OAKLAND'S STREET INFRASTRUCTURE AND POLICING:

Preliminary analysis of (1) the effects of street infrastructure projects on street safety and police activity in Oakland and (2) the City of Oakland's budget

PREPARED BY:

Natalie Martinez and Jenny Guarino

UC Berkeley's College of Environmental Design & Goldman School of Public Policy

December 2024

TABLE OF CONTENTS

Executive Summary

Introduction and Rationale

The city of Oakland, California is experiencing a traffic safety crisis, with high levels of severe and fatal traffic collisions disproportionately occurring in Oakland's Priority Equity communities[1]. The Equity Priority Communities are census tracts that have a significant concentration of underserved populations due to background or socioeconomic status. This framework is used primarily by the Bay Area Metropolitan Transportation Commission (MTC) to prioritize funding[2]. These communities of underserved populations largely overlap with the High Injury Network (HIN). Two Oaklanders per week are killed or severely injured due to traffic collisions, and there are clear racial, geographic, and age disparities in who is impacted[3].

To address the traffic safety crisis, the City created the Safe Oakland Streets (SOS) initiative to prevent serious and fatal traffic collisions and eliminate collision inequities on Oakland's streets. This initiative is reflective of the nationwide movement Vision Zero with the same mission[4], though SOS is specific to Oakland and considers the context of historical racial disparities in infrastructure. The Oakland Department of Transportation (OakDOT) is primarily responsible for SOS programs including the High Injury Network and Major Streets Projects.

Our project was largely inspired by the report *Decarcerating Transportation - a Mobility Justice Framework*, by the Anti-Police Terror Project. This report gives background on the link between transportation and the criminal legal system and the negative repercussions especially for communities of color. It also provides a roadmap with concrete policy recommendations for localities to take on the task of decarcerating transportation, with the goals of removing police from public transit and traffic enforcement, universalizing accessibility to public transportation, and ending punitive systems involving fines and fees that further exacerbate financial insecurities of marginalized communities[5].

Our report is timely because the Oakland Police Department (OPD) reintroduced its Traffic Enforcement Unit in 2022, thereby increasing the contact with police for Oakland

[1] City of Oakland. "Traffic Fatalities in Oakland, California." *City of Oakland*, https://www.oaklandca.gov/topics/traffic-fatality-tracking#:~:text=in%20Oakland%2C%20California-,Traffic%20Fatalities%20in%20Oakland%2C%20California,a%2010.5%25%20increase%20from%202020.

[2] Metropolitan Transportation Commission. "Equity Priority Communities." *Metropolitan Transportation Commission*, https://mtc.ca.gov/planning/transportation/access-equity-mobility/equity-priority-communities.

[3] City of Oakland. "Safe Oakland Streets." *City of Oakland*, https://www.oaklandca.gov/topics/safe-oakland-streets#:~:text=Every%20week%2C%20two%20Oaklanders%20are,for%20more%20information%20and%20references.).

[4] Vision Zero Network. *Vision Zero Network*, https://visionzeronetwork.org/.

[5] Anti Police-Terror Project. "Decarcerating Transportation." *Anti Police-Terror Project*, https://www.antipoliceterrorproject.org/decarcerating-transportation.

residents. Racial disparities in traffic enforcement in Oakland have persisted for decades[6], and OPD has been under federal oversight for over 20 years[7].

To understand Oakland's traffic safety and its relationship to policing, we ask the following questions:
1. Do street infrastructure projects on corridors within Oakland's High Injury Network have an effect on street safety and/or police activity? (explored in our Corridor Analysis section)
2. What does the city budget, specifically for OakDOT and OPD, tell us about traffic enforcement in Oakland? (explored in our Budget Analysis section)

Summary of Recommendations

Before this analysis, we conducted interviews with various Bay Area-based transportation experts to gain an understanding of the current state of traffic safety in Oakland, its relationship with policing, and possible sources of data. These experts include community advocates, researchers, and Oakland City staff.

After analyzing collision data and police stop data (including traffic enforcement) in Oakland and reviewing recent budget reports and audits, we have developed the following recommendations for the City of Oakland:
1. Prioritize investment in OakDOT traffic calming measures, which effectively promote street safety and reduce police activity, over OPD traffic enforcement
2. Audit OPD's overtime spending, which is largely responsible for the City of Oakland's current deficit
3. Reconsider and implement certain recommendations made by the Reimagining Public Safety Task Force, which would reallocate funds from OPD to other areas that increase public safety
4. Advocate that the State of California allow civilian staff to handle non-moving and some moving violations

---

[6] City of Oakland. "2022 Safe Oakland Streets Report." *Public Works and Transportation Committee Agenda Report*, 23 May 2023, https://cao-94612.s3.us-west-2.amazonaws.com/documents/05.23.23-PWTC-23-0251-2022-Safe-Oakland-Streets-REPORT.pdf#:~:text=(CAO)%2C%20the%20Oakland%20Police%20Department%20(OPD)%2C%20and%20the&text=the%20reintroduction%20of%20OPD%27s%20Motor%20Enforcement%20Traffic%20Squad%20at%20the%20end%20of%20the%20year.

[7] Dembosky, April. "In Oakland, More Data Hasn't Meant Less Racial Disparity During Police Stops." *NPR*, 8 Aug. 2018, https://www.npr.org/2018/08/08/636319870/in-oakland-more-data-hasnt-meant-less-racial-disparity-during-police-stops.

Background on Key Topics

The majority of Oakland's traffic collisions are due to speeding[8]. These collisions are along Oakland's High Injury Network which is mostly in Oakland's Equity Priority Concerns[9]. OakDOT has been reinvesting in these roads with more than 100 projects in the works repaving streets and installing traffic calming designs[10]. As part of the SOS initiative, the city of Oakland allocated $800,000 for minor traffic improvements[11]. Studies have found that roads with narrow lanes and other traffic calming measures slow drivers down[12]. Various forms of traffic calming like speed bumps and median islands, all have various levels of effectiveness to reduce speed[13]. For example, the City of Sunnyvale, CA saw the 85th percentile speed decrease by 8.5 miles after one month of implementing a median island,a speed hump, and a traffic circle[14]. Furthermore, high-density intersections and high levels of street activity slow drivers down and reduce traffic collisions[15]. Drivers may take some time adjusting to the new traffic calming measures; number of collisions often fluctuate directly after the installation of these measures[16]. Collisions often stabilize and decrease after 12 months[17]. Arterial roads with wider lanes increased traffic collisions, specifically more severe injury collisions (Lovegrove and Sayed, 2006). These kinds of roads are prominent in Oakland's High Injury Network HIN, such as High Street and International Boulevard.

The National Highway Traffic Safety Administration found that traffic collisions in the United States were on the rise for several years peaking at 6.8 million reported collisions in 2016. These collisions stayed in the 6 million range until 2020, which most likely was affected by COVID-19 stay-at-home orders. Traffic collisions rose in 2021, but fell in 2022 and early estimates show another decrease in 2023[18]. However, fatal traffic crashes

[8] City of Oakland. "Safe Oakland Streets." *City of Oakland*, https://www.oaklandca.gov/topics/safe-oakland-streets#:~:text=Every%20week%2C%20two%20Oaklanders%20are,for%20more%20information%20and%20references.).

[9] Alejo-Alvarado, Jonathan. *Developing Safe and Equitable Transportation Policies for Oakland's Most Vulnerable Road Users.* Safe Transportation Research and Education Center (SafeTREC), University of California, Berkeley, https://safetrec.berkeley.edu/sites/default/files/alejoalvarado_safetrec_final.pdf.

[10] City of Oakland. "Active Major Improvements Project." *City of Oakland*, https://www.oaklandca.gov/resources/active-major-improvements-project.

[11] City of Oakland. *2021 Informational Report.* https://cao-94612.s3.us-west-2.amazonaws.com/documents/Filed-2021-Informational-Report.pdf.

[12] Ewing, R., & Dumbaugh, E. (2009). The Built Environment and Traffic Safety: A Review of Empirical Evidence. *Journal of Planning Literature*, *23*(4), 347-367. https://doi.org/10.1177/0885412209335553

[13] California Department of Transportation. *Traffic Calming Guide for Local Agencies.* https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/traffic-calming/final-traffic-calming-guide_v2-a11y.pdf.

[14] Federal Highway Administration. "Module 8: Traffic Calming Case Studies." *Traffic Calming ePrimer*, https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-8-traffic-calming-case-studies.

[15] Dumbaugh, E., & Rae, R. (2009). Safe Urban Form: Revisiting the Relationship Between Community Design and Traffic Safety. *Journal of the American Planning Association*, *75*(3), 309–329. https://doi.org/10.1080/01944360902950349

[16] Cheng, W., & Washington, S. (2008). New Criteria for Evaluating Methods of Identifying Hot Spots. *Transportation Research Record*, *2083*(1), 76-85. https://doi.org/10.3141/2083-09

[17] Retting, Richard A; Ferguson, Susan A; McCartt, Anne T. "*A review of evidence-based traffic engineering measures designed to reduce pedestrian-motor vehicle crashes*." American Journal of Public Health; Washington Vol. 93, Iss. 9, (Sep 2003): 1456-63. *ProQuest*, https://www.proquest.com/docview/215100657?sourcetype=Scholarly%20Journals.

[18] National Highway Traffic Safety Administration. (2023). *NHTSA releases 2022 traffic death data and early estimates for 2023*. U.S. Department of Transportation. https://www.nhtsa.gov/press-releases/2022-traffic-deaths-2023-early-estimates

increased 30 percent from 2013-2022. Despite this, traffic fatalities have decreased since 2021.

While it may be hard to point to exactly why collisions have gone down, adding traffic calming measures to busy streets could be a major factor[19]. Traditionally, it was thought that police enforcing traffic safety decreased collisions and could even save one life for $309,000[20]. However, traffic stops have decreased since the pandemic, while traffic collisions and fatalities have fallen[21].

Oakland Police Department pulled back from traffic stops in 2016, as part of their Strategic Plan 2016[22]. By 2018, the traffic stops had decreased by almost 50 percent[23]. Stanford University published a report on race relations between OPD and the Oakland community, entitled Strategies for Change, providing evidence of racial discrimination in stops and searches[24].

[19] Sam Raim. "Police Are Stopping Fewer Drivers — and It's Increasing Safety." Vera Institute of Justice, July 7, 2018. https://www.vera.org/news/police-are-stopping-fewer-drivers-and-its-increasing-safety.

[20] DeAngelo, G., & Hansen, B. (2014). Life and Death in the Fast Lane: Police Enforcement and Traffic Fatalities. *American Economic Journal: Economic Policy*, 6(2), 231–257. http://www.jstor.org/stable/43189384

[21] Bui, Q., & Badger, E. (2024, July 29). *Traffic enforcement dwindled. Here's what replaced it. The New York Times.* https://www.nytimes.com/interactive/2024/07/29/upshot/traffic-enforcement-dwindled.html

[22] "Oakland Police Department - Strategic Plan 2016," December 28, 2015. https://s3-us-west-1.amazonaws.com/waterfrontballparkdistrict.com/10.%20Remainder/AR%200049554-%20AR%200049595.pdf.

[23] Haazziq Madyun. "Oakland Police Change Tactics to Reduce Number of Traffic Stops | KRON4," November 18, 2019. https://www.kron4.com/news/bay-area/oakland-police-change-tactics-to-reduce-number-of-traffic-stops/.

[24] "Strategies for Change: Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, Calif.," June 15, 2016. https://oaklandca.s3.us-west-1.amazonaws.com/government/o/OPD/a/data/stop/oak059292.pdf.

Corridor Analysis

Study Design

Sample:	9 HIN corridors that received street infrastructure projects
Treatment:	Street infrastructure projects (ranging from 2016 to 2020)
Variable 1:	Collisions from 2014-2023 (measure of street safety)
Variable 2:	Police stops from 2014-2023 (measure of police activity)
Control:	Oakland-wide HIN corridors
Test:	Difference in Differences (DiD)

We completed preliminary analysis to study the relationships between street infrastructure projects, street safety, and police activity in Oakland. We used rates of traffic collisions as our measure of street safety, and rates of police stops (including for traffic enforcement) as our measure of police activity. We chose 9 unique corridors on Oakland's HIN that received completed infrastructure projects ranging from 2016 to 2020. The collisions and stops were mapped onto the designated corridors using ArcGIS Pro.

We found that both stops and collisions have been decreasing citywide, on the HIN, and on our 9 project corridors. We performed a Difference in Differences (DiD) test to compare the reduction in collisions and stops on the 9 project corridors before and after the treatment compared to the city-wide HIN corridors.

Methodology & Data

Corridor Selection

We used the following metrics to select the 9 HIN corridors that received street infrastructure projects:
1. The street infrastructure projects are listed on OakDOT's Major Projects List
2. The projects were completed from 2016-2020
3. The corridors are on Oakland's 2024 HIN or directly adjacent

OakDOT provided their Major Streets Projects file as a Feature Polyline Layer that contains 128 major OakDOT projects starting in 2016. The project phases range from "Planned" to "Construction" to "Completed," and the sizes range vastly from specific intersections to entire street lengths. We excluded projects completed after 2020 because studies have shown that it often takes a year or so after a traffic project is implemented before it effectively improves safety[25][26]. Drivers who frequent the treatment corridor often need some time to adjust to the new features, which may actually increase minor collisions in the months and years directly following implementation.

We chose to examine completed projects on the HIN, on the edge of the HIN, or intersecting the HIN given the importance of the High Injury Network in Oakland's current traffic safety crisis and its relationship to Equity Priority Communities. A total of 11 projects were completed on the HIN from 2016-2020. However, we decided to separate the HSIP 6 Downtown projects into corridors because it was made up of multiple polylines. We also excluded the Bus Rapid Transit Corridor Project on International Boulevard because the project was much geographically larger compared to the others.

This resulted in a total of 9 unique corridors that meet our metrics listed above. Please see Figure 2 for the relevant map and Table 1 for the project descriptions.

---

[25] Cheng, W., & Washington, S. (2008). New Criteria for Evaluating Methods of Identifying Hot Spots. *Transportation Research Record*, *2083*(1), 76-85. https://doi.org/10.3141/2083-09

[26] Retting, Richard A; Ferguson, Susan A; McCartt, Anne T. "*A review of evidence-based traffic engineering measures designed to reduce pedestrian-motor vehicle crashes.*" American Journal of Public Health; Washington Vol. 93, Iss. 9, (Sep 2003): 1456-63. *ProQuest*, https://www.proquest.com/docview/215100657?sourcetype=Scholarly%20Journals.
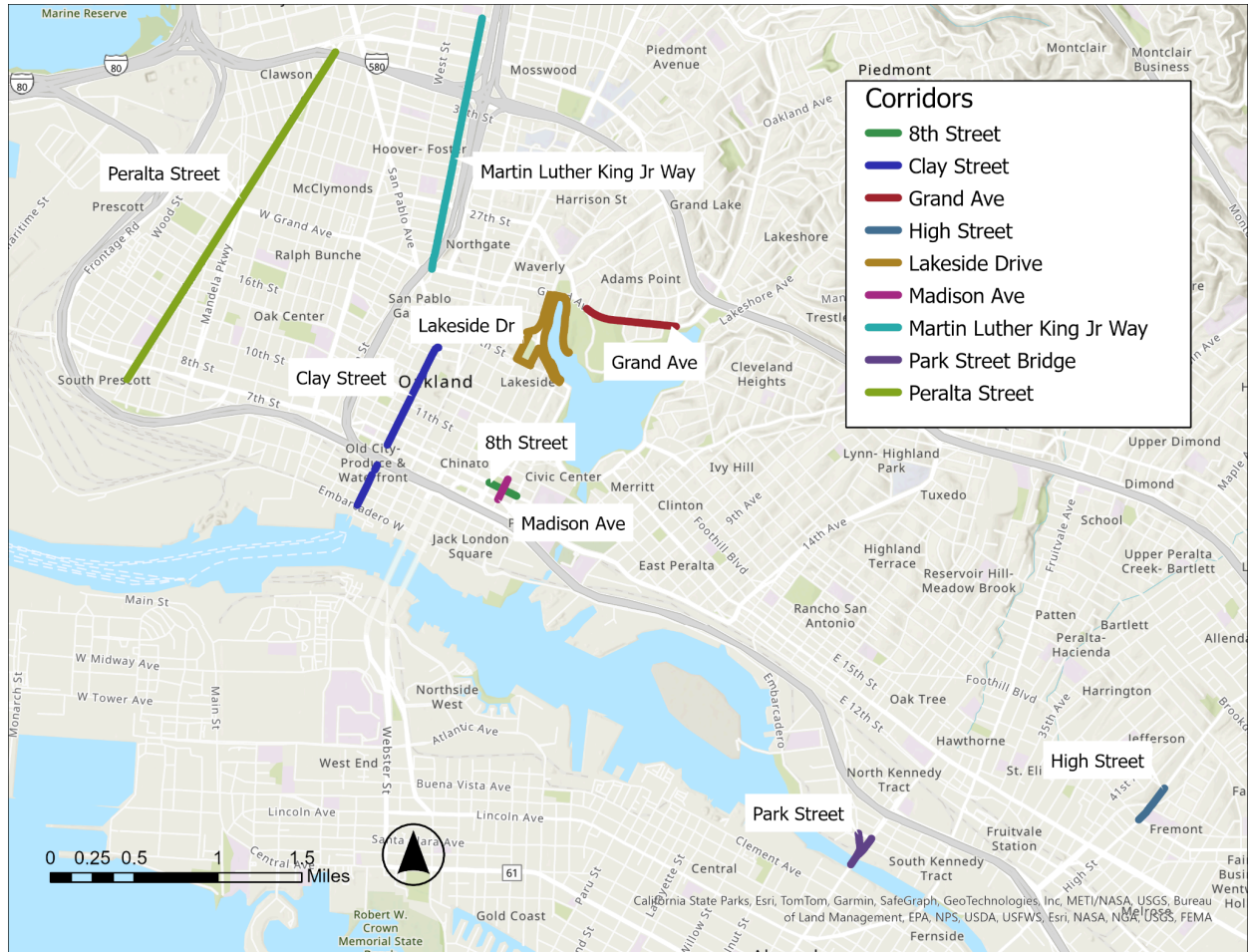
Figure 2: Map of the Nine Corridors

Table 1: Final Project and Corridor List with Year and Description

Year Completed	Original Project Name	Corridor	Description
2016	AHSC Empyrian Clay St Bike Lanes	Clay Street	Install Class 2 bike lanes along Clay Street between the Embarcadero and 17th Street
2018	Glascock Lancaster 23rd Ave And 29th Ave Rail Crossing Improvements	Park Street Bridge	Install, upgrade traffic signals to existing railroad crossings at the 23rd, 29th Ave, Glascock St intersection, Park St Bridge into the City of Alameda. Replace sidewalks, existing drainage inlets, install a raised traffic safety island and ADA ramps
2019	High St, Courtland Ave, Ygnacio St Intersection Improvements	High Street	Raised median, ped refuge, curb extension, extended sidewalk, ADA curb ramps, bike detection, ped countdown heads, signage, landscaping, bio-filtration measures, pavement marking, traffic lanes realignment, new traffic signals, new roadway paving.
2020	HSIP6 Downtown	8th Street	Install traffic signal mast arms and vehicular signal heads.
2020	HSIP6 Downtown	Madison Avenue	Install traffic signal mast arms and vehicular signal heads.
2018	HSIP6 Grand Ave	Grand Avenue	Pedestrian safety crossings improvements including HAWK signal and RRFBs.
2019	Lakeside Green Street	Lakeside Drive	Fourteen acre complete green streets project to facilitate pedestrian and bicycle use, calm traffic, increase parklands, improve Snow Park, and improve water quality.
2019	Martin Luther King Jr Wy Streetscape Phase 1	Martin Luther King Jr Way	Pedestrian, bicycle and transportation safety improvements with a range of streetscape enhancements to a key neighborhood corridor.
2019	Peralta St Streetscape Phase 1	Peralta Street	Improvements for pedestrians, bicyclists and bus riders including sidewalk replacement, lighting, bulbouts, bike lanes, and paving.

Data Gathering

Collision Data as Street Safety

As previously mentioned, we used traffic collisions as a measure of street safety. The collision data was taken from UC Berkeley's Safe Transportation Research & Education Center's [Transportation Injury Mapping System (TIMS)](#)[27], which uses the California Highway Patrol (CHP) database, California Statewide Integrated Traffic Records System (SWITRS). The CHP defines SWITRS as the following, "a database that collects and processes data gathered from a collision scene." We used TIMS rather than the raw SWITRS data because TIMS streamlines the data cleaning and analysis process by geocoding data exactly at the collision site. We used ArcGIS Pro to convert the TIMS data into a Feature Points layer. We chose to look at all collisions ranging from 2014 to 2023 because the stop data (discussed below) is available for the same years. TIMS provides a myriad of data for all reported collisions in California including the geolocation, date, severity, primary cause, etc.; though we chose to look at all collisions ranging from 2014 to 2023 citywide, on the HIN, and on our 9 project corridors.

Stop Data as Police Activity

To measure police activity, we used stop data, which OPD has been publishing in full since 2014 "in order to fulfill [its] obligation to provide the Oakland community with public safety services in a fair and equitable manner"[28]. The department has been collecting stop data since the Riders Settlement of 2003 meant to end discriminatory policing[29]. Furthermore, the 2019 California Assembly Bill 953, the Racial and Identity Profiling Act (RIPA), mandates that all California police departments collect and publish stop data. The stop data published by OPD contains a myriad of information including the address, date, reason for stop, outcome, race of subject, etc. The stops consist of discretionary stops and dispatch calls, with over 60% of all stops made for traffic enforcement. We chose to include all stops in our analysis to explore the possibility that non-traffic related police activity may be reduced by street infrastructure projects. While the data provided by OPD contained address data (in the format of blocks and street intersections), we had to geocode the data using the *tidygeocoder* package in R Studio in order to create a Feature Points layer in ArcGIS Pro.

---

[27] Transportation Injury Mapping System (TIMS). (n.d.). *Transportation Injury Mapping System.* University of California, Berkeley. Retrieved from https://tims.berkeley.edu/

[28] City of Oakland. 2014. *Stop Data Annual Report.* Retrieved from https://oaklandca.s3.us-west-1.amazonaws.com/oakca1/groups/police/documents/webcontent/oak053112.pdf

[29] Westervelt, Eric. "In Oakland, More Data Hasn't Meant Less Racial Disparity During Police Stops." *NPR*, August 8, 2018, sec. National. https://www.npr.org/2018/08/08/636319870/in-oakland-more-data-hasnt-meant-less-racial-disparity-during-police-stops.

Data Mapping Using ArcGIS Pro

We spatially joined the collisions and stops with the 9 project corridors. Because the collisions and stops did not always intersect with the project polylines, we included those that fell within 150 feet of the project corridor. There were approximately 20,000 collisions in Oakland from 2014 to 2023, with 700 occurring on our project corridors. There were approximately 250,000 police stops in Oakland from 2014 to 2023, with 6,604 occurring on the 9 corridors. We repeated the spatial joining process for the collisions and stops on the citywide High Injury Network to use as our control.

Figure 3: Map of Collisions and Stops on the Nine Corridors
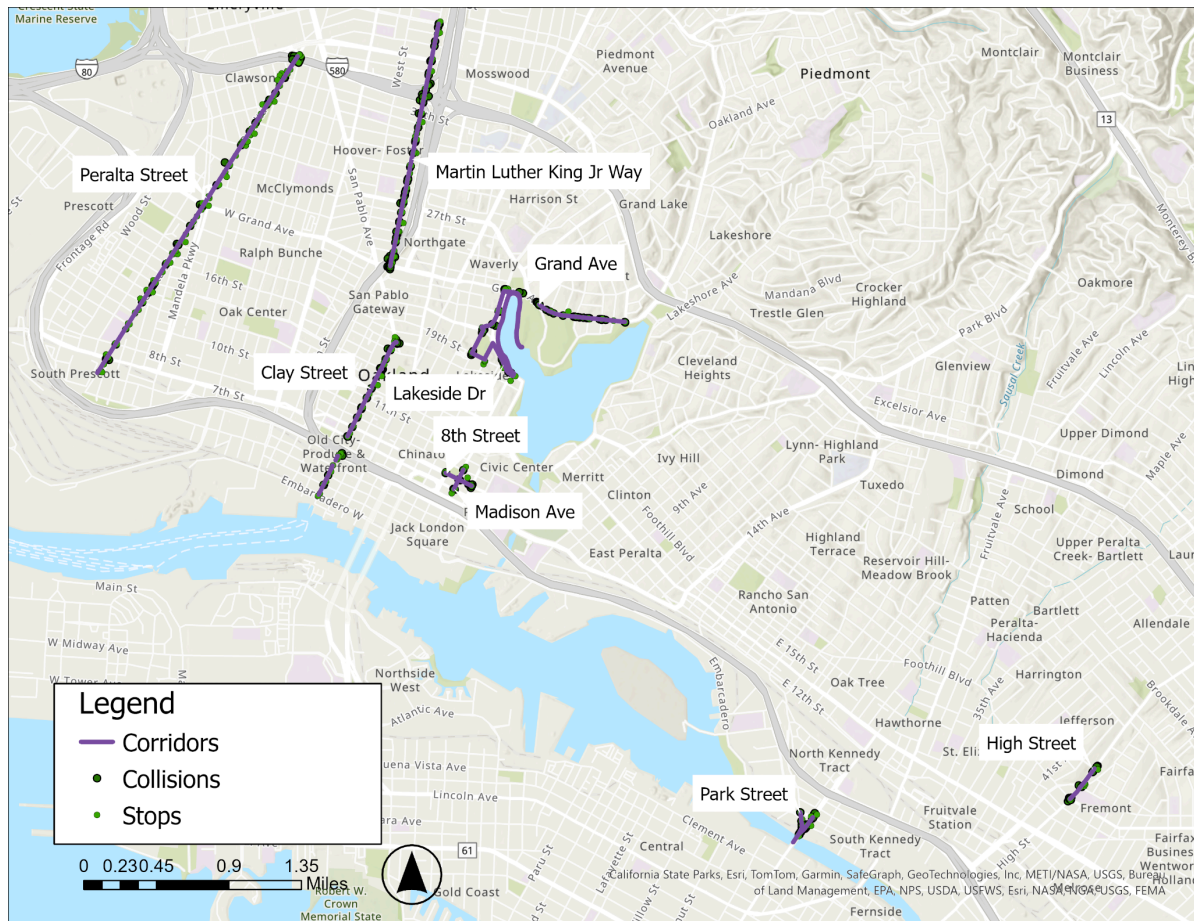
Difference in Differences (DiD) Analysis

We performed a Difference in Differences (DiD) test to analyze the change in frequency of collisions and stops before and after treatment on each project corridor compared to the Oakland-wide High Injury Network. DiD is a statistical technique used in quantitative research to calculate the effect of a treatment by comparing the average change over time in the outcome variable for the treatment group to the average change over time for the control group. We used R Studio to complete this analysis.
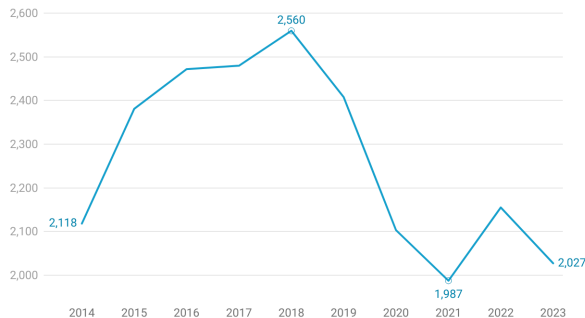
Preliminary Findings
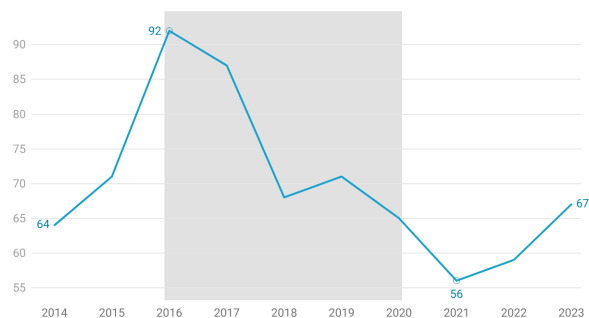
Data Visualization

Collisions

Figure 4:

All Reported Collisions in the City of Oakland from 2014-2023

Source: Statewide Integrated Traffic Records System (SWITRS) • Created with Datawrapper

Figure 5:

All Reported Collisions on Selected Corridors in Oakland from 2014-2023


Source: Statewide Integrated Traffic Records System (SWITRS) • Created with Datawrapper

We found that collisions citywide and on our 9 project corridors followed similar trends. The project years are blocked out in gray in Figure 5 of the treatment corridors. Collisions began to decrease citywide in 2018, and they stayed low during COVID. When comparing the trends, we noticed that collisions on the project corridors decreased at a faster rate than citywide.
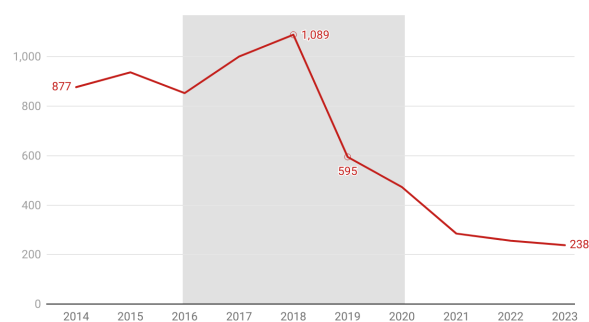
Stops

Figure 6:

Oakland Police Department Stops in Oakland from 2014-2023
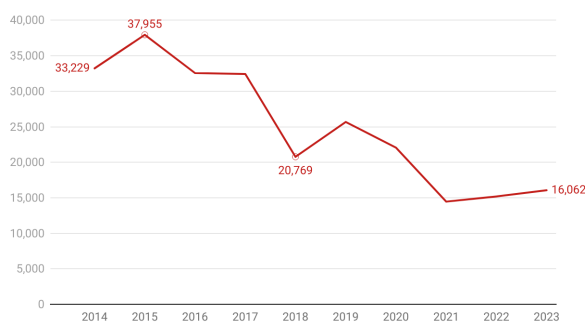
Source: City of Oakland Stop Data • Created with Datawrapper

Figure 7:

Oakland Police Department Stops on Selected Corridors in Oakland from 2014-2023

The gray represents the years the selected projects were completed.
Source: City of Oakland Stop Data • Created with Datawrapper

Police stops have been steadily decreasing over this period, both citywide and on our project corridors. As previously mentioned, over 60% of all stops were for traffic violations. In their 2016 strategic plan, OPD promised to decrease traffic stops, and the data reflects that with stops reaching a low peak in 2018. Interestingly, during the

citywide low peak in 2018, stops on the project corridors were at their highest. Over 80% of the stops in 2018 were made for traffic violations. As previously stated, in 2022 OPD reintroduced its Traffic Enforcement Unit, which may be responsible for the small uptick seen in Figure 6.

DiD Results

The selected infrastructure projects appear effective overall in reducing both stops and collisions. With a few exceptions, the projects outperformed citywide trends, demonstrating their value in improving safety and reducing police activity.

Collisions decreased more on 7 out of the 9 corridors that received infrastructure projects than on the city-wide HIN. The top performers for stops (the corridors that experienced the largest reduction in collisions) were **Martin Luther King Jr Way** and **8th Street**. The two low performers (the corridors whose reductions in collisions were smaller than on the citywide HIN) were **High Street** and **Clay Street**.

Police stops decreased more on 8 out of the 9 corridors that received infrastructure projects than on the city-wide HIN. The top performers for stops (the corridor that experienced the largest reduction in stops) were **Martin Luther King Jr Way** and **Peralta Street**. The one low performer (the corridor whose reduction in stops was smaller than on the citywide HIN) was **Park Street Bridge**.

Table 2: Top and low performers with project descriptions

Performance	Corridor	Project
Large reduction in both stops and collisions	Martin Luther King Jr Way	Pedestrian, bicycle and transportation safety improvements with a range of streetscape enhancements to a key neighborhood corridor.
Large reduction in stops, moderate reduction in collisions	Peralta Street	Improvements for pedestrians, bicyclists and bus riders including sidewalk replacement, lighting, bulbouts, bike lanes, and paving.
Large reduction in collisions, moderate reduction in stops	8th Street	Install traffic signal mast arms and vehicular signal heads.
Moderate reduction in collisions, stops decreased less than citywide	Park Street Bridge	Install, upgrade traffic signals to existing railroad crossings at the 23rd, 29th Av, Glascock St intersection, Park St Bridge into the City of Alameda. Replace sidewalks, existing drainage inlets, install a raised traffic safety island and ADA ramps
Moderate reduction in stops, collisions decreased less than citywide	High Street	Raised median, ped refuge, curb extension, extended sidewalk, ADA curb ramps, bike detection, ped countdown heads, signage, landscaping, bio-filtration measures, pavement marking, traffic lanes realignment, new traffic signals, new roadway paving.
Moderate reduction in stops, collisions decreased less than citywide	Clay Street	Install Class 2 bike lanes along Clay Street between the Embarcadero and 17th Street

Created with Datawrapper

13

The three top performers are above in gray, with the three low performers below in white. Projects that improved lighting, signaling, streetscape enhancements, and traffic calming were more likely to have a large reduction in both collisions and stops. Projects that focused primarily on bike safety saw a smaller reduction in collisions. Future analysis should investigate whether the collisions in the low performers were bike-related.
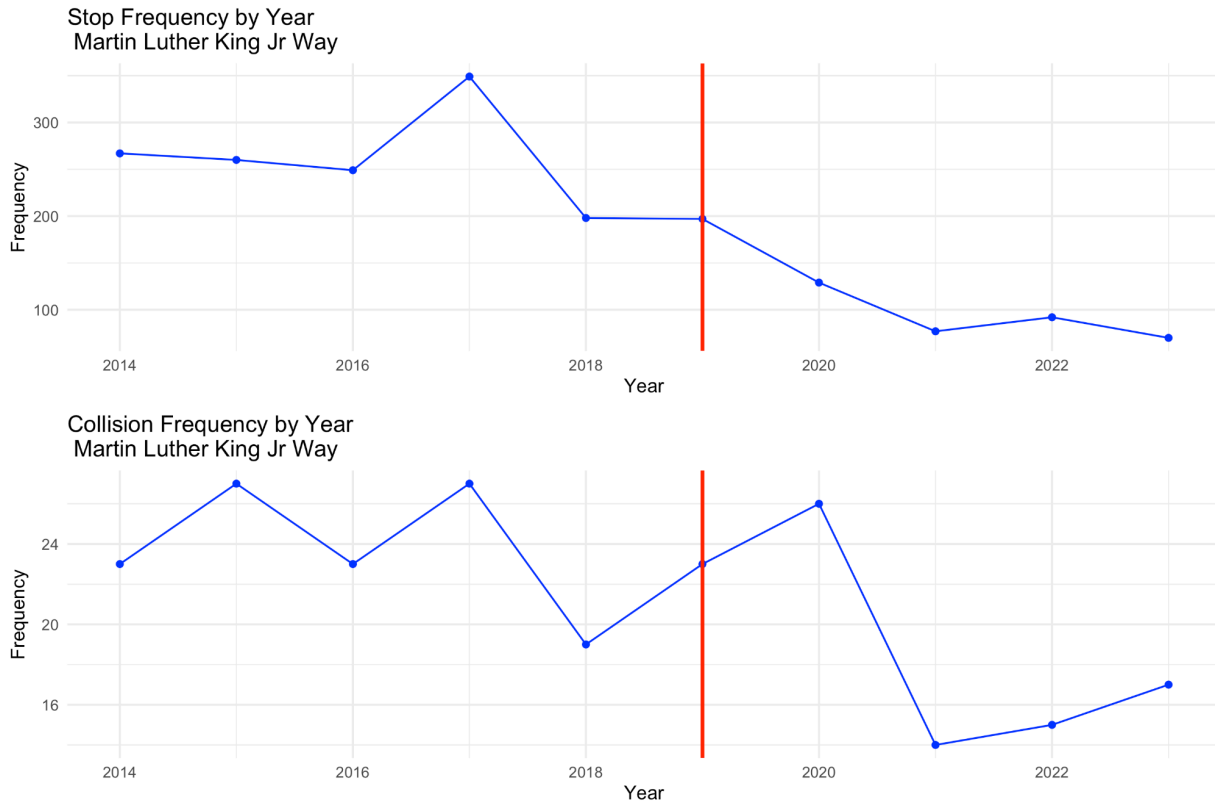
Top Performer: Martin Luther King Jr Way
This project showed a large reduction in both police stops and collisions. The project was completed in 2019 and involved a streetscape spanning from W Grand Avenue to 40th Street. Improvements include high-visibility crosswalks, left turning lanes for cars, and bike lanes.

Image: Bicycle Lane and High-Visibility Crosswalk at MLK Way and MacArthur Blvd, 2024 | Photo Credit: Natalie Martinez

Figure 8: Stops and collisions on Martin Luther King Jr Way before and after treatment

Stops and collisions decreased significantly more on Martin Luther King Jr Way after treatment compared to the citywide HIN. The uptick in collisions seen immediately after the treatment year is likely attributed to the phenomenon mentioned earlier in which drivers need to become accustomed to street infrastructure projects before safety improves.

Top Performer: Peralta Street
This project showed a large reduction in police stops and a moderate reduction in collisions. The project was completed in 2019 and involved a streetscape spanning from 3rd Street to 36th Street. Improvements include sidewalk replacement, lighting, bulbouts, bike lanes, and paving.

Image: Bicycle Lane, Pedestrian Signage, and High-Visibility Crosswalk at Peralta St and Haven St, 2024 | Photo Credit: Natalie Martinez

Figure 8: Stops and collisions on Peralta Street before and after treatment
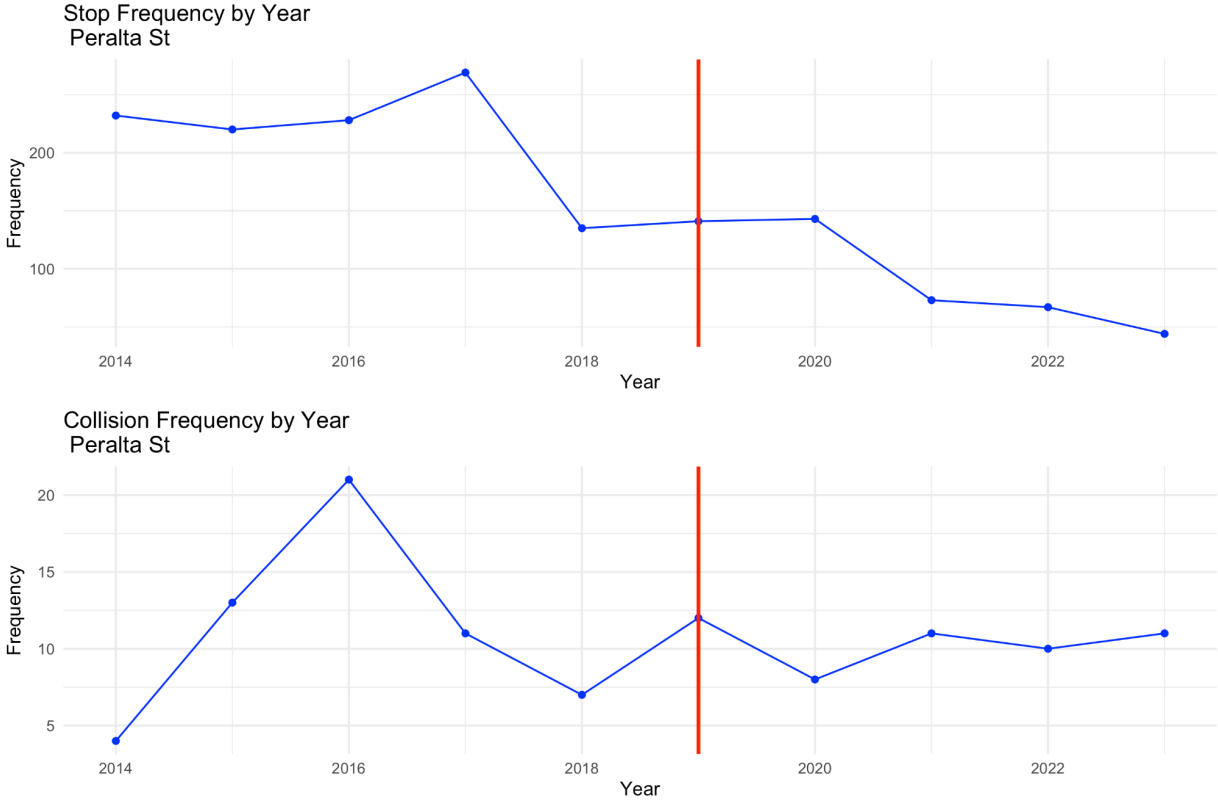
Stops and collisions decreased significantly more on Peralta Street after treatment compared to the citywide HIN, though we see collisions leveling off at around 10 per year.

Budget Analysis

Oakland FY 2023-24 Budget

On October 11 2024, the City of Oakland's Finance and Management Committee published the [FY 2023-2024 Q4 Revenue and Expenditures Report](#)[30], which outlines the financial results of Oakland's General Purpose (GPF) for FY 23-24, concluding that the city is in a deficit of $80 million. Oaklandside reported that in 2024 many city departments froze hiring, traveling, and other non-essentials. Like many other departments, the Department of Transportation (OakDOT) met the expenditure budget goal. OakDOT had an adjusted budget of $22.53 million, the year-end actuals was $22.14 million. The department was about $390,000 under budget. It is important to note that Oakland does not get all of its funding from the GPF; they receive funding from different grants and revenue sources such as parking violations.

OPD continues to have the largest budget of all the departments in the City of Oakland. The total FY 23-24 Adjusted Budget for the entire city was $863.86 million. OPD's adjusted budget was $332.05 million, but the year-end actuals was $358.57 million. The department overspent by $26 million, more than OakDOT's entire budget. The FY 23-24 Q4 Revenue and Expenditures Report attributes the majority of OPD's overspending to use of overtime. OPD had an adjusted budget of $24 million for overtime, but overspent by $31 million for an actual spending of $55 million.

According to OPD's FY 22-23 budget, the department spent just over $9 million on Traffic Operations. We know from the stop data, however, that the majority of police stops made are for traffic violations. We can therefore assume that the majority of patrol staffing expenditures goes toward traffic operations, putting the total of OPD expenditures on traffic enforcement far above $9 million.

Oakland's Reimagining Public Safety Task Force

In 2020, the murder of George Floyd and the Black Lives Matter movement across the country brought attention to police misconduct and anti-black racism in different fields, including traffic safety. Like many other US cities, the City of Oakland created a Task Force to [Reimagine Public Safety](#)[31]. This Task Force was active from September 2020 through March 2021, and was composed of co-chairs, co-facilitator organizations, 17

---

[30] Erin Roseman. "FY 2023-24 Fourth Quarter Q4 Revenue and Expenditures (R&E) Report And FY 2024-25 Fiscal Condition and Challenges." City of Oakland, October 11, 2024. https://oakland.legistar.com/LegislationDetail.aspx?ID=6888252&GUID=E8266870-CEBF-490D-A41A-E66ECDF39FDB&Options=&Search=.
[31] City of Oakland. "Reimagining Public Safety." Accessed December 16, 2024. https://www.oaklandca.gov/topics/reimagining-public-safety.

appointed members, and advisory boards. The two co-facilitator organizations included PolicyLink and the National Institute for Criminal Justice Reform (NICJR). Task Force members included different community experts including James Burch from the Anti-Police Terror Project, who is also one of the authors of the Decarcerating Transportation report.

The Task Force's goal was to "reimagine and reconstruct the public safety system in Oakland," and it developed recommendations to increase community safety with alternative responses and to reduce OPD's General Purpose budget allocation by 50%. In May 2021 the Task Force presented its final report, including their findings and 155 recommendations. Three of these recommendations explicitly aligned with our study: reallocate and reinvest funds from the OPD budget into other areas that increase public safety (Recommendation #50), move most traffic enforcement to OakDOT (#59), and cap OPD overtime (#89). These recommendations have not been fully implemented and are still relevant today as seen with OPD's overspending.

Case Study: the City of Berkeley

The neighboring City of Berkeley experienced similar challenges with its Police Department's (BPD) overspending on overtime. In a 2022 report, the City Auditor found that overtime was being used to maintain minimum patrol staffing set by BPD. The report culminated in the following recommendations that may be appropriate to replicate in Oakland:

- Publicly document BPD minimum staffing levels
- Establish procedures to regularly assess the efficacy of staffing levels
- Reallocate staff pending the reimagining process* and a determination of appropriate staffing levels

*The City of Berkeley created its own Reimagining Public Safety Task Force with similar goals to its Oakland equivalent.

Reports on OPD Overtime Performance

The most recent City Auditor report on OPD's overtime spending was published in 2019. This report resulted in 21 recommendations to address the overspending. In 2022, the City Auditor released a follow-up report to detail OPD's performance in implementing the 2019 recommendations. This report found that out of the initial 21 recommendations, OPD did not implement 10, largely related to amending overtime and scheduling practices[32].

---

[32] City of Berkeley. (2022). *Berkeley Police: Improvements needed to manage overtime and security work for outside entities.* Retrieved from

Due to the current City deficit, the City Administrator issued a report on December 9, 2024 to balance the budget[33]. This report mandates that OPD reduce overtime spending by $25 million, leaving the department with $5 million until June 2025. The City Administrator also directed that OPD get written approval from the Mayor's Office and City Administrator for all foreseeable overtime.

https://berkeleyca.gov/sites/default/files/2022-04/Berkeley%20Police%20-%20Improvements%20Needed%20to%20Manage%20Overtime%20and%20Security%20Work%20for%20Outside%20Entities.pdf

[33] City of Oakland. (2024). *City Administrator Presentation for Midcycle Budget.* Retrieved from https://cao-94612.s3.us-west-2.amazonaws.com/documents/2024-12-09-City-Administrator-Presentation-for-Midcycle-Budget.pdf

Recommendations

1. Prioritize investment in OakDOT traffic calming measures, which effectively promote street safety and reduce police activity, over OPD traffic enforcement
   a. Use our study design framework to continue analysis of stops and collisions on completed projects
   b. Examine and replicate measures that are most effective

2. Re-audit OPD's overtime spending, which is largely responsible for the City of Oakland's current deficit
   a. OPD to document minimum staffing levels
   b. Establish procedures to regularly assess staffing levels' efficacy
   c. Reallocate staff and resources to other departments

3. Reconsider and implement certain recommendations made by the Reimagining Public Safety Task Force
   a. #50: Reallocate and reinvest funds from the OPD budget into other areas that increase public safety
   b. #59: Move most traffic enforcement to OakDOT
   c. #89: Cap OPD overtime

4. Advocate that the State of California allow civilian staff to handle non-moving and some moving violations
   a. Example: SB 50 introduced by Senator Bradford in Dec 5, 2022 which would have allowed civilian staff to handle non-moving violations
      i. Passed in the State Senate, but failed in the Assembly in September 2023

Next Steps

Our preliminary analysis found that implementing traffic calming measures decreased traffic collisions and police stops. Our study design may provide a framework to further analyze the effects of street calming measures on traffic safety and policing. Next steps for analysis include:

1. Analyze corridors where residents have implemented "DIY" or are asking for traffic calming measures
2. Repeat data analysis by controlling for traffic volume and other factors
3. Expand the number of corridors with time
4. Investigate the effect of street calming measures on *crime*, rather than police activity

Our data analysis framework provides concrete evidence in favor of funding more traffic calming measures in Oakland. Further analysis may provide a compelling argument to remove traffic enforcement duties from OPD, and ultimately reduce the department's funding. It would also be valuable to investigate the effects of traffic safety infrastructure on crime rates. We learned in our interviews about a theory regarding the implementation of traffic safety infrastructure and the reduction of crime. Crime Prevention Through Environmental Design (CPTED) is a multidisciplinary approach to making neighborhoods safer through the design of the built environment, and may strengthen the argument to shift funding from OPD enforcement to traffic calming projects.

While this research is vital in creating evidence-based policy changes, it needs to be grounded in the realities of Oakland residents. Conducting interviews and workshops will allow for ground truthing the data with residents' lived experiences. Studies continuously demonstrate that traffic calming measures promote street safety. Studies also show increasing police traffic enforcement is not necessarily associated with safer streets. Cities' funding allocation needs to reflect these findings.

Acknowledgements

This report was prepared for the City of Oakland. Special thanks to our faculty advisor, Karen Frick, Ph.D., IURD Director & Associate Professor of City & Regional Planning for support on navigating this project and delivering this report.

We also extend our gratitude to the Bay Area-based transportation experts who graciously participated in our interviews and provided meaningful insight to our analysis and recommendations. Thank you to the following:

- Haleema Bharoocha, GSPP Alum
- James Burch, Anti-Police-Terror Project
- Liza Lutzker, SafeTREC
- Kevin Dalley, Traffic Violence Rapid Response
- Kuan Butts, Traffic Violence Rapid Response
- Bryan Culbertson, Traffic Violence Rapid Response
- Josh Rowan, OakDOT
- Jasmine Pomar, OakDOT, Head of Race and Equity
- Craig Raphael, OakDOT, Funding/Speed Safety Camera Program Manager
- Robert Prinz, Bike East Bay
- Jack Glaser, Professor, Goldman School of Public Policy
- Melanie Curry, Streetsblog

References

"2024 High Injury Network - All Modes." Accessed December 16, 2024.
https://oakgis.maps.arcgis.com/apps/instant/portfolio/index.html?appid=ba359f98
0ec0412f8804752d445f0a88.

Alvarado, Alejo. "The Racial Equity Implications of Road Safety Enforcement in Oakland,
CA ." April 13, 2021.
https://documentcloud.adobe.com/gsuiteintegration/index.html?state=%7B%22id
s%22%3A%5B%221OQ5HB5RwysLJ7ZxWCeOtX9YlM_NAEoB7%22%5D%2C%
22action%22%3A%22open%22%2C%22userId%22%3A%221048686754964780
32693%22%2C%22resourceKeys%22%3A%7B%7D%7D.

Badger, Emily, and Ben Blatt. "Traffic Enforcement Dwindled in the Pandemic. In Many
Places, It Hasn't Come Back." *The New York Times*, July 29, 2024, sec. The Upshot.
https://www.nytimes.com/interactive/2024/07/29/upshot/traffic-enforcement-d
windled.html.

California Department of Transportation. "Traffic Calming Guide, A Compendium of
Strategies," n.d.
https://dot.ca.gov/-/media/dot-media/programs/safety-programs/documents/traffi
c-calming/final-traffic-calming-guide_v2-a11y.pdf.

"California Traffic Safety Quick Stats | Office of Traffic Safety." Accessed October 19,
2024. https://www.ots.ca.gov/ots-and-traffic-safety/score-card/.

Cheng, Wen, and Simon Washington. "New Criteria for Evaluating Methods of Identifying
Hot Spots." *Transportation Research Record* 2083, no. 1 (January 1, 2008): 76–85.
https://doi.org/10.3141/2083-09.

City of Oakland. "OakDOT Major Projects Map." Accessed December 16, 2024.
https://www.oaklandca.gov/resources/active-major-improvements-project.

City of Oakland. "Reimagining Public Safety." Accessed December 16, 2024.
https://www.oaklandca.gov/topics/reimagining-public-safety.

City of Oakland. "Safe Oakland Streets." Accessed December 16, 2024.
https://www.oaklandca.gov/topics/safe-oakland-streets.

DeAngelo, Gregory, and Benjamin Hansen. "Life and Death in the Fast Lane: Police
Enforcement and Traffic Fatalities." *American Economic Journal: Economic Policy* 6,
no. 2 (2014): 231–57.

Dumbaugh, Eric, Dibakar Saha, and Louis Merlin. "Toward Safe Systems: Traffic Safety, Cognition, and the Built Environment." *Journal of Planning Education and Research* 44, no. 1 (March 1, 2024): 75–87. https://doi.org/10.1177/0739456X20931915.

Erin Roseman. "FY 2023-24 Fourth Quarter Q4 Revenue and Expenditures (R&E) Report And FY 2024-25 Fiscal Condition and Challenges." City of Oakland, October 11, 2024. https://oakland.legistar.com/LegislationDetail.aspx?ID=6888252&GUID=E826688 70-CEBF-490D-A41A-E66ECDF39FDB&Options=&Search=.

Ewing, Reid, and Eric Dumbaugh. "The Built Environment and Traffic Safety: A Review of Empirical Evidence." *Journal of Planning Literature* 23, no. 4 (May 1, 2009): 347–67. https://doi.org/10.1177/0885412209335553.

Fermoso, Jose. "Oakland Wants to Make It Easier for Community Groups to Slow Traffic." The Oaklandside, December 20, 2023. http://oaklandside.org/2023/12/20/temporary-encroachment-permits-traffic-roa d-safety-oakland/.

Haazziq Madyun. "Oakland Police Change Tactics to Reduce Number of Traffic Stops | KRON4," November 18, 2019. https://www.kron4.com/news/bay-area/oakland-police-change-tactics-to-reduce-number-of-traffic-stops/.

IIHS, HLDI. "Fatality Facts 2022, Yearly Snapshot, Speeding." Accessed October 22, 2024. https://www.iihs.org/topics/fatality-statistics/detail/yearly-snapshot#speeding.

Ivan, John N., Norman W. Garrick, and Gilbert Hanson. "Designing Roads That Guide Drivers to Choose Safer Speeds," November 2009. https://trid.trb.org/View/908463.

Jestin D. Johnson. "FY 2024-25 Budget Balancing." City of Oakland, December 9, 2024. https://cao-94612.s3.us-west-2.amazonaws.com/documents/2024-12-09-City-Ad ministrator-Presentation-for-Midcycle-Budget.pdf.

Lovegrove, Gordon R., and Tarek Sayed. "Macro-Level Collision Prediction Models for Evaluating Neighbourhood Traffic Safety." *Canadian Journal of Civil Engineering* 33, no. 5 (May 2006): 609–21.

"Macrolevel Collision Prediction Models for Evaluating Neighbourhood Traffic Safety | Request PDF." *ResearchGate*, October 22, 2024. https://doi.org/10.1139/L06-013.

"Module 8: Traffic Calming Case Studies | FHWA." Accessed December 16, 2024.
https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer/module-8-traffic-calming-case-studies.

"NHTSA Launches Put the Phone Away or Pay Campaign; Releases 2023 Fatality Early Estimates | NHTSA." Text. Accessed December 16, 2024.
https://www.nhtsa.gov/press-releases/2022-traffic-deaths-2023-early-estimates.

"Oakland Police Department - Strategic Plan 2016," December 28, 2015.
https://s3-us-west-1.amazonaws.com/waterfrontballparkdistrict.com/10.%20Remainder/AR%200049554-%20AR%200049595.pdf.

"Oakland Rips out Guerrilla Safety Measures Again - Streetsblog San Francisco," August 14, 2024.
https://sf.streetsblog.org/2024/08/14/oakland-rips-out-guerrilla-safety-measures-again.

Retting, Richard A., Susan A. Ferguson, and Anne T. McCartt. "A Review of Evidence-Based Traffic Engineering Measures Designed to Reduce Pedestrian-Motor Vehicle Crashes." *American Journal of Public Health* 93, no. 9 (September 2003): 1456–63.

Ryan Russo, LeRonne Armstrong, and Joe DeVries. "Year-One Report on the Safe Oakland Streets Initiative," June 15, 2022.
/https://cao-94612.s3.us-west-2.amazonaws.com/documents/Filed-2021-Informational-Report.pdf.

Sam Raim. "Police Are Stopping Fewer Drivers — and It's Increasing Safety." Vera Institute of Justice, July 7, 2018.
https://www.vera.org/news/police-are-stopping-fewer-drivers-and-its-increasing-safety.

"Strategies for Change: Research Initiatives and Recommendations to Improve Police-Community Relations in Oakland, Calif.," June 15, 2016.
https://oaklandca.s3.us-west-1.amazonaws.com/government/o/OPD/a/data/stop/oak059292.pdf.

TRIP. "News Release: California Traffic Fatalities Surged 22 Percent from 2019 to 2022..." Accessed October 19, 2024.
https://tripnet.org/reports/traffic-safety-california-news-release-06-21-2023/.

Westervelt, Eric. "In Oakland, More Data Hasn't Meant Less Racial Disparity During Police Stops." *NPR*, August 8, 2018, sec. National.

https://www.npr.org/2018/08/08/636319870/in-oakland-more-data-hasnt-meant-less-racial-disparity-during-police-stops.