

Did police staffing losses cause the 2020–2022 homicide wave?

Evidence from a 25-city panel, 2019–2025 · Raymond Tseng · October 11, 2026

The question

After homicides surged in 2020–2021, a common explanation pointed at police staffing: departments lost officers — through budget cuts, attrition, or both — and the thinner ranks explain the wave. This note tests the staffing version of that story two ways: a panel regression of homicides on staffing, and the timing of the two series.

Data

The sample is a stratified random draw of 25 US cities over 100,000 population (ten each from the 1M+, 300k–1M, and 100k–300k bands of a 357-city frame). Staffing is yearly sworn-officer headcount from the FBI’s police-employment data; homicides are yearly city totals from the FBI Crime Data Explorer, 2019–2025 (171 observations).

Specification

We estimate, with standard errors clustered by city:

$$\log(H_{it}) = \alpha_i + \gamma_t + \beta \cdot \log(S_{it}) + \varepsilon_{it}$$

where β is the elasticity of homicides with respect to sworn officers. The published literature on police manpower (Levitt et al.) typically finds elasticities around -0.3 to -0.5 : more officers, less crime.

Results

Table 1: Elasticity of homicides with respect to sworn officers*25-city panel, 2019–2025*

	(1) Pooled OLS	(2) City FE	(3) City + year FE	(4) City + year FE (lagged staffing)
<i>Log(sworn officers)</i>	0.97*** (0.09)	0.02 (0.50)	0.12 (0.43)	0.09 (0.33)
City fixed effects	No	Yes	Yes	Yes
Year fixed effects	No	No	Yes	Yes
Observations	171	171	171	135
R ²	0.79	0.96	0.97	0.97

Notes: Dependent variable is $\log(\text{homicides})$. Standard errors clustered by city in parentheses. Staffing is sworn officers (FBI Crime Data Explorer police-employment endpoint); homicides are city totals (FBI Crime Data Explorer). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

*Table 1. Dependent variable is $\log(\text{homicides})$. Standard errors clustered by city in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.*

Pooled OLS returns an elasticity of +0.97 — but this is pure cross-sectional confounding: larger cities employ more officers and suffer more homicides. Adding city fixed effects, which restrict the comparison to within-city variation over time, collapses the estimate to +0.02. Adding year fixed effects, which absorb the national crime wave itself, gives +0.12 (SE 0.43); lagging staffing one year gives +0.09 (SE 0.33). In no specification is the estimate distinguishable from zero, and in every fixed-effects specification it carries the wrong sign for the staffing-loss story.

More cops, less crime? Not in this panel

Elasticity of homicides w.r.t. sworn officers, 25 cities 2019–2025, SEs clustered by city

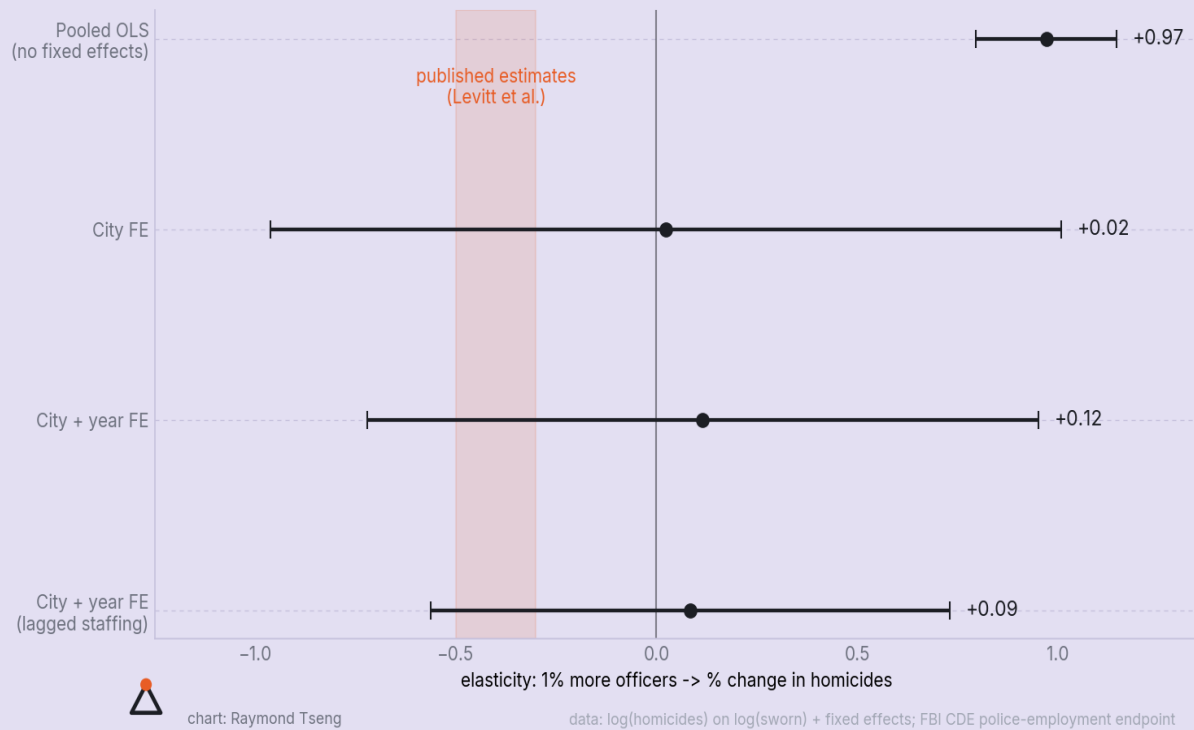


Figure 1. Coefficient estimates across specifications, against the range of published estimates.

Timing

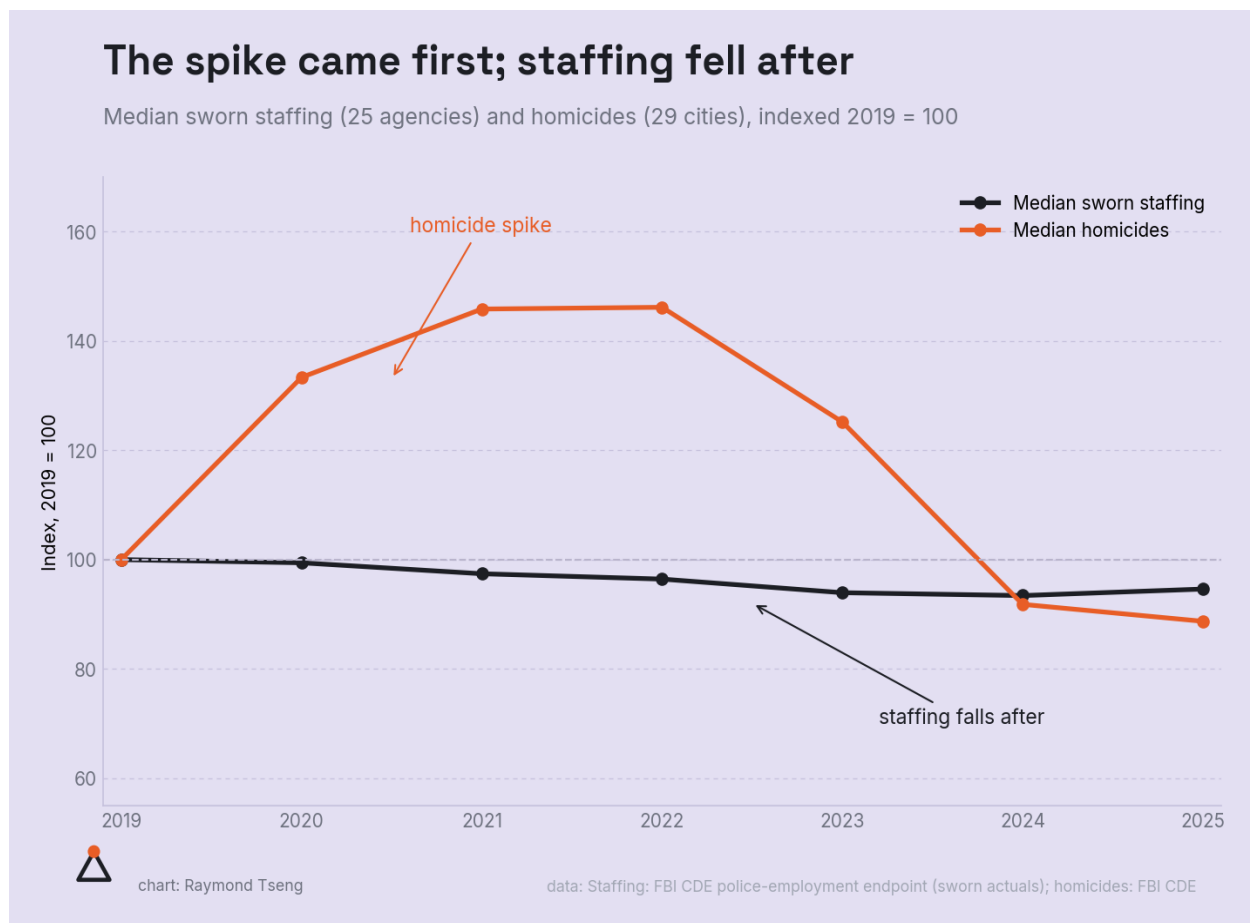


Figure 2. Median sworn staffing (25 agencies) and median homicides (29 cities), indexed 2019 = 100.

The timing evidence points the same way: median homicides rose 33% in 2020 while median staffing was essentially flat (−0.6%), and the staffing decline of 2021–24 arrived after the spike, while homicides were already falling. A cause has to precede its effect; here the order runs the wrong way.

Caveats

Two, stated plainly. First, with 25 clusters the confidence intervals are wide — this panel cannot reject an elasticity of −0.4. It is absence of evidence more than evidence of absence. Second, staffing is plausibly endogenous: cities hire in response to crime, which biases β upward, so +0.12 should be read as an upper bound on the causal effect. Headcount is also not activity — a de-policing story operating through officer behavior rather than attrition would not appear here.

Bottom line

What the data do rule out is the simple version: the cross-city pattern shows no trace of staffing losses driving the homicide spike, in either magnitude or timing.

Data: yearly sworn headcounts and homicide counts for the 30-city sample are available as CSV files alongside this note.