

# PredPol Data Sheet

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### Livermore, Calif.

#### Introduction

The Markup and Gizmodo have obtained and analyzed actual predictions for more than three dozen departments that used PredPol predictive policing software for at least six months between 2018 and 2020 including yours. Overall, we found:

- Predpol's algorithm relentlessly targeted the block groups in each jurisdiction that were most heavily populated by people of color and the poor, particularly those containing public housing. The algorithm spared block groups with more White residents the same level of scrutiny.
- The proportion of each jurisdiction's Black and Latino residents was higher in the most-targeted block groups and lower in the least-targeted block groups compared to the jurisdiction overall. The opposite was true for the White population: the least-targeted block groups contained a higher proportion of White residents and the most-targeted block groups contained a lower proportion.
- For the majority of jurisdictions in our data set (26 jurisdictions), a higher proportion of its low-income households lived in the block groups that were targeted the most. In some jurisdictions, all of its subsidized and public housing were located in block groups Predpol targeted more than the median.
- These vast disparities were caused by the algorithm relentlessly predicting crime in the block groups in each jurisdiction that contained a higher proportion of the low-income residents and Black and Latino residents. They were the subject of crime predictions every shift, every day, and in multiple locations in the same block group.

- We also analyzed arrests statistics by race from the FBI's Uniform Crime Reporting (UCR) project for 29 of the agencies in our data that were in UCR. In 90 percent of them, per-capita arrests were higher for Black people than White people—or any other racial group included in the dataset, mirroring the characteristics of the neighborhoods that the algorithm targeted.
- We analyzed arrest data provided by 10 law enforcement agencies in our data and the rates of arrest in predicted areas remained the same whether PredPol predicted a crime that day or not.

## Findings for Livermore, Calif.

### Race and Ethnicity

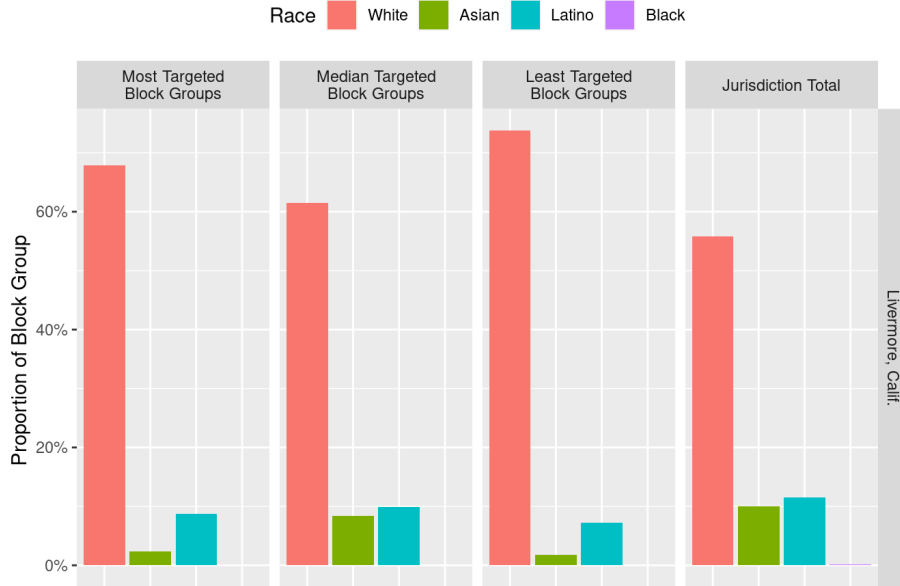
In Livermore, Calif. the **most targeted block groups** had:

- A **smaller proportion** of **Asians** residents compared to the jurisdiction overall.
- A **smaller proportion** of **Black** residents compared to the jurisdiction overall.
- A **smaller proportion** of **Latino** residents compared to the jurisdiction overall.
- A **greater proportion** of **White** residents compared to the jurisdiction overall.

In Livermore, Calif. the **least targeted block groups** had:

- A **smaller proportion** of **Asian** residents compared to the jurisdiction overall.
- A **smaller proportion** of **Black** residents compared to the jurisdiction overall.
- A **smaller proportion** of **Latino** residents compared to the jurisdiction overall.
- A **greater proportion** of **White** residents compared to the jurisdiction overall.

Races composition of most, median and least targeted block groups



## Household Income

In Livermore, Calif. the **most targeted block groups** had:

- A **greater proportion** of households that made **less than \$45k** a year compared to the jurisdiction overall.
- A **greater proportion** of households that made **between \$75k - 100k** a year compared to the jurisdiction overall.
- A **smaller proportion** of households that made **\$120k - 150k** a year compared to the jurisdiction overall.
- A **smaller proportion** of households that made **\$200k and above** a year compared to the jurisdiction overall.

In Livermore, Calif. the **least targeted block groups** had:

- A **smaller proportion** of households that made **less than \$45k** a year compared to the jurisdiction overall.
- A **greater proportion** of households that made **between \$75k - 100k** a year compared to the jurisdiction overall.
- A **smaller proportion** of households that made **\$120k - 150k** a year compared to the jurisdiction overall.
- A **smaller proportion** of households that made **\$200k and above** a year compared to the jurisdiction overall.

Household income composition of most, median and least targeted block groups



## Public Housing

In Livermore, Calif. 0% of public housing was on block groups the software targeted the most. 100% of public housing was on block groups the software targeted more than the median.

## Definitions

We used the Census' "designated place" boundaries as the boundaries for most jurisdictions. For Sheriff's departments we confirmed the boundaries with the department.

We defined the most-targeted block groups as those in Livermore, Calif. which encompassed the highest five percent of predictions. We defined the median-targeted block groups as the five percent around the median block group for predictions. And we defined the least-targeted block groups as those with the bottom five percent of predictions.

In some of the larger jurisdictions, more than five percent of block groups got zero predictions. In those cases, we chose the most populated block groups with no predictions for the five percent.

We identified public housing through HUD's online lookup tool available at <https://resources.hud.gov>

## Methods

We analyzed the distribution of PredPol predictions for Livermore, Calif. at the geographic level of a Census block group, which is a cluster of blocks with a population of between a few hundred to a few thousand people, generally. There are **49 block groups** in Livermore, Calif., the smallest block group had a population of approximately **0** and the largest had a population of approximately **6,642**.

In Livermore, Calif. we analyzed **53,228 predictions** and used there locations to determine the block groups that were targeted the most, the median and the least. This data sheet presents the breakdown of the racial groups and household income ranges of the people who lived in those block groups. We also present the breakdowns for Livermore, Calif. overall for comparison. The predictions we analyzed were between **Feb 16, 2018** and **Feb 01, 2020**, we received confirmation that your department used the software between **Feb 16, 2015** and **Feb 01, 2020**.

For the race/ethnicity and income analyses, we merged 2018 American Community Survey data and prediction data and observed the makeup of block groups that were targeted above and below the median, those targeted the most and those targeted the least. For the sake of consistency in our analysis we only used demographic groups for which we had reliable population estimates for all the jurisdictions in our data set. These are:

- Racial Groups
  - Black
  - Asian
  - Latino
  - White
- Household Income
  - Less than \$45k
  - Between \$100k-\$150k
  - Between \$100k-\$150k
  - Greater than \$200k

Table 1: Race and Ethnicity Distribution for Livermore, Calif.

Targeting Level	Demographic	Proportion of Block Group pop.
Most Targeted Block Groups	Asian	2.3
Most Targeted Block Groups	Black	0.0
Most Targeted Block Groups	Latino	8.7
Most Targeted Block Groups	White	67.9

Targeting Level	Demographic	Proportion of Block Group pop.
Median Targeted Block Groups	Asian	8.4
Median Targeted Block Groups	Black	0.0
Median Targeted Block Groups	Latino	9.9
Median Targeted Block Groups	White	61.5
Least Targeted Block Groups	Asian	1.8
Least Targeted Block Groups	Black	0.0
Least Targeted Block Groups	Latino	7.3
Least Targeted Block Groups	White	73.8
Jurisdiction Total	Asian	10.0
Jurisdiction Total	Black	0.2
Jurisdiction Total	Latino	11.5
Jurisdiction Total	White	55.9

Table 2: Income Distribution for Livermore, Calif.

Targeting Level	Demographic	Proportion of Block Group pop.
Most Targeted Block Groups	\$120k - 150k	0.0
Most Targeted Block Groups	\$75k - 100k	3.9
Most Targeted Block Groups	\$200k and above	16.4
Most Targeted Block Groups	Less than 45k	12.7
Median Targeted Block Groups	\$120k - 150k	4.5
Median Targeted Block Groups	\$75k - 100k	3.2
Median Targeted Block Groups	\$200k and above	23.9
Median Targeted Block Groups	Less than 45k	7.3
Least Targeted Block Groups	\$120k - 150k	0.8
Least Targeted Block Groups	\$75k - 100k	4.4
Least Targeted Block Groups	\$200k and above	13.8
Least Targeted Block Groups	Less than 45k	0.0
Jurisdiction Total	\$120k - 150k	3.7
Jurisdiction Total	\$75k - 100k	3.9
Jurisdiction Total	\$200k and above	17.4
Jurisdiction Total	Less than 45k	7.5