

# How do you determine the right size of a police department? Don't look to crime rates

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Studies have shown that changing the number of police officers has no effect on crime rates. Most scholars agree that if there were zero police, there would be an increase in crime — but within the range of police staffing changes seen in the US, we cannot de-

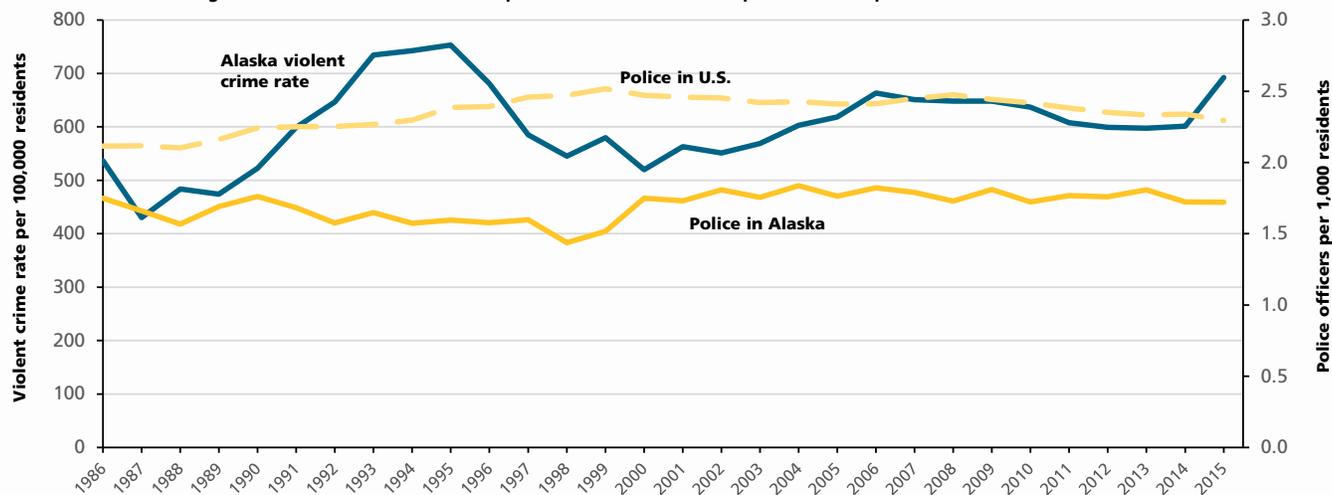
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offenders are at increased risk). Even if offenders are not rational or cannot perceive the increased risk, it's possible that more police could result in an incapacitative effect because arrested offenders are less able to commit offenses while they are under correctional supervision.

Policing scholars have been studying the effect of police force size on crime since the 1960's. Recent systematic reviews of the accumulated research have found that crime rates are rarely associated with increases in

practitioner literature. They found 62 studies published between 1971 and 2013 that reported the effect of police force size on crime and included enough information to include in a meta-analysis. These 62 studies offered 229 findings (many studies report multiple usable findings). Overall, Lee et al. (2016) found that 32 of the 62 studies (51.6%) found a reduction in crime with an increase of police size. If the effect of police force size on crime were zero, we would expect about half of studies (50%) to

Figure 1. Alaska violent crime rate per 100,000 residents and police officers per 1,000 residents: 1986–2015



Source of data: Alaska Department of Public Safety, Crime in Alaska; rates based on population figures from Alaska Department of Labor & Workforce Development

tect any change in crime rates. This essay describes recent systematic reviews of the research on police staffing, the number of police per capita in Alaska and the US, and describes alternative measures that should be used to determine police staffing levels.

## ► Why might police force size be related to crime?

Police administrators have often argued that adding more officers to their agency's ranks will decrease crime. The thinking goes that if there are more officers, the risk of arrest is greater for offenders. Potential offenders perceive this risk and are less likely to commit offenses. That increased perception of risk could be general (all offenders are at increased risk for arrest) or specific (certain

police force size (Lim et al., 2010), and when changes are found they are small (Carriga and Worrall, 2015; Lee et al., 2016). This essay focuses on Lee et al. (2016), as this is the most recently published and most rigorous study on the subject of police force size and

show a reduction and about half to show no reduction.

In more sophisticated meta-analyses, Lee et al. (2016) found that the overall effect size of police force size changes is very small, especially when compared to problem-orient-

**Recent systematic reviews of the accumulated research have found that crime rates are rarely associated with increases in police force size, and when changes are found they are small.**

crime; their findings are consistent with the other studies.

## ► What do the studies say?

Lee and his colleagues (2016) conducted an exhaustive search of academic and

ed policing, neighborhood watch, hot spots policing, and focused deterrence strategies. This small overall effect size of police force changes persisted even after examining studies published in different time periods. The findings were similar among studies us-

ing both primitive and more sophisticated statistical methods. The small effect sizes persisted when studies were grouped by geographic units used (cities, counties, etc.) and other methodological differences. In short, Lee and his colleagues find that the most likely effect of police force size changes on crime is zero.

### ► Does this mean we can safely reduce the number of officers?

The accumulated research on the topic has found that adding police does not decrease crime. But that does not mean we can reduce police force size without consequence. Lee et al.'s findings that changes in police force size have no impact on crime come with a significant caveat. When measured as a rate per population, police force sizes in the US are nearly constant. Statistically, this makes detection of an effect difficult. This is similar to a dose–response relationship in pharmacology and epidemiology: small changes in exposure are often unlikely to produce a response, especially in the middle of the possible dosage range.

To understand how the dose–response relationship works, imagine you have a tablespoon of salt. If you add one grain of salt to the tablespoon, you've increased the amount of salt — but you certainly would not be able to taste the difference in a finished meal. If you added two grains of salt, you still would not be able to taste the difference. The minimum amount of salt you'd have to add to taste the difference depends on the nature of the dish and the other ingredients. Particularly in Alaska, where police jurisdictions are as large as some states, adding one officer to a police agency is often like adding one grain of salt to a tablespoon of salt.

### ► Is crime the only concern of police departments?

Crime rates are a poor proxy for officer workloads. Decades of direct observation research has shown that police officers spend more time on activities not related to crime, such as traffic accidents, noise complaints, and service delivery, than on crime-related activities (for a recent study and a review

of previous studies, see Terrill, Rossler, and Paoline, 2014). Responding to serious traffic accidents, for example, or defusing disputes before a crime occurs are both non-crime activities that the public expects police departments to do. Given that most incidents police respond to are not crimes, it would be somewhat surprising if increased police staffing reduced crime.

The recent systematic reviews of research on police force size and crime therefore do not argue for reducing the number of police. At the same time, increased crime also does not argue for increasing police force size. In-

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stead, police force size should be determined by a complex set of factors. Police departments must evaluate the number of sworn staff required to cover citizen demand for services, conduct cutting-edge policing practices, train, provide shift relief, and provide enough leave time to prevent officer fatigue.

The factors police departments should use to determine their optimal size cannot be easily reduced to a simple formula. Staffing studies of police departments are commonly produced using computer-aided dispatch data that contains information about the types of incidents, incident locations, and time spent on incidents. These measures of citizen demand for services are combined with community preferences for how much time officers should spend on proactive activity, community policing, and training. Operational concerns, such as shift relief and leave time needed to prevent officer fatigue, must also be included (Wilson and Weiss, 2012).

### ► What about Alaska?

In Alaska, formal workload-based staffing studies are rare in recent years. The Police Executive Research Forum conducted a thor-

ough workload-based staffing study of the Anchorage Police Department in 2010 (PERF, 2010). Other agencies may have conducted internal workload analyses when setting staffing levels.

In the absence of comprehensive data, we are left discussing the number of police officers per population — a very coarse indicator of the number of police officers required to service a jurisdiction's workload. Officers per capita is a poor proxy for officer workloads, which are determined by many factors including citizen demand for service, operational realities, and community preferences for the type of policing practiced by an agency.

The number of police officers per 1,000 population has remained essentially constant in Alaska for the past 15 years. The number of officers has ranged from 1.7 to 1.8 per 1,000 in the years 2000–2015. Figure 1 plots violent crime per 100,000 population and police officers per 1,000 population (as reported by the Alaska Department of Public Safety in their annual *Crime in Alaska* report). Figure 1 also plots the number of police officers per 1,000 residents in the US. The number of police officers per 1,000 population is considerably lower in Alaska than in the US average. If Alaska had the same number of police officers per 1,000 residents as the nationwide average (2.3 in 2015) we'd have to hire 424 more officers statewide. To put that in perspective, the Anchorage Police Department had 362 officers in 2015 according to DPS's *Crime in Alaska* report.

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