Fatal Police Pursuits in America: A Data-Driven Analysis (2017–2021)

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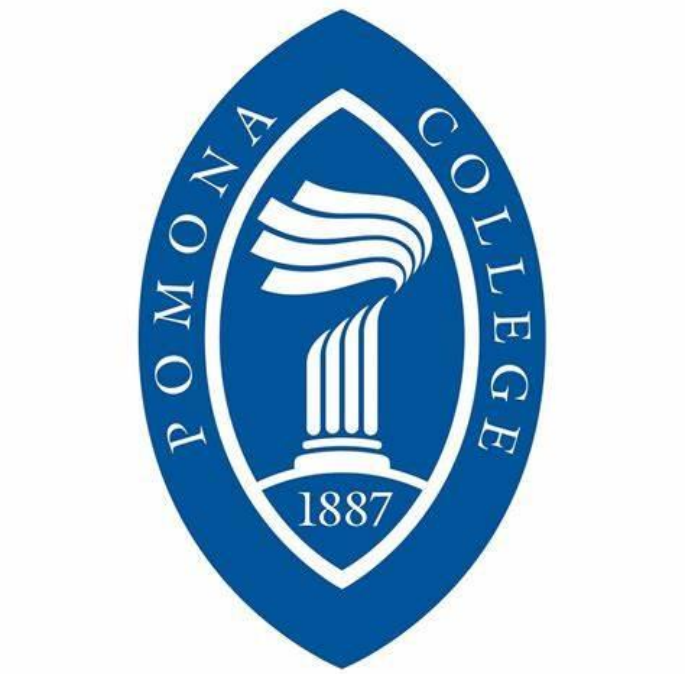


In recent years, growing public attention has focused on the often-deadly consequences of police interactions, but one area that remains key is the fatality risk associated with police vehicle pursuits. These high-speed chases, sometimes initiated as a result of minor infractions, can often escalate quickly and end in fatality. Many of the fatalities associated with police vehicle pursuits aren't just those being pursued, but also passengers, bystanders, and even police officers themselves. Furthermore, we see that Black and Latino individuals are disproportionately affected, raising urgent questions about how race, geography, and decision-making shape deadly outcomes. This project uses public data on fatal police pursuits from 2017 to 2021 to examine when these incidents happen, where they occur and who they affect. Through a combination of three visualizations built in Tableau, the dashboard aims to surface patterns that are often lost in raw statistics. These patterns often point to broader systemic issues in policing, accountability, and risk distribution. The analysis will draw on the Stanford SFC Pursuit Fatalities dataset, which compiles publicly documented deaths associated with police pursuits in the United States from 2017 through 2021. The dataset includes detailed information about each incident, including the date, initial reason for the police encounter, race of the individuals involved, their role in the incident (driver, passenger, bystander, etc.), and the number of people killed. These variables enabled the construction of three Tableau visualizations designed to surface patterns that may otherwise go unnoticed.

The first visualization on the dashboard is a national map of fatal police pursuits, where each point represents a deadly police interaction between 2017 and 2021. Points are color-coded by the initial reason for the police encounter, with categories including suspected violent crime, traffic stop, minor incident, domestic incident, and unreported. This design enables a layered geographical and categorical analysis. While the map covers the entire United States, noticeable

clusters emerge in the South and Southwest, which suggests regional disparities in the frequency or recording of fatal pursuits. A striking finding from this map is the frequency of unreported and nonviolent reasons for initiating the encounter. In many cases, police pursued individuals for traffic violation of unspecified causes, yet these encounters escalated to lethal outcomes. This supports a growing body of evidence that questions the need of police response in routine stops. Although the dataset does not include population-adjusted rates, the density of dots in certain regions suggests that police pursuit-related fatalities are not evenly distributed nationwide. This visualization reinforces the argument made in the Time Magazine article, *If We Want to Reduce Deaths at Hands of Police, We Need to Reduce Traffic Stops,* which calls for reducing the frequency of traffic stops as a means of preventing deadly outcomes (Johnson, 2023). This statement can be supported through this visualization when you see the sheer amount of deaths caused by a simple traffic stop. The article emphasizes how low-level stops can quickly escalate into fatal encounters, especially in overpoliced communities. The map's display of widespread fatalities tied to minor reasons offers a visual confirmation of this concern and highlights the need for systemic traffic enforcement reform. The article also notes that many jurisdictions continue to treat traffic stops as essential tools for law enforcement, despite evidence of their unpredictability. By placing the burden of reform on policy rather than individuals, the article pushes for institutional change, an argument visually reinforced by this data-driven map.

The second visualization in the dashboard is a treemap that breaks down fatal police pursuits by both race and the initial reason for the encounter. Each block represents a combination of these two variables, with the block size corresponding to the number of fatalities and the color indicating the individual's racial group. This layout makes it easy to compare both the volume and type of fatal incidents across racial lines. Unreported reasons again appear

prominently across all groups, but the distribution within specific categories reveals stark disparities. When controlling for racial population size, Black and Latino individuals are disproportionately represented in categories such as traffic stop and unreported. In contrast, Asian individuals are far less represented across all categories. When taking into account racial population size, whites are similarly underrepresented across all categories of fatal police interactions. These patterns suggest that not only are people of color more likely to be involved in fatal police pursuits, but that those encounters are more often initiated for nonviolent or poorly documented reasons. The treemap makes these disparities highly visible, particularly when paired with the race highlighter, which allows you to isolate specific races for a more focused analysis. These findings echo national trends documented in The Washington Post's Police Shootings Database, which shows that Black Americans are killed by police at more than twice the rate of white Americans (Godfrey, 2022). Although the treemap more specifically focuses on pursuit-related deaths rather than shootings, the disproportionate impact on communities of color is consistent. The article also reveals that in most fatal police encounters, officers are rarely charged, reflecting a deeper issue of accountability within law enforcement. It emphasizes how systemic disparities in policing outcomes are not isolated incidents, but part of a broader national pattern that disproportionately endangers marginalized populations.

The third visualization is a calendar style heatmap that displays the number of fatal police pursuit incidents by day of the week and month, aggregated over the five-year period from 2017 to 2021. Each square is representative of a day to month combination, which darker squares indicating a higher number of deaths. The heatmap reveals that fatal encounters occur across all months and days, but certain patterns stand out. For example, the summer months (June and July) tend to show higher concentrations of fatal police pursuits than in the fall and spring.

Within July, we see a higher concentration of fatalities on the weekends, especially Friday and Saturday. This aligns with broader criminal patterns suggesting that high-activity periods (such as the summer or weekends) correspond with increased deadly police to civilian encounters. This visualization suggests that reform efforts must consider not just where and whom these incidents effect, but also when they are most likely to occur.

This analysis into the inequalities associated with fatal police pursuits echo several key concepts discussed in class (Week 5 Race and Crime). In particular, the disproportionate number of fatalities involving Black and Latino individuals following routine or unreported stops reflects the racial disparities described in the lecture on racial profiling in police stops. The slides note that "people of color are more likely than whites to be searched during traffic stops," and that this can occur even when driving habits do not differ significantly. The treemap and map in my dashboard visually reflect that reality as many fatal outcomes begin with minor or vague reasons for stopping people of color. The lecture also distinguished between statistical discrimination and preference-based discrimination. Even if stops were based on maximizing arrest outcomes, as the slides explore through equilibrium modeling, the burden of risk still falls disproportionately on marginalized groups. My project highlights how these seemingly "routine" encounters can have deadly consequences, especially when structural bias or lack of transparency shapes how officers initiate contact.

Works Cited

Stanford Open Policing Project. (2024). SFC Police Pursuit Fatalities Dataset (2017–2021). Stanford Computational Policy Lab. https://openpolicing.stanford.edu/data/

The Washington Post. (2024). Police shootings database. https://www.washingtonpost.com/graphics/investigations/police-shootings-database/

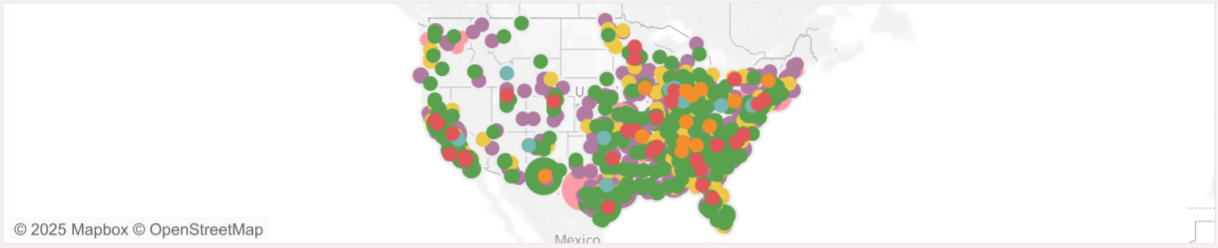
Time. (2023, February 1). If we want to reduce deaths at the hands of police, we need to reduce traffic stops. https://time.com/6252760/reducing-fatal-police-encounters-traffic-stops/

Swarthmore College. (n.d.). Race and Crime Lecture [PDF]. Retrieved from course materials: Race and Crime-1.pdf

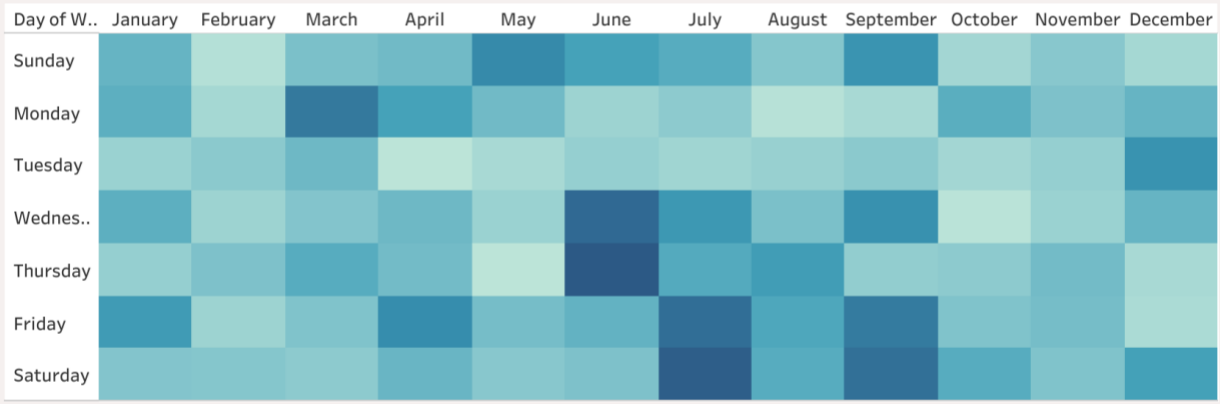
Fatal Police Pursuits (2017–2021): Race, Location, and Daily Patterns - By Matthias Olson

This dashboard analyzes fatal police pursuits in the United States from 2017 to 2021, uncovering patterns across race, geography, and time. The treemap visualizes how initial reasons for police contact differ by racial group, with a notable share of stops categorized as unreported or suspected nonviolent offenses. The calendar heatmap highlights temporal trends, revealing clusters of fatalities on weekends and during summer months. The geographic map displays the spread of deadly pursuits across the country, with each point representing a fatal incident and colored by the reason for the initial stop. Together, these visualizations offer insight into who is most affected by fatal pursuits, when these events are most likely to occur, and where they are most concentrated.

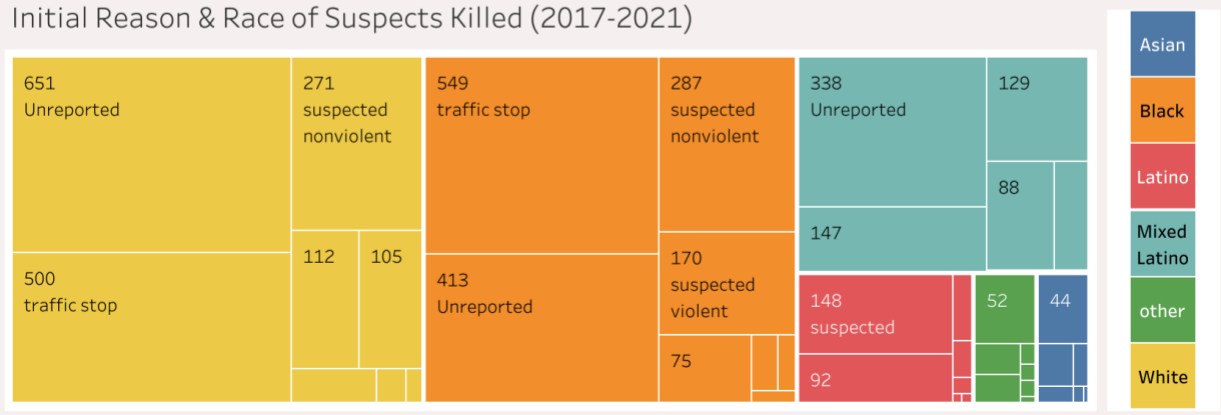
Fatal Police Pursuits Across the United States (2017–2021)



Fatalities by Month and Weekday (2017-2021)



Initial Reason & Race of Suspects Killed (2017-2021)



Fatal police pursuit data from the *Stanford Fatal Police Shootings Database – Pursuit Subset (2017–2021)* . Visualization created using Tableau. Geographic layers provided by Mapbox and OpenStreetMap.