

STATE ROUTE 138 TRANSPORTATION INITIATIVE

**IN PARTNERSHIP WITH
ASSEMBLEMAN'S CARRILLOS OFFICE**



THE RESEARCH QUESTION:

TO WHAT EXTENT DOES STATE ROUTE 138 EXHIBIT PATTERNS OF SEVERE AND FATAL COLLISIONS, AND HOW CAN DATA-DRIVEN ANALYSIS INFORM ROADWAY SAFETY INTERVENTIONS, ENFORCEMENT STRATEGIES, AND POTENTIAL DESIGNATION AS A STATE PRIORITY SAFETY CORRIDOR?

PROJECT SCOPE AND OVERVIEW

I. INTRODUCTION: PROJECT SCOPE AND COMMUNITY OUTREACH

II. ANALYZING CALTRANS COLLISION DATA OVER 2020-2024

- TEMPORAL PATTERNS OF COLLISIONS
- CRASHES BY POSTMILE

III. LEGISLATIVE RECOMMENDATIONS

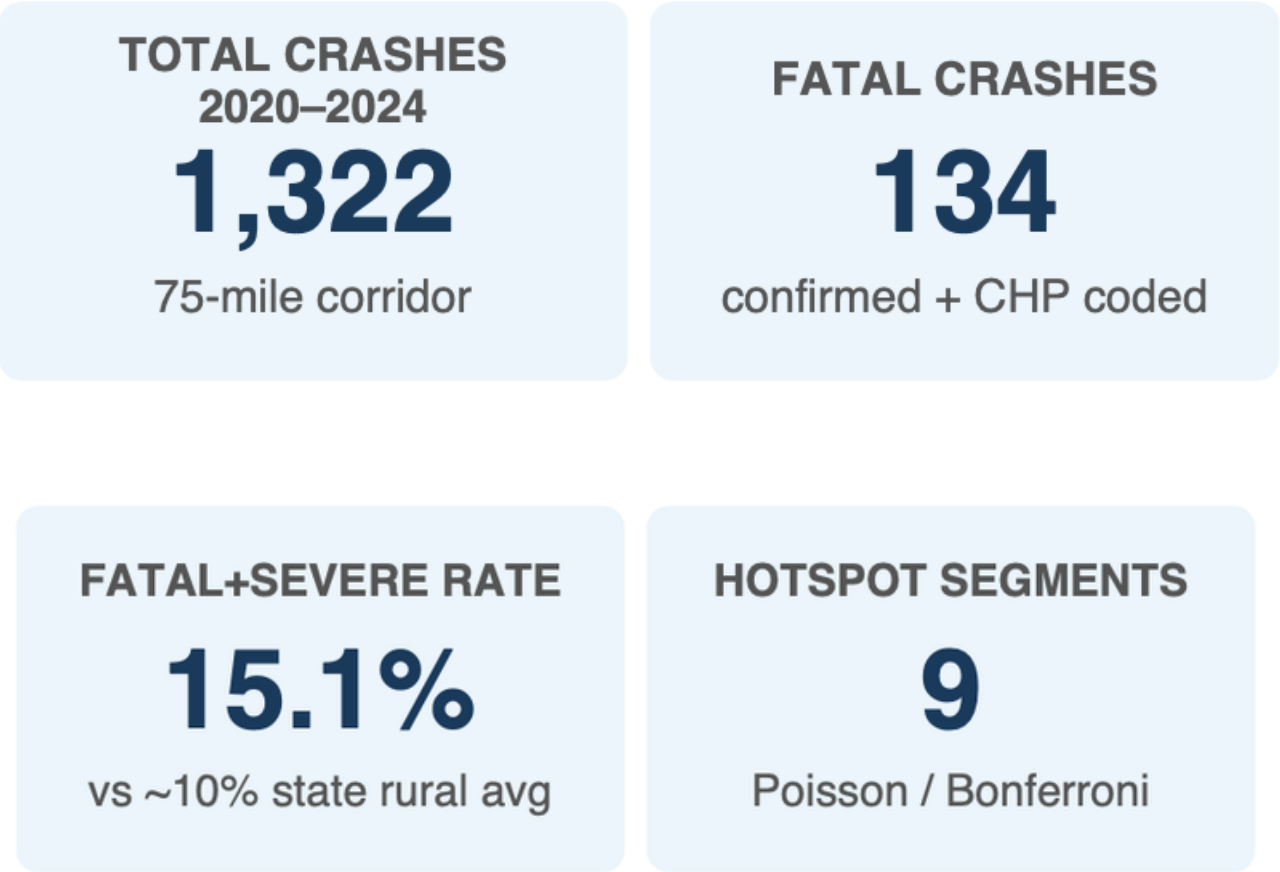
1. CORRIDOR RECOGNITION - CORRIDOR SAFETY PROGRAMS
2. GRANT APPLICATIONS - HSIP CYCLE 13
3. INFRASTRUCTURE DEVELOPMENTS SR 14 MERGER
4. ASSEMBLY BILLS

IV. RECOMMENDATIONS FOR FUTURE RESEARCH



PART 1: DATA ANALYSIS AND FINDINGS

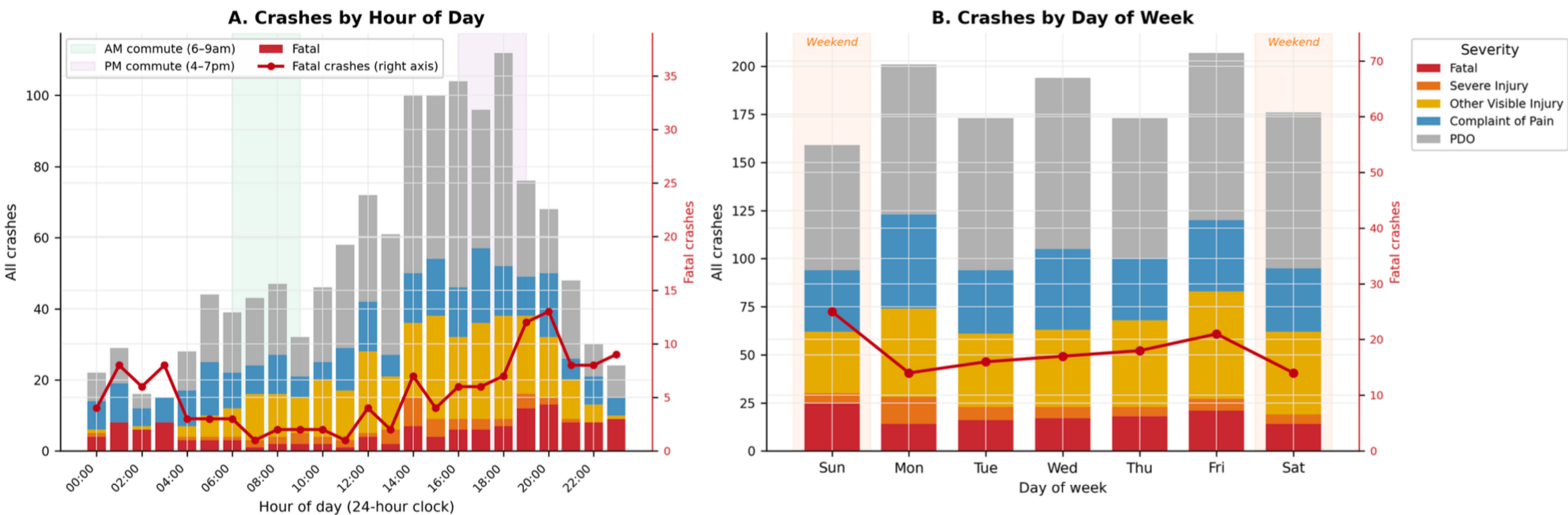
METHODOLOGY



Step 1	Data Acquisition & Preprocessing
Step 2	Descriptive Analysis & Visualization
Step 3	Geospatial Mapping
Step 4	Print-Quality Figures
Step 5	Statistical Hotspot Analysis
Step 6	AADT-Adjusted Crash Rates
Step 7	Location & Infrastructure Type Analysis

TEMPORAL PATTERNS OF COLLISIONS

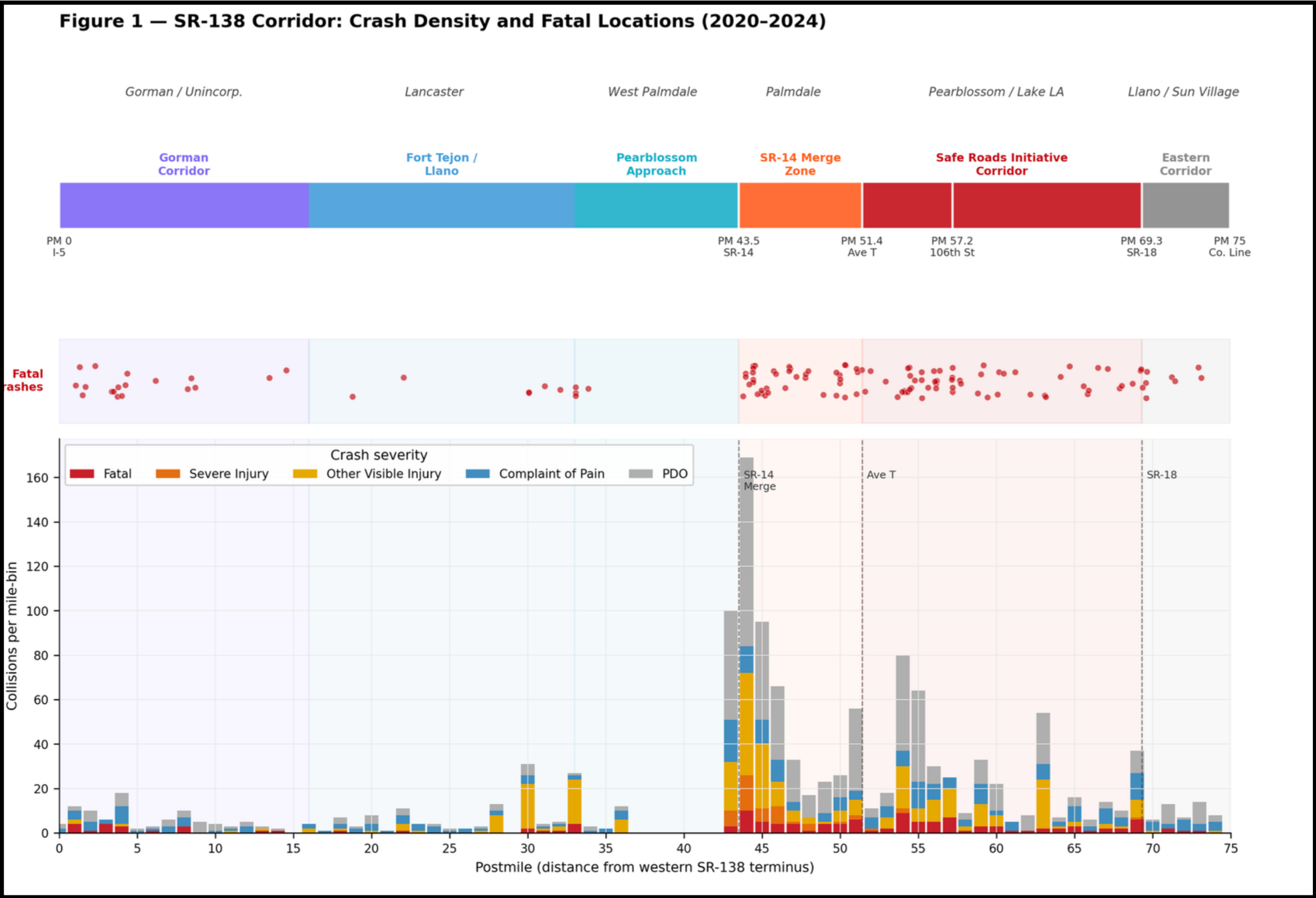
Figure 4 — Temporal Patterns of SR-138 Crashes (2020-2024)



Source: Caltrans TASAS Table B Listing, District 7, SR-138, 2020-2024. Red line = fatal crash count (right axis). Green/purple shading = Lancaster/Palmdale commute windows.

Figure 4.3 — Time-of-day and day-of-week crash patterns: peak risk windows

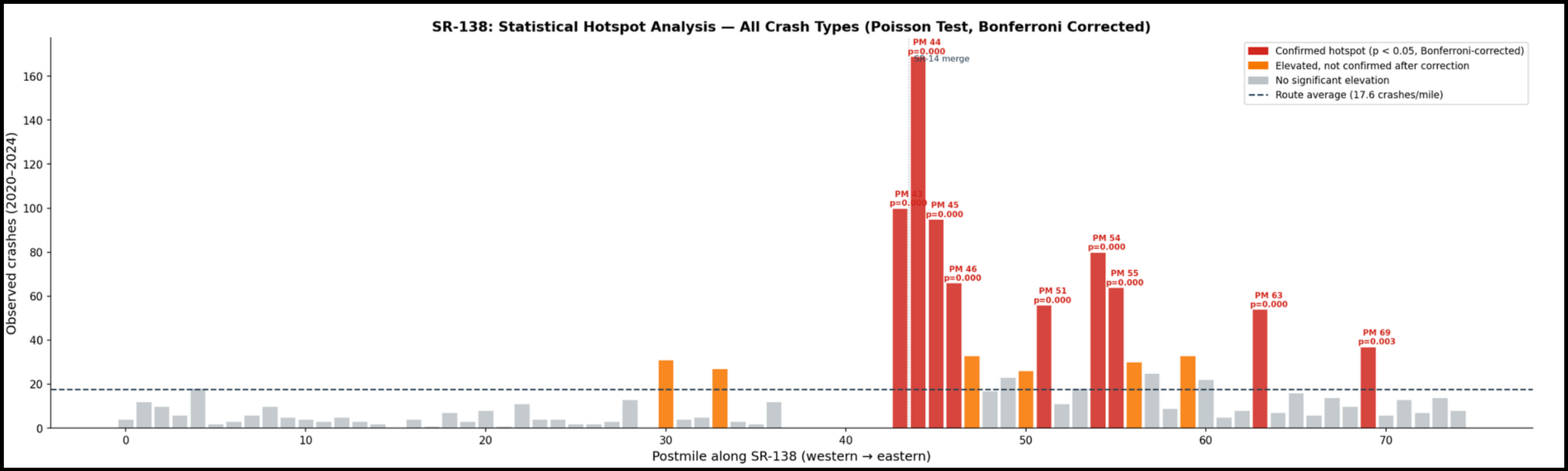
CRASH DENSITY BY POSTMILE



STATISTICALLY CONFIRMED HOTSPOTS

Confirmed Hotspot Segments

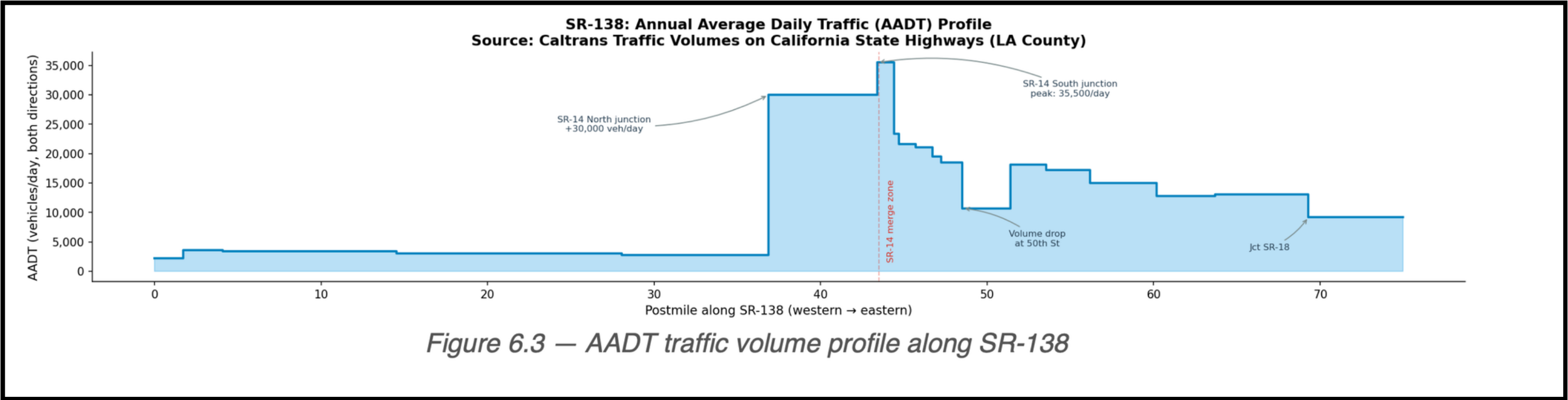
Segment	Observed	Expected	Multiple	Fatal	Severe	Notes
PM 44.0–45.0	169	17.6	9.6×	10	16	★ PRIORITY — 9.6× expected
PM 43.0–44.0	100	17.6	5.7×	3	7	SR-14 interchange approach
PM 45.0–46.0	95	17.6	5.4×	5	6	SR-14 interchange exit zone
PM 54.0–55.0	80	17.6	4.5×	9	2	High fatal concentration
PM 46.0–47.0	66	17.6	3.7×	4	8	Post-interchange transition
PM 55.0–56.0	64	17.6	3.6×	5	0	Dark-condition cluster
PM 51.0–52.0	56	17.6	3.2×	6	2	Pearblossom Hwy intersection
PM 63.0–64.0	54	17.6	3.1×	2	0	Longview Rd area
PM 69.0–70.0	37	17.6	2.1×	6	1	SR-18 approach (fatal cluster)

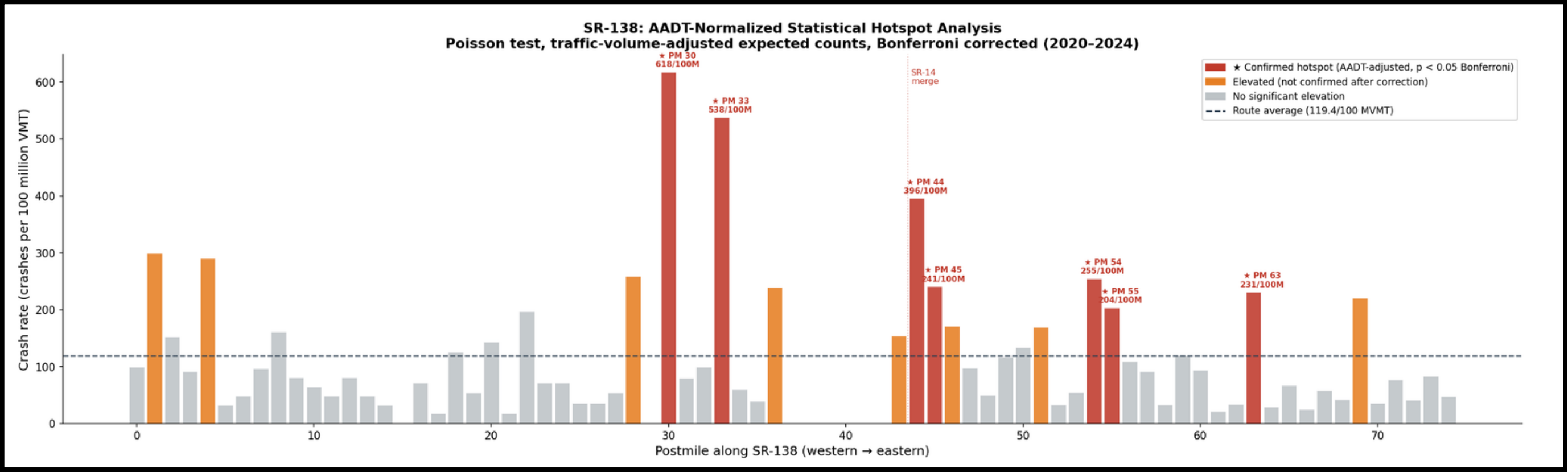


INCORPORATING TRAFFIC VOLUME

AADT Segment Profile (Caltrans Data)

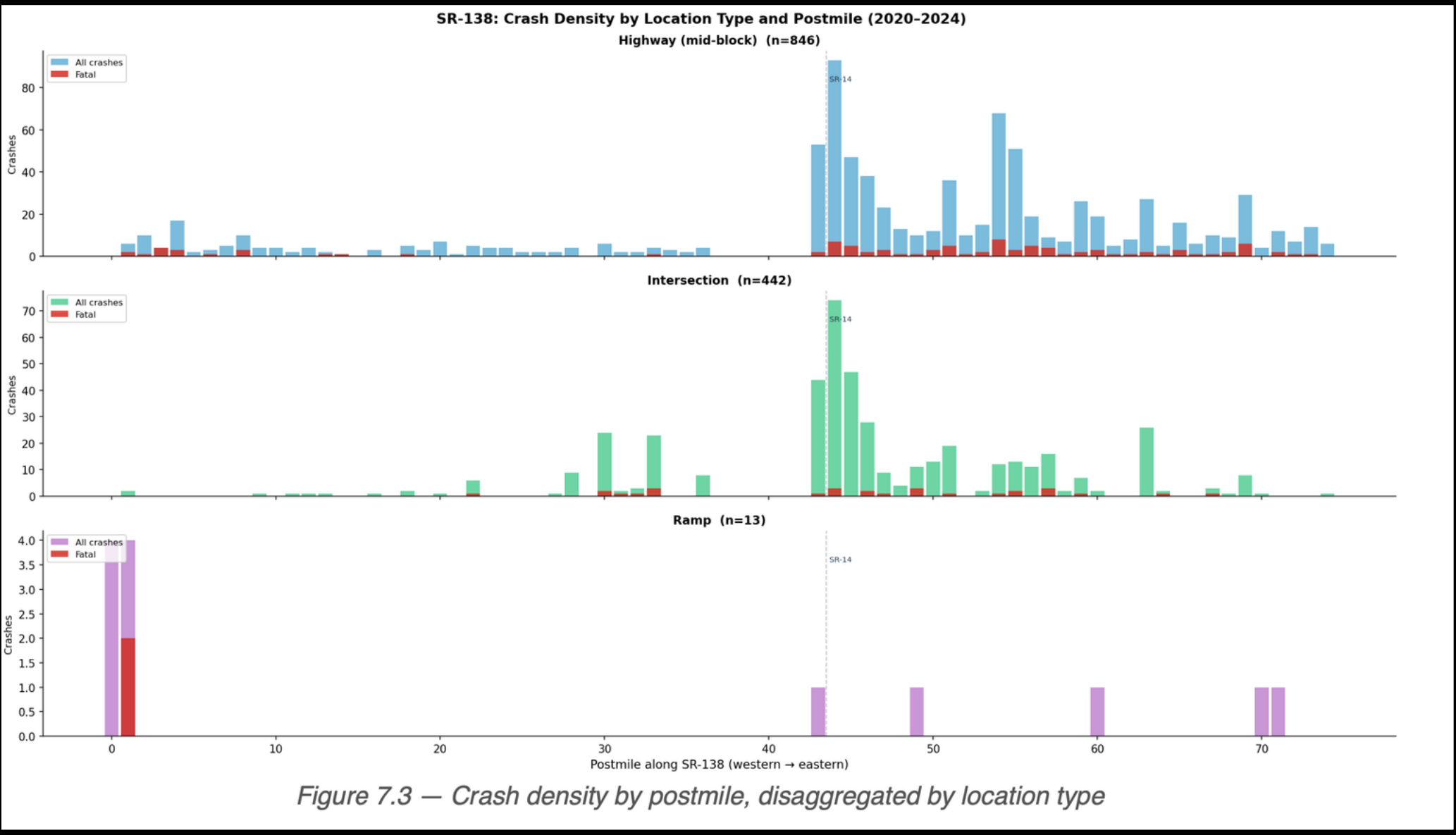
Postmile Range	AADT	Landmark / Context
PM 0.0 – 36.9	2,200 – 3,600	Remote rural / Gorman / Antelope Valley desert
PM 36.9 – 43.4	30,000	SR-14 North junction approach
PM 43.4 – 44.4	35,500 (PEAK)	SR-14 South junction — highest volume on corridor
PM 44.4 – 47.3	18,500 – 23,400	Palmdale urban transition
PM 47.3 – 56.2	10,700 – 18,500	Palmdale / Pearblossom Hwy
PM 56.2 – 74.9	9,200 – 15,000	High Desert rural (to SR-18)





Top Segments by AADT-Adjusted Crash Rate

Segment	Crashes	AADT	Crash Rate (per 100MVMT)	Serious Rate (per 100MVMT)	Sig.
PM 30.0–31.0	31	2,750	618	40	Yes
PM 33.0–34.0	27	2,750	538	80	Yes
PM 44.0–45.0	169	23,400	396	61	Yes
PM 1.0–2.0	12	2,200	299	100	—
PM 4.0–5.0	18	3,400	290	48	—
PM 28.0–29.0	13	2,750	259	0	—
PM 54.0–55.0	80	17,200	255	35	Yes
PM 45.0–46.0	95	21,600	241	28	Yes
PM 36.0–37.0	12	2,750	239	0	—
PM 63.0–64.0	54	12,800	231	9	Yes



Location Type Breakdown

Location Type	Crashes	% of Total	Infrastructure Implication
Highway (mid-block)	896	67.8%	Speed/alignment/run-off-road — rumble strips, curve warning, median treatment
Intersection	465	35.2%	Conflict-point crashes — turn lane improvements, signal timing, advance warning
Ramp	13	1.0%	Merge/weave conflicts — primarily SR-14 interchange ramps

PART 2: LEGISLATIVE PRIORITIES

- (1) CORRIDOR RECOGNITION - CORRIDOR SAFETY CAMPAIGN**
- (2) GRANT APPLICATIONS - HSIP CYCLE 13**
- (3) INFRASTRUCTURE DEVELOPMENTS**
- (4) ASSEMBLY BILLS**

THE TRANSPORTATION FUNDING ECOSYSTEM

Office of Traffic Safety (OTS) Funding:

OTS funding is provided by two federal grant programs, the Federal Highway Administration and the Governors' Highway Safety Association. They combine enforcement measures, educational approaches, and community engagement.

- (1) Federal Highway Administration (FHWA)
- (2) Governors Highway Safety Association (GHSA)

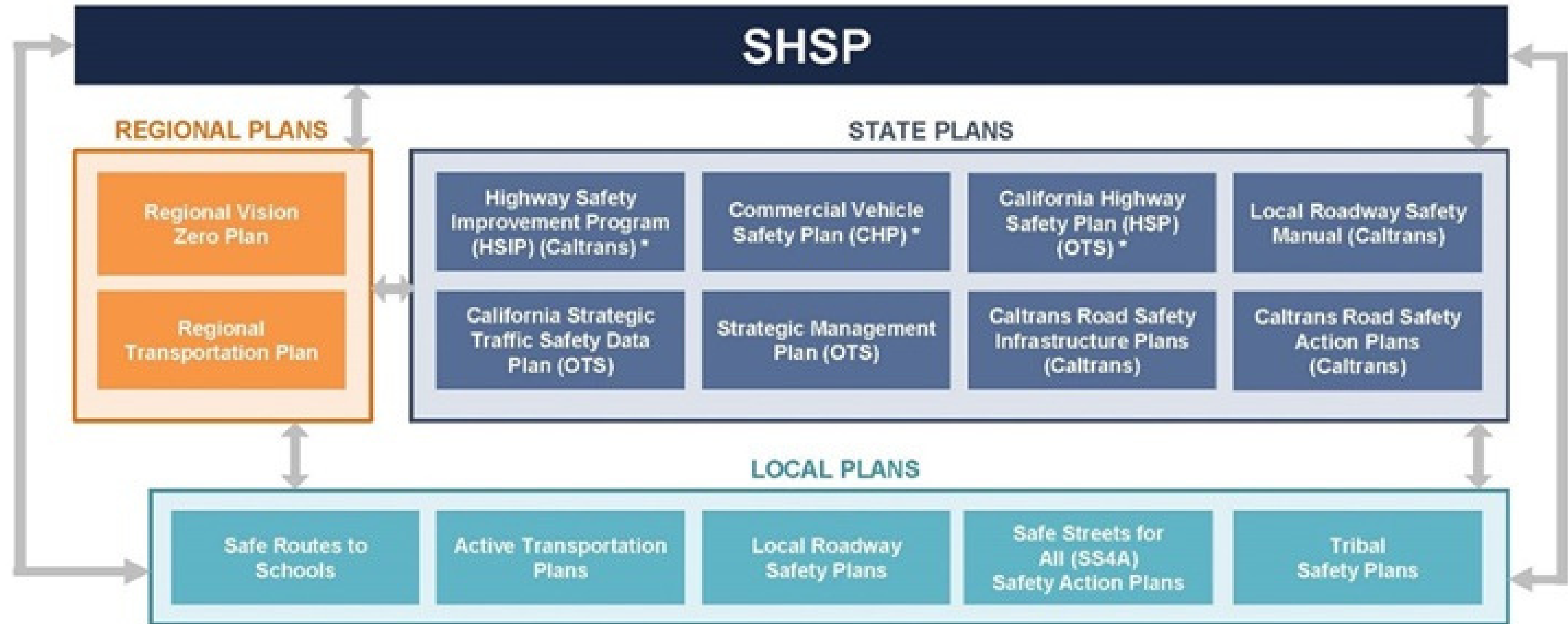
Highway Safety Improvement Program (HSIP)

A federal program created to help states reduce fatalities on all public roads. HSIP projects are selected on the basis of crash experience, crash rate, crash potential, or other data-supported means. Applications are submitted by cities and counties.

- HSIP Cycle 12 (announced Feb 2025): 288 projects totaling \$299.6M.
- HSIP Cycle 13 calls for projects expected in 2026.



OTS- HSIP BRIDGE: CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN (SHSP)



*Mandated coordination with SHSP

Plans outlined above are primary plans related to SHSP, and are not inclusive of all SHSP-related plans

CALIFORNIA DATA-DRIVEN ROAD SAFETY INITIATIVE

CalSTA launched a statewide initiative identifying “State Priority Safety Corridors” using crash-data analysis and UC Berkeley’s SafeTREC’s High Injury Network methodology.

Corridor Selection Factors:

- state highways
- city streets
- county roads

Potential Interventions:

- roadway redesign
- speed management
- education campaigns
- law enforcement partnerships

APPLICATION TO SR-138

- SR-138 data-driven analysis reveals similar high-injury corridor characteristics
- Corridor recognition will strengthen a future OTS grant application
- Supports targeted safety intervention efforts



“SAFE ON 17” PROGRAM



“Safe on 17” Precedent

- Highway 17 identified as a high-collision corridor through crash-data analysis
- Local, regional, county, and state agencies collaborated to prioritize corridor safety
- Agencies jointly pursued OTS grant funding

Key Components

- Data-driven corridor designation
- Multi-agency coordination
- CHP enforcements
- Ongoing funding support
- Public education and roadway safety improvements

APPLICATION TO SR-138

- SR-138 could follow a similar “Safe on 17” model
- Additional SafeTREC crash-data review could strengthen corridor designation
- Coordinated agency collaboration could support future OTS grant opportunities

THE ROUNDABOUT MODEL

Modern Roundabout:

- **The Model:** Implementing an all-encompassing design based on the Caltrans District 7 / Avenue M Interchange project to replace traditional signalized ramp terminals.
- **The Problem:** Traditional signals at major SR 138 intersections (Avenues J, K, M) create massive peak-hour queues that spill backward onto the freeway mainline, causing severe rear-end collisions.
- **HSIP Cycle 12 Alignment & Performance Benefits:**
 - **Elimination of Severe Conflicts:** Slashes intersection conflict points from 32 down to 8, virtually wiping out high-speed T-bone and head-on crashes.
 - **Continuous Flow & Queue Relief:** Replaces stop-and-go signals with a continuous yield-and-go flow, completely preventing hazardous freeway backups.
 - **Geometric Speed Calming:** Forces drivers transitioning from a 70-mph environment to naturally decelerate to 15–20 mph, instantly creating a safer environment for local traffic.



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PROJECTS REFLECTED IN CYCLE 12

Dedicated Turn Lanes:

- **Conflict Reduction:** Construction of turn lanes physically separates turning vehicles from 70-mph through-traffic.
- **Speed Differential:** Minimizes rear-end and T-bone collisions by smoothing traffic flow.
- **HSIP Alignment:** Directly addresses HSIP "Intersection Management" focus areas with high CRFs.

Rumble Strips:

- **Combatting High-Desert Fatigue:** Systemic installation of shoulder rumble strips provides auditory and tactile warnings for distracted or drowsy commuters.
- **HSIP Strategic Focus:** Targets High Risk Rural Roads (HRRR) where run-off-road (ROR) fatalities are most prevalent.

Midwest Guardrail (MGS):

- **EV Compatibility:** Engineered for high-center-of-gravity Electric Vehicles to prevent vaulted rollovers.
- **MASH Compliance:** Upgrading legacy 27" barriers to 31" MGS standards to ensure containment stability.



[HTTPS://WWW.SINOCONCEPT.CO.UK/WP-CONTENT/UPLOADS/FORMED-RUMBLE-STRIPES.JPG](https://www.sinoconcept.co.uk/wp-content/uploads/formed-rumble-strips.jpg)

[HTTPS://ROADSYSTEMS.COM/WP-CONTENT/UPLOADS/2017/08/SKT-SP-MGS-FOR-MGS-PAGE-768X576.JPG](https://roadsystems.com/wp-content/uploads/2017/08/skt-sp-mgs-for-mgs-page-768x576.jpg)

Requirement: Local agencies must prove CEQA Readiness and have a certified LRSP on file to secure Cycle 13 allocations.

ASE LEGISLATION: AB 645 & AB 289

AB 645:

- Signed October 2023
- Speed camera pilot program in 6 cities
 - San Francisco, Los Angeles, Oakland, Glendale, San Jose, and Long Beach
- Authorizes ASEs on local roads within high-injury zones

AB 289:

- Signed October 2025
- Authorizes Caltrans to deploy ASEs on work zones
 - Is applicable to state highways
- Aims to reduce crash severity and protect road workers

Program/ Jurisdiction	ASE Type	Key Safety Outcome	Source
San Francisco, CA - AB 645 Pilot	Fixed cameras, local streets	72% avg. speed reduction at 15 camera sites	SFMTA, 2025
Delaware - Work-Zone ASE	Mobile & fixed work-zone cameras	46% total crash reduction; 38% injury crash reduction	Delaware DOT (cited in AB 289 Analysis, 2025)
Pennsylvania - Work-Zone ASE	Fixed work-zone cameras	Annual crashes: ~1,800 → ~1,300 over 4 years; speeding violations down 29%	Pennsylvania DOT (cited in AB 289 Analysis, 2025)
Maryland - National Work Zones	Mobile cameras	Speeding violations down 80%; crashes down 20%	AB 289 Assembly Analysis, 2025
Scottsdale, AZ - Urban Freeway	Fixed cameras, 6.5-mi. segment	Total crashes down 44-54%; injury crashes down 28-48%	NHTSA (cited in AB 289 Analysis, 2025)

Potential Path to Legalize ASEs on SR-138:

Currently:

- SR-138 is a state highway; ASEs aren't allowed under AB 645 even if a city along it chose to enroll in the pilot program
- Work zones on SR 138 allow ASEs under AB 289, but will not be permanent

Amending AB 289:

- Expand ASE deployment from work zones to other dangerous corridors
- Model it after AB 289 and AB 645's language
 - Privacy guardrails
 - Income graduated fines
 - Mandatory reporting to legislature



PART 3: WHAT'S NEXT?

(1) ACTIONS STEPS

(2) AVENUES FOR FURTHER RESEARCH

ACTION STEPS:

(1) Commission a SafeTREC Corridor Assessment on SR-138

Objective: Convert our analysis into institutionally credible documentation that Caltrans, OTS, and FHWA applications will accept. SafeTREC (UC Berkeley's Safe Transportation Research and Education Center).

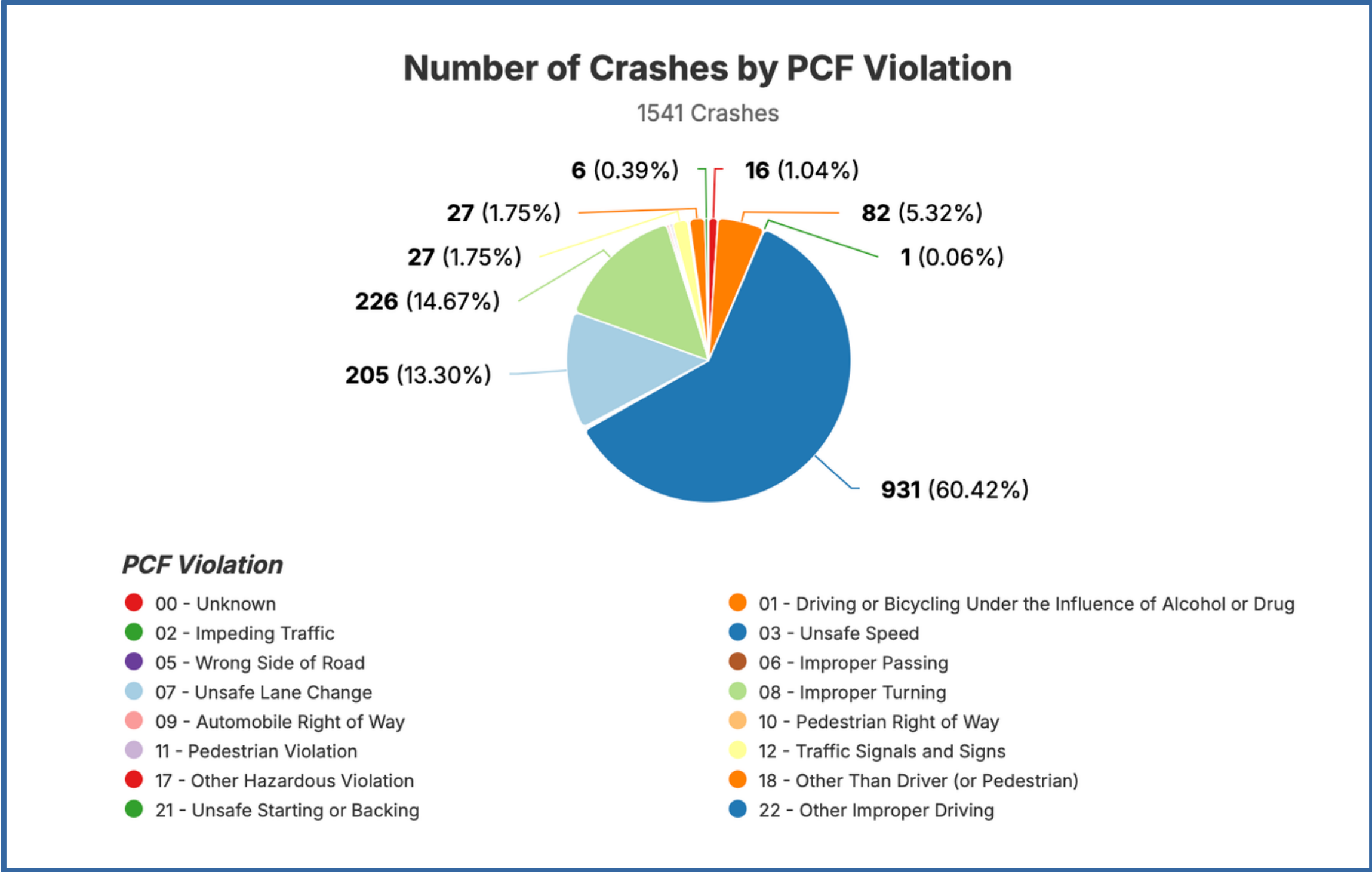
(2) Formally request Caltrans District 7 to nominate SR-138 projects into the next HSIP cycle/ Pursue Designation through CalSTA

Objective: Within a request or application, show that the SR-138 Corridor aligns with SHSP safety objectives and utilizes the formalized data to strengthen designation.

(3) Convene an SR-138 Safety Task Force using the Safe on 17 model

Objective: Convene an initial meeting of transportation authorities to review data and prepare for OTS grant applications (Corridor Safety Program Grant). The first meeting should include Caltrans District 7, CHP Inland Division, LA County and San Bernardino County transportation staff, and any community groups already organized around the issue.

UC Berkeley TIMS SWITRS Query



COMMUNITY OUTREACH

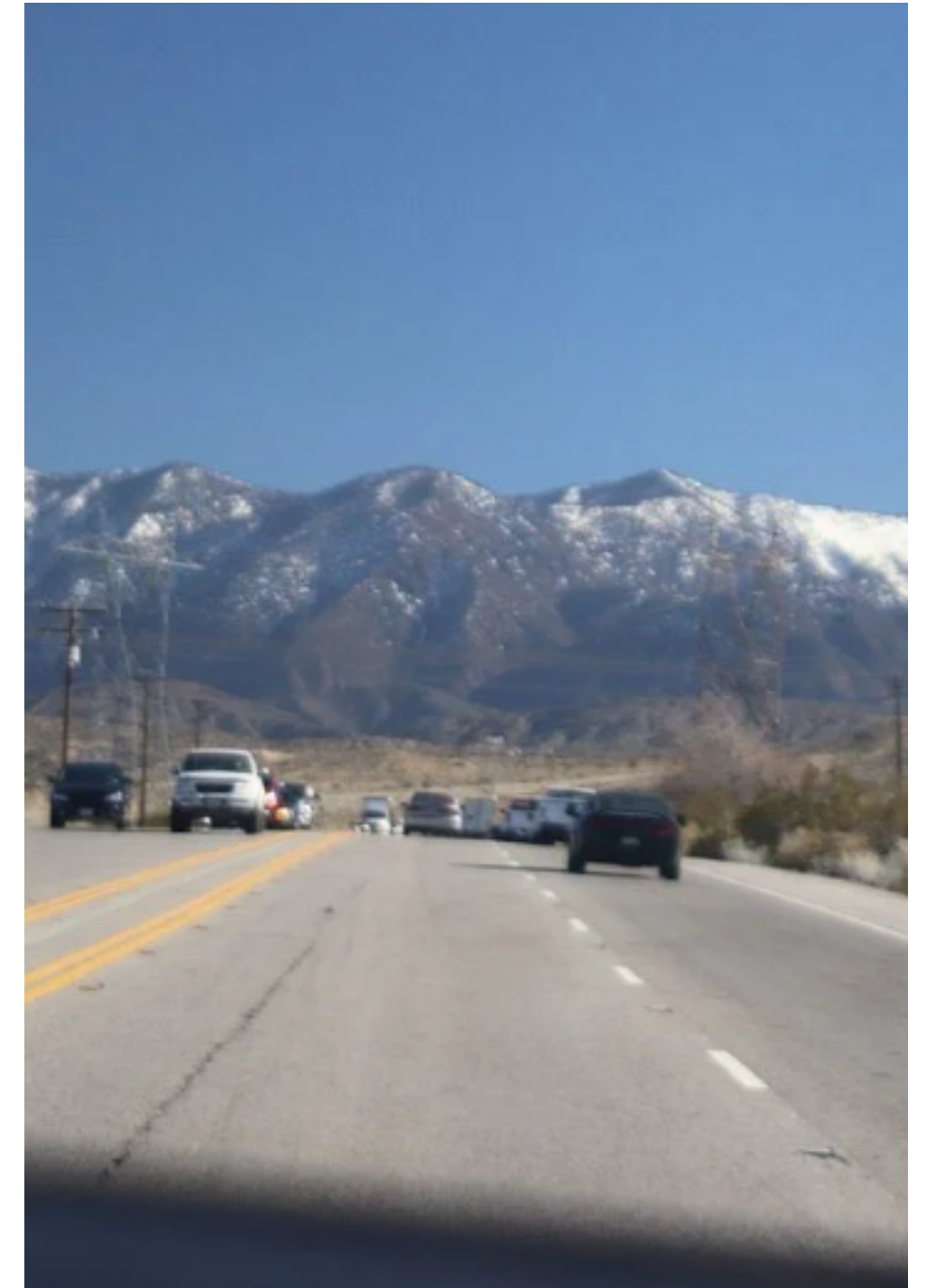
THE PEARBLOSSOM SAFEROADS INITIATIVE:

1. SPEEDING

A. INTEGRATION OF COUNTY AND STATE ROADS

2. LACK OF ENFORCEMENT

A. NEED FOR MORE VISIBLE CHP PRESENCE





QUESTIONS FOR THE TEAM?