

Boise State University

**ScholarWorks**

---

College of Business and Economics  
Presentations

2015 Undergraduate Research and Scholarship  
Conference

---

4-20-2015

## **Police Department Spending Vs. Crime Rates**

Derek Meacham

Marissa Watkins

Faruk Huskic

Andrew Williams

—

---

## Police Department Spending Vs. Crime Rates

### Abstract

Our research will explore the correlation of police-to-population ratio and misdemeanor and felony crimes in Boise, Spokane, and other comparable cities. Our research focus is on determining how concentration of police officers in a region affects crime in that area, and to what extent. We expect to find evidence that supports the literature on police and crime. We will also present an examination of the most efficient ratio, looking at cities with lower crime rates. Our findings will have policy implications for Boise City.

### Keywords

crime prevention, police-to-citizen ratio, crime detection

### Disciplines

Business



# Police Dept. Spending Vs. Crime Rates

Boise State Annual Undergraduate Research Conference 2015

Faruk Huskic, Derek Meacham, Marissa Watkins,

Andrew Williams

Poster Prepared for Economics 322 – Urban Economics

Faculty Advisor: Dr. Samia Islam



**BOISE STATE UNIVERSITY**

## Background

We are trying to solve the problem of what the optimal amount of funding for the Boise Police Department is. We are also looking for the optimal police-to-citizen ratio. Currently there is research available on the correlation between the increase in police spending and reported crime, that being a positive correlation. We decided to gather information from surrounding cities of comparable size and compare the data.

## Methodology

Information on 50 cities was gathered and ran through a regression analysis between various categories to search for correlations that would help find an optimum amount of spending for the BPD. Many of the figures include some estimations. We took information on violent crime and cross referenced much of our data from City-Data.com with local police departments.

## Regression & Correlation

**\*\*Numbers in parenthesis are the standard error\*\***

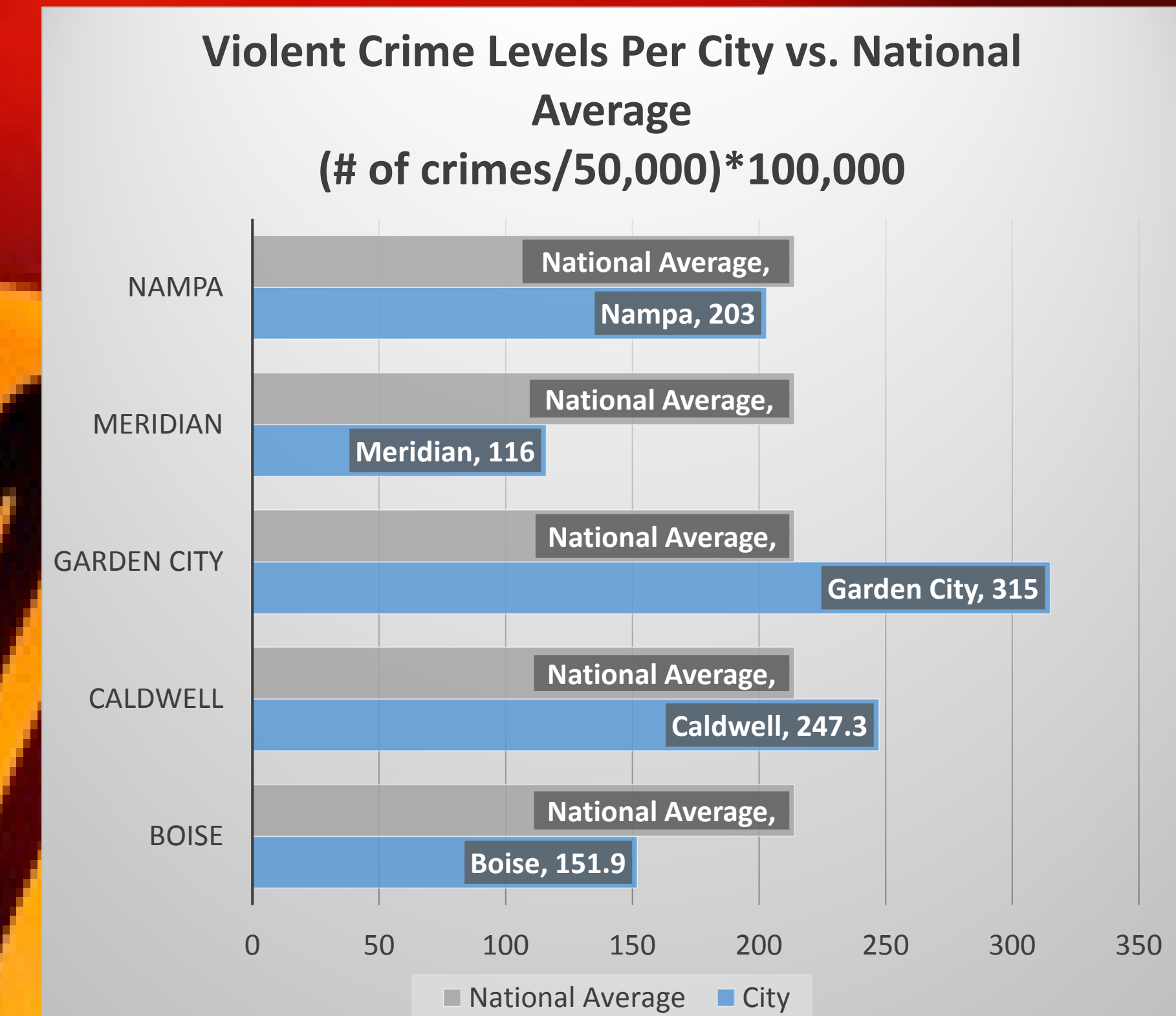
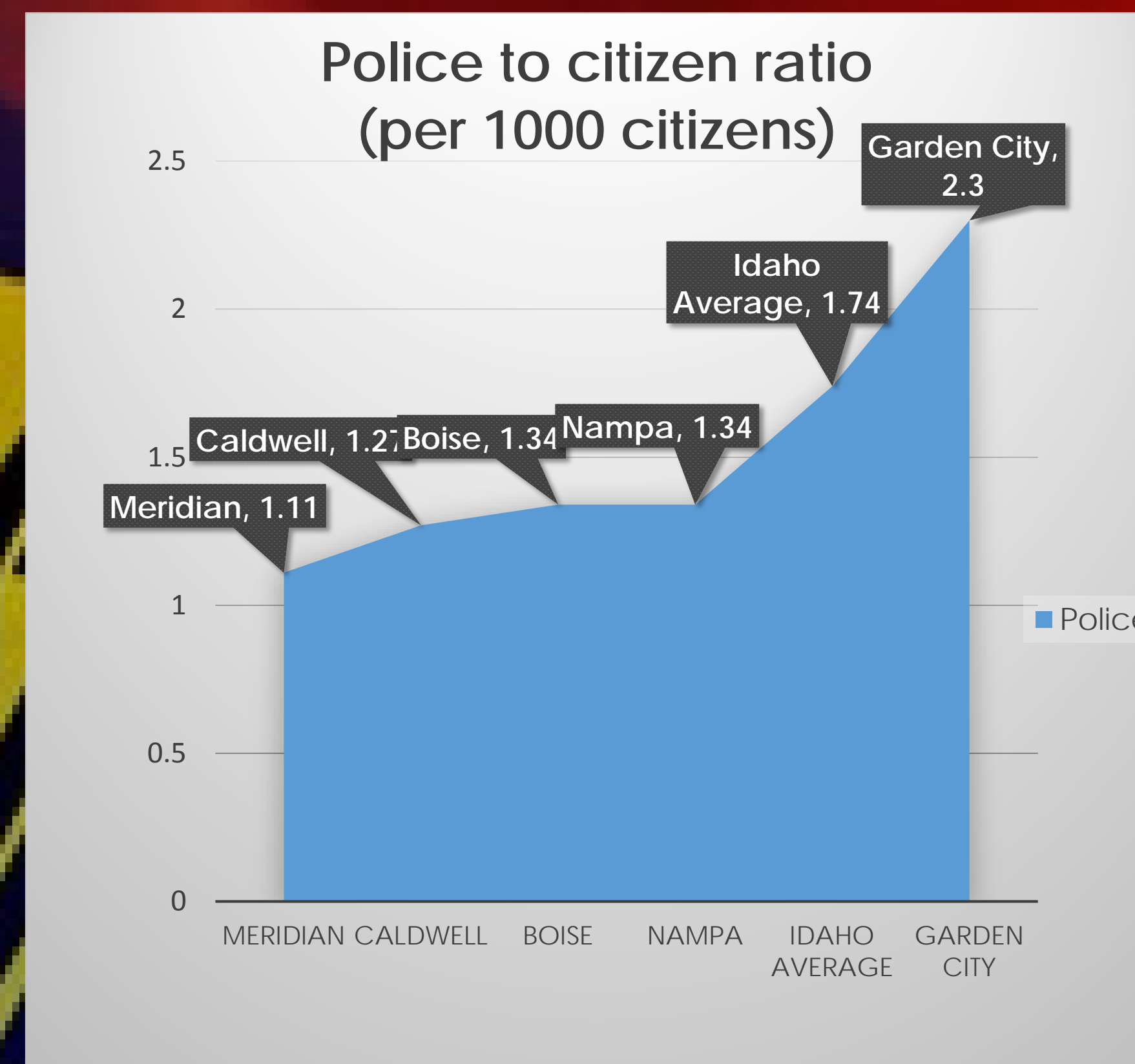
Total crime =  $6920.72 * .027pop(.002) + 109.146meanage(658.2) - .077meaninc(.150) - 111.104white(116.8) - .856dens(.604) + 5797.369PC(2180.6) - 124.173unemp(1245.5)$

While research shows strong correlations for certain variables the significance of some of these variables is questionable. For instance, while there is a strong correlation between density and crime, the affect of density on a cities crime is not statistically significant from zero. This prohibits researchers from being able to extrapolate the variables that cause crime and those that are correlated with crime. Understanding these variables will allow city planners to better understand the demand for policing based on these variables.

	Crime	Pop	Mage	Minc	White	Dens	PC	Unemp
Total Crime	1							
Pop	.912	1						
Mean Age	.0599	.0839	1					
Mean Income	-.0933	.0012	.2115	1				
White	-.2971	-.2174	.0061	.2084	1			
Density	.5964	.6864	.2336	.0879	-.267	1		
Police-to-citizen ratio	.5064	.3872	.0408	-.2696	-.3819	.3951	1	
Unemployment	.2352	.1556	-.0249	-.49	-.5511	.1187	.3832	1

## Sources and Acknowledgements

CityData.org • Local Police Departments  
Thank you to all Law Enforcement Officials!



## Conclusions

While the average cities of comparable size have 5.2 crimes per 100 citizens, Boise had just 2.7 crimes. On average for every \$1,000 increase in property value, property crimes committed increased by 37.5, and crimes on persons increasing by 12.

From what our data shows about police-to-citizen ratio for each additional officer the crime rate increases by 5. this leads researchers to believe that police are better at detecting crimes rather than preventing them.