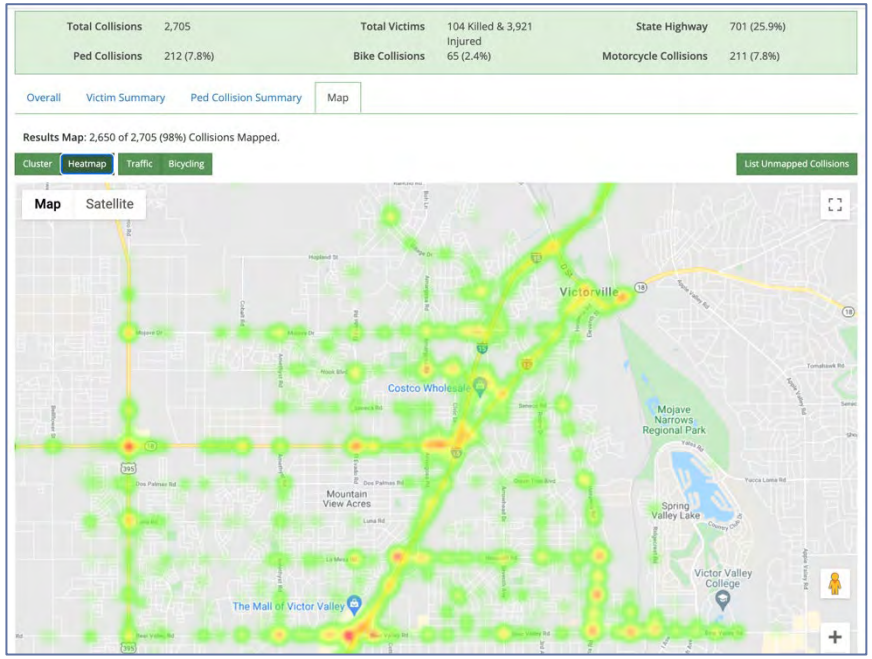
Crashes During COVID19

Monitor the frequency and type of crashes that occur in the weeks prior, during, and after California's stay home order, which went into effect on March 2020 due to the COVID-19 pandemic.

TIMS: SWITRS Query & Map

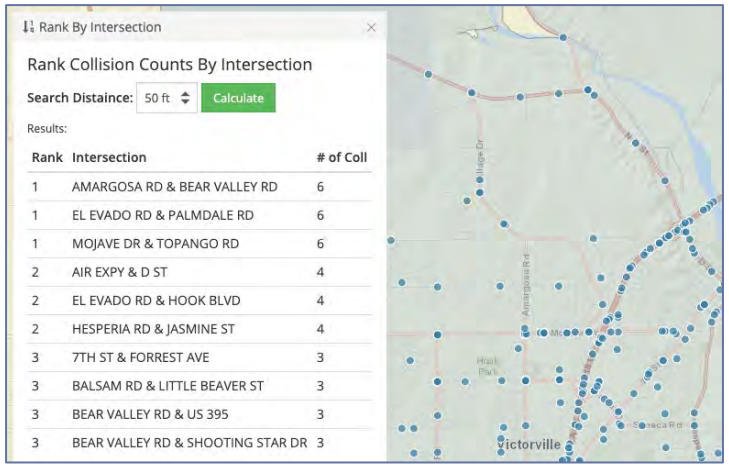
- Geocoded SWITRS data
- Tool for exploring crash data with descriptive analysis, maps, and the ability to export graphs and download the data files

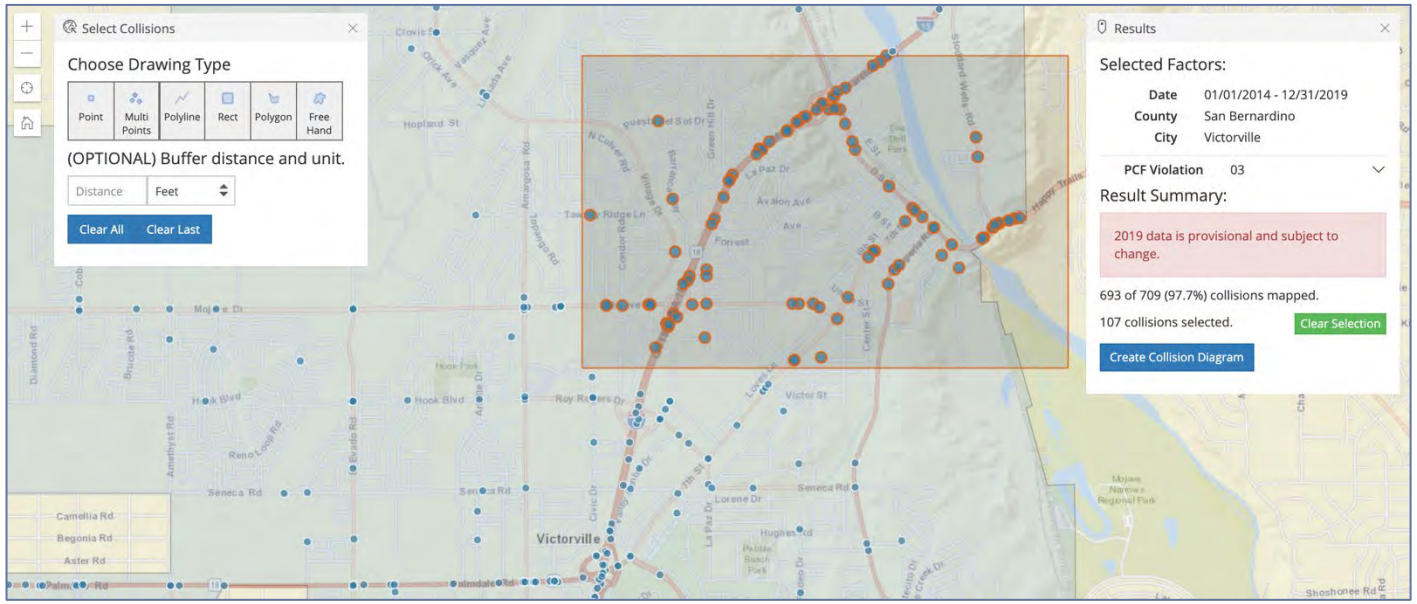


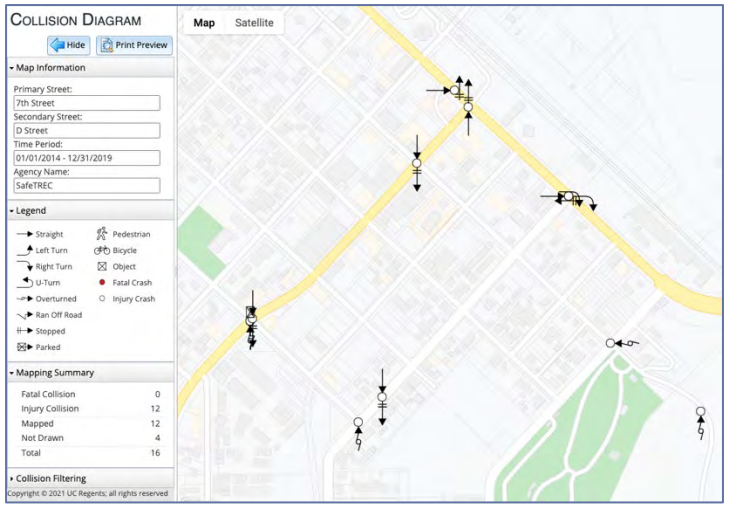


TIMS: SWITRS GIS Map

- Interactive map-centric approach to crash data with spatial analysis, intersection ranking, collision diagrams, and collision summary







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THANK YOU

Berkeley SafeTREC

Chat Box Question #7

How can nonprofits or community-based organizations support the development and implementation of HINs? (Answer in chat box)

A Community Based Organization's Interest in High Injury Networks

Kevin Shin, Los Angeles County Bicycle Coalition

Los Angeles County Bicycle Coalition:
https://www.la-bike.org/

Los Angeles County Bicycle Coalition

Kevin Shin

Senior Director

Policy and Partnerships

kshin@la-bike.org

Who is LACBC?

We are the only Countywide advocacy organization in the transportation justice space

Our community programs and rides are inclusive and support all experience levels

We seek to make the entire LA region a more liveable community by increasing transportation access and choice

How CBOs use HINs

Prioritize Our Work

HINs often inform where many CBOs focus their efforts

Many groups avoid them for rides and events, especially for younger/older or less skilled audiences

Shapes the narrative about what is traffic safety and traffic violence

Create narratives

HINs paint a picture of what traffic safety means for certain communities

Draw from incidents for anecdotal evidence to support changes

Power stories from victims can sway elected officials

Empirical data

Used to create support for legislation

Persuasive arguments for elected officials

Informs the distribution of funding for projects

Problems

Data collection challenges

Data is often incomplete or inaccurate

Heavily dependent upon judgment of individuals

Can be one-sided because victims of fatal collisions get no say in the narrative

Incomplete view of impacts

HINs capture where incidents happen, but not always where there are greatest impacts

Identifies the symptoms, but only offers marginal insight into root causes

How can we address?

Improve data collection practices

Educate leaders and residents to understand broader implications

Carry through studies and tracking that illustrate long-term impacts on communities

Examine deeply to seek out root causes and not just tackle symptoms

Identify solutions that prioritize people over infrastructure

Resources

LACBC Website

la-bike.org

Need a bike?

#LACountyBikeMatch

Bike Friendly Businesses

Metro BEST Classes

Operation Firefly

LACBC Chapters

For more info:

LA County Bicycle Coalition

www.la-bike.org

213.629.2142

Breakout Session

- Learning Objectives
  - How to use data to identify High Injury Networks (HIN)
  - Identify benefits and challenges of HIN development
- Session Purpose
  - How can you apply this information to your work and/or community?

Breakout Session Questions

- What did you hear today that made you think an HIN could be beneficial to your community or if you have an HIN, how it could be improved?

- Did you get any ideas about what could be done to promote more collaboration using the designation of an HIN as the starting point?

- What are some of the obstacles that could prevent you from developing an HIN in your community?

Resources

SCAG's Go Human Traffic Safety Peer Exchanges Evaluation Survey:
https://bit.ly/SCAGExchangeSurvey

Sign up for another Peer Exchange!
https://scag.ca.gov/traffic-safety-peer-exchange-events

We will be posting recordings here:
https://scag.ca.gov/go-human-safety-resources

Upcoming Traffic Safety Peer Exchanges

Date	Time	Topic
6/16	1 p.m.	Making Traffic Safety a Reality: Funding Strategies
6/22	1 p.m.	More Than a Checkbox: Better Community Engagement
6/24	11 a.m.	Traffic Safety is a Public Health Issue: Collaborating to Save Lives
6/29	1 p.m.	Repairing and Investing: Addressing Equity in the Built Environment

Contact the Project Team

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