

Contract Policing In Washington:  
Equitable Services?

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TABLE OF CONTENTS

Chapter 1: Purpose..... 3  
Chapter 2: Literature Review..... 5  
Chapter 3: Methodology..... 13  
Chapter 4: Results and Discussion..... 16  
Chapter 5: Conclusions..... 18  
References..... 21  
Appendix A..... 24

LIST OF FIGURES

Figure 1: Effectiveness..... 8  
Figure 2: Objective and Subjective Outcomes..... 10

LIST OF TABLES

Table 1: Frequencies..... 24  
Table 2: T-test Results for Violent Crime..... 24  
Table 3: T-test Results for Property Crime..... 24  
Table 4: Multiple Regression Results..... 25

## Contract Policing In Washington: Equitable Service?

### **Chapter 1: Purpose**

Among services provided by local government, policing is one of the most foundational, recognizable, and expensive. Police departments are charged with promoting the safety and security of the community and they are given broad authority and public funding to accomplish these goals. Criminal justice is frequently the largest item of expenditure in city and county budgets (Skogan, 1976). Uniformed police officers are among the most recognizable representatives of the community they serve; wearing badges and patches with the city or county logo and driving marked patrol cars make them a highly visible moving billboard for the local government. As such an important piece of local authority, scrutiny of police agencies is appropriate and necessary.

In Washington State, incorporated cities are responsible for providing law enforcement in their city. Most cities in Washington use one of two Organizational Models: Independent Municipal Departments and Contract Police Services. An Independent Municipal Department, like the Seattle Police or the Bothell Police Department, is an agency dedicated to law enforcement within the city limits. This is what is commonly thought of as a city police department. The policy of Contract Police Services, which is used in Washington, originated in Lakewood CA, when in 1953 the city of Lakewood purchased all needed law enforcement services for the city from the LA County Sheriff's Office, the agency providing law enforcement service for all surrounding unincorporated area (Nelligan & Bourns, 2011). The policy has evolved over the last 60 years and is used across the country. According to this policy, all

primary law enforcement services (patrol, investigations, community policing, and special operations) are purchased by the city from the local sheriff's office. Given that the purpose of the Contract Police Services policy was financially driven, it is not surprising that most of the analysis of the policy has been on the cost-benefit efficiency. Studies have defined efficiency as the per-officer cost or the number of officers assigned to patrol. Limited research has been conducted on whether Contract Police Services relates to success in fighting crime.

This study reframes the analysis of this policy from one of efficiency to one of equity. Crime fighting success becomes an equity issue when it is compared between cities and if a policy is producing unequal results in crime fighting success. If crime fighting success in cities with Contract Police Services differs from cities with Independent Municipal Departments that would suggest that this policy produces unequal outcomes.

Therefore the purpose of this study is to compare crime fighting success, as measured by arrest rate, across cities in Washington. More specifically, do Contract Police Services provide equal, better, or worse crime fighting success than Independent Municipal Departments? The term Arrest Rates will be operationalized along the lines of violent crime and property crime. Other studies have shown investigative methods for these two categories may differ; so they should be treated separately. Arrest Rates are calculated as the number of arrests for a certain type of crime, divided by the number of actual occurrences of that crime. The guiding questions for this research are: 1) Is there a difference in crime fighting success (Violent Crime Arrest Rates and Property Crime Arrest Rates) between cities with Independent Municipal Departments and Contract

Police Services? 2) If yes, what is the relationship between crime fighting success and Contract Police Services?

## Chapter 2: Literature Review

The difficulty in assessing police departments lies in the type of work being done. Police departments are asked to maintain order, safety, and quality of life in a community, but even if these characteristics could be quantified it would be impossible to know how much, if anything, the police had to do with them (Wilson, 1993). Other factors, such as employment, education, civic connectedness, and economic opportunities may have equal or greater impact on a citizen's perception of safety and quality of life than actions by the local police department. One limitation of the literature is that there is no measurement of the crime prevented by police activity (Ostrom, 1975). Though prevented crime has been estimated as a ratio of actual crime over expected crime (Chapman, Hirsch, Sonenblum, 1972), or as a change in crime rate from year to year (Mehay, 1979), no authors claim to have a model capturing significant and meaningful independent variables of expected crime.

In his book *Bureaucracy*, James Q. Wilson described police departments as coping agencies, based on the inability of managers, or researchers, to reliably measure the outputs or outcomes of production (1989, p. 168). Wilson defines *outputs* as the day-to-day work done by an agency; in the case of police this could mean radio calls answered, tickets written, accidents investigated, and arrests made. *Outcomes* means how the community changes as a result of the agency; improved security, increased order, and added amenity (1989, p. 158). *Inputs* for police services often include police

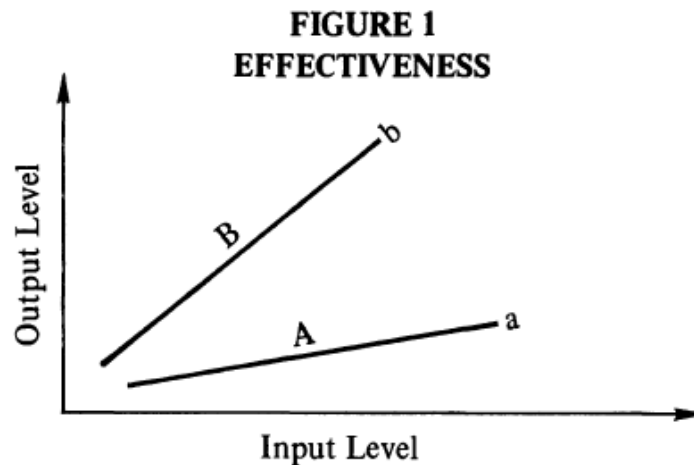
officers, vehicles, and radios (Ostrom, Parks, Percy, Whitaker, 1979), which are fairly easily tracked and measured. But when a police officer investigates a robbery or quells a domestic disturbance, valued resources such as time, knowledge, cultural awareness, and courtesy may be employed by the officer. These resources may impact the involved citizens in a positive or negative way, depending on the officer, citizens, and circumstances. Considered this way, these less measurable inputs may have a greater impact on the perceived safety of the citizens than how many police cars or officers are patrolling the city. Police supervisors cannot monitor all interactions of their officers, and police lieutenants are unable to observe the level of order that a patrol officer maintains on their beat (Wilson, 1989). Further, even if these outputs and outcomes were somehow observed, gauging the level of impact created by the activities of the officer is not possible.

When attempts to find any real measurements of police effectiveness failed, Wilson found that proxy measurements were developed based on the data that was available. These proxy measures tend to be process based output measures, such as response time, arrest rates, and clearance rates. Wilson pointed out that these indicators “may or may not have any relationship to crime rates or levels of public order” (1993, p. 160). Measurements of efficiency often become the only method of comparison between departments. Instead of focusing on outputs or outcomes of police, many studies look primarily at what different departments pay for a unit of police service (Nelligan & Bourns, 2011). There is a great deal more literature and more agreement on the measurements of efficiency in police departments than effectiveness.

There is some agreement in the literature that any measurements of police effectiveness must be reflective of the agency's defined goals. DiIulio argued that if agency goals are vague, efficiency is irrelevant and effectiveness is incidental (1993, p. 147). Put another way, the outcome of production (or at least the intended outcome of production) must be known before it can be measured (Ostrom, Parks, Percy, Whitaker, 1979). The dominant culture in American police departments has been to view the officer as a professional; one guided by standard principles and practices (Alpert & Moore, 1993, p. 111; Wilson, 1989, p. 170). As a result, the primary goal of the police has been to reduce crime and criminal victimization (Alpert & Moore, 1993; Wang, 2000). With clearer goals came increased measurement of officer production based on the goals of reducing crime and criminal victimization (Wilson, 1989).

In his examination of big-city police department production, Wesley Skogan defined effectiveness as task performance (1976, p. 278). Skogan said effectiveness is high when an organization approaches meeting its organizational goals. With a primary goal of policing being to reduce crime and maximize safety, Skogan argued that measurements of how departments deal with serious crime are the best indicators of effectiveness (1976, p.279). Skogan pointed out that few people blame police for the existence of crime, therefore emphasis should be shifted away from crime rate analysis and placed on the outputs that are in control of the department: arrests (1976, p. 279). Effectiveness can be defined as a ratio of output per input, which can be organized in a graph or equation if the variables can be defined and isolated. Skogan, unlike all the other mentioned authors, defined inputs in terms of the condition where production happens. Occurrence of crimes in a community is the condition for police service

production. For Skogan, inputs include murders, robberies, assaults, rapes, burglaries, larcenies, and auto thefts (1976, p. 280). Other authors define inputs in terms of resources employed by the community or police department to affect the condition of crime. Skogan restated his definition of effectiveness as follows:  $\text{Output} = \text{Input} \times \text{Effectiveness}$ ; or  $y = a + xb$ ; where “x” is the input quantity, “y” is the output level, and the estimated “b” is the “effectiveness coefficient,” or the proportion translated into arrests (1976, p. 281).



*Figure 1.* Effectiveness (Skogan, 1976, p. 279).

As shown in Figure 1, Skogan drafted regression lines for a group of cities based on each type of crime occurrence and arrests. This allowed for individual departments to find their effectiveness by calculating their city’s input and output levels, then measure the distance from the regression line. This “residual” distance is a measurement of relative effectiveness for a department’s performance in a specific type of crime fighting, which can be used to compare different departments and strategies (1976, p. 282).

Skogan’s particular definition of crimes as inputs allows for a comparatively concrete analysis of department productivity. Like Wilson, Ostrom, and DiIulio, Skogan

believes that measures of production must follow the organizational goals (1976, p. 284), but Skogan chose just one of the many possible goals pursued by any police department. Focusing on the single goal of fighting crime, occurrence of particular crimes is a reasonable input, and arrests are a logical output. Other authors have a more difficult time quantifying the input and output values in consistent ways, which may reflect the organizational goals they identify.

Skogan criticized Ostrom and her colleagues for their study of organizational arrangements effecting police performance.<sup>1</sup> He points out that they differ from him in the effectiveness measures used; they look at how department size and resources are related to self reporting of consumer satisfaction with police services (Skogan, 1976). Following Skogan's work, Ostrom published a more focused analysis of productivity measurements in policing, with an eye on institutional framework. In *Evaluating Police Organization* (1979), Ostrom, Parks, Percy, and Whitaker look at interagency arrangements for police services and the type of production measurement that is necessary to evaluate these arrangements.

The authors developed a model for production that is an elaboration of Skogan's linear equation. They argued that organizational arrangements dictate the inputs available (in this case: police officers, police cars, radios, etc.) and the activity of the workers. Outputs are the direct result of activities: an arrest is the result of questioning witnesses, collecting evidence, examining the scene of the crime. The authors state that for evaluation of this process, it is necessary to track all the components of this model. The number of police officers and patrol cars, the time spent talking to witnesses, the

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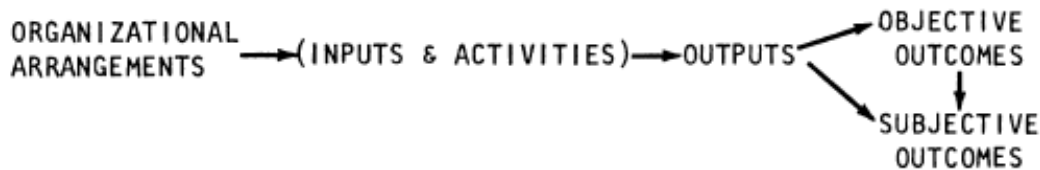
<sup>1</sup> Ostrom, E., & Parks, R.B. (1974). Suburban police departments: Too many, too small? *Urban Affairs Annual Review*, 7, 367-402.

number of crime scenes investigated, and lastly the resulting arrests or tickets or other results, all must be accurately counted (1979, p. 5).

But the authors acknowledged that outputs like arrests do not necessarily benefit the community, thus an analysis must also consider the consequences of outputs, called outcomes (1979, p. 5). Here the underlying assumption is that the goal of policing is to benefit the community. Given this broader goal, the authors said outputs like arrests and traffic stops may actually negatively impact the community:

Arrests that do not result in desired outcomes are not useful and may, in fact, produce negative activities and outlooks among members of the community being policed. Similarly, traffic stops that are not related to traffic hazards do not improve safety, but may instead lead to increased citizen frustration with, and hostility toward police. (1979, p. 5)

The authors divide outcomes into two types; objective and subjective outcomes.



*Figure 2. Objective and Subjective Outcomes (Ostrom, Parks, Percy, Whitaker, 1979, p. 6)*

Objective outcomes can be considered as the impact that outputs have on general community conditions. A subjective outcome is defined as the impact of agency outputs on an individual.

The authors are quick to point out the difficulty in measuring objective outcomes, like a community’s crime rate, because of so many confounding factors, such as

employment rate, age distribution, and education (1979, p. 6). The authors do not address whether or not subjective outcomes are free from such confounding factors.

The study completed by the authors compares cities with similar characteristics but differing police organizational arrangements. They analyze effectiveness by rates collected from the police department, responsiveness by citizen survey, and equity by calculating a dispersion score.<sup>2</sup> Since they are interested in institutional arrangements, they produce mean scores for each measurement which can be compared to the mean score for a differing organizational structure.

The literature holds two challenges to the usefulness of subjective outcomes asserted by Ostrom and her colleagues as a measure of police activity. The first is by DiIulio (1993), who differentiates between *operational goals* and *nonoperational goals*. Operational goals are those desires for the future that “can be compared unambiguously to an actual or existing state of affairs” (p. 145); nonoperational goals are those that cannot be compared. DiIulio stated that attempting to maximize output levels where nonoperational goals are in place, such as “reforming criminals,” is a fool’s quest (p. 147). The measurements that Ostrom and her colleagues outline for the subjective outcome of “responsiveness” indicate highly nonoperational goals: “Higher perception of safety from crime in the neighborhood, higher ratings of police performance in general, higher citizen ratings of specific police activities, higher citizen rating of specific aspects of police officer's demeanor (honesty, courtesy, fairness, etc.)” (Ostrom, Parks,

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<sup>2</sup> Mastrofski, S.D. & Whitaker, G.P. (1976). *Equity in the delivery of police services*. Technical report T-29. Bloomington, Indiana: Workshop in Political Theory and Policy Analysis, Indiana University.

Percy, Whitaker, 1979, p. 15). Goals such as improving perceived safety, better police performance, and more positive officer demeanor are nonoperational.

A second challenge to the argument by Ostrom and her colleagues is that the doctrine of police professionalism, as well as coping organizations in general, encourage police departments to emphasize aspects of the job that can be standardized and easily measured (Wilson, 1989). The type of work that produces subjective outcomes like responsiveness is order maintenance work. Wilson said order maintenance work:

produces few if any statistics, puts the officer in conflict ridden situations, and increases the risk of complaints about officer misconduct from people who disagree with the officer as to what constitutes an acceptable level of order or how best to achieve it. (p. 170)

No doubt responsiveness is important and may be felt more personally by members of the community than other more objective outcomes, but Wilson and DiIulio suggest that police departments are not likely to define goals based on subjective outcomes. Productivity evaluation must be based on the goals of the agency.

The literature on police production evaluation is divided in many ways. Some authors argue well the limitations of traditional police reliance on easily captured statistics of individual officer output. Others seem to praise the police professionalism movement for its clear organizational goals and measured achievement. Even when authors attempt a model to capture the productivity of police, they mention the impossibility of the task, given the complexity of each community being studied.

Thus, there is no agreed upon measure of crime fighting outcomes in the literature. But as one study points out, a clear organizational goal and community

expectation of police is still to solve crimes and arrest those responsible (Nelligan & Bourns, 2011, p.79). Arrests can be seen as success in one of the many ways police departments fight crime.

### **Chapter 3: Methodology**

Given the literature review, the use of arrest rates as a measure of success in achieving the goal of crime fighting is justified. Therefore, the first question put forth by the study is whether there is a difference in crime fighting success, as measured by Violent Crime Arrest Rates and Property Crime Arrest Rates, between Washington cities with Independent Municipal Departments and Contract Police Services. The second question is, if there is a difference, what is the relationship between crime fighting success and Contract Police Services? To answer both questions secondary data was used for analysis.

The Federal Bureau of Investigation encourages police agencies to report crime and arrest statistics to the FBI's Uniform Crime Reporting (UCR) project. Police agencies voluntarily report data on a monthly basis according to guidelines and definitions provided by the FBI (FBI, 2009). The data provided by the FBI for this study was UCR statistics for the twelve months spanning January 2009 to December 2009. Only reported data from Washington State cities that use one of the two Organizational Models being considered were included. Data from the Washington State Patrol, college and university police, tribal police agencies, port authority police, and sheriff's offices where they are not providing service for an incorporated city were all excluded from analysis.

The dependent variables for this study are Violent Crime Arrest Rate and Property Crime Arrest Rate. Violent Crime Arrest Rate and Property Crime Arrest Rate, are the number of arrests for included crimes, divided by the number of actual occurrences of these crimes (Nelligan & Bourns, 2011). Violent Crimes include murder, manslaughter, rape, robbery, and assault. Property Crimes include burglary, larceny, and vehicle theft. The FBI defines an arrest as when at least one person is identified, charged with an offense, and referred to the prosecutor (FBI, 2009). The FBI requires agencies reporting statistics to the Uniform Crime Reporting project to conform to this definition (FBI, 2009).

The independent variable of Organizational Model is a dichotomous variable created to represent whether a city uses Contract Police Services or an Independent Municipal Department. Contract Police Services is given a 1 value, as it is the subject of interest and theorized to be providing better service. Independent Municipal Departments are given a 0 value.

This study also uses two control variables; Population and Crime Rate, for each city. This idea comes from studies that question if big cities with lots of crime tend to have less success in fighting crime. Population is the number of residents of the city in 2009. Crime Rate is the number of all violent and property crimes committed in the city over 2009, per 1,000 residents.

To answer the first research question, a t-test for group differences is presented using the UCR data. There are two null hypotheses for the first research question, due to the division of violent crime and property crime.

H<sub>0</sub>1: There is no significant difference in crime fighting success for *violent crime* as measured by *Violent Crime Arrest Rates* between cities with Independent Municipal Departments and Contract Police Services.

H<sub>0</sub>2: There is no significant difference in crime fighting success for *property crime* as measured by *Property Crime Arrest Rates* between cities with Independent Municipal Departments and Contract Police Services.

To answer the second question, about the relationship between Arrest Rates and Contract Police Services, Multiple Regression is presented controlling for Population and Crime Rate. Again there are two corresponding null hypotheses.

H<sub>0</sub>3: There is no significant relationship between crime fighting success for *violent crimes* as measured by *Violent Crime Arrest Rates* and Contract Police Services.

H<sub>0</sub>4: There is no significant relationship between crime fighting success for *property crimes* as measured by *Property Crime Arrest Rates* and Contract Police Services.

The alternative hypothesis is that Contract Police Services will have better crime fighting success for violent crimes and property crimes, based on Nelligan and Bourns' study of organizational models in California which posits that selective investigative units responsible for a great deal of crime solving will be drawing from a larger pool of talent and resources in a Contract Police Service model (Nelligan & Bourns, 2011, p.89). As a result, investigative units in cities using Contract Police Services are expected to solve more crimes.

### Chapter 4: Results and Discussion

Table 1 includes the key variables in this study. All tables are located in Appendix A. The column on the left contains control and dependent variables; the independent variable is shown across the top. From the total sample, Independent Municipal Departments are most common with 177 cities. Contract Police Services are used in 14 Washington cities. For each city, the data includes twelve months of reported crimes and arrests.

Just below total sample is population. Interestingly, the mean population for the 14 cities with Contract Police Services is nearly equal at 20,482 residents to the mean population of the 177 Independent Municipal Departments at 20,624 residents. In 2009, the largest city with an Independent Municipal Department was Seattle with 602,000 residents. By comparison, the largest city with Contract Police Services was Shoreline with only 51,800 residents. The story behind the population mean is that there are many small rural cities in Washington that use Independent Municipal Departments. In Washington, Contract Police Services tend to be used in medium sized cities.

The dependent variables show the mean arrest rates for violent crimes and property crimes. The Violent Crime Arrest Rate for Contract Police Services is .5095. This means that for every one violent crime occurrence, .5 arrests were made. So a rate approaching 1 would mean nearly as many arrests as crimes.

Table 1 also reveals that the mean violent crime arrest rates are higher than the mean property crime arrest rates. This is not surprising given the prioritization of police resources to the most heinous crimes. But, for both violent and property crime, the mean

arrest rates for Independent Municipal Departments is higher than Contract Police Services.

A t-test, which examines the difference between groups, was used to determine whether there is a difference in crime fighting success, as measured by Violent Crime Arrest Rates and Property Crime Arrest Rates, between Washington cities with Independent Municipal Departments and Contract Police Services. Tables 2 and 3 show the result of these t-tests. The null hypothesis for these t-tests for group differences assume no difference in arrest rate between Contract Police Services and Independent Municipal Departments. The tests, which result in a p value, are an indication of the likelihood that the mean scores were produced by two groups with no difference.

In the case of Violent Crime Arrest Rate, a p value of  $< .005$  is a very small chance that these two groups are the same. Put another way, this test shows a statistically significant difference in the mean violent crime arrest rates between Contract Police Services and Independent Municipal Departments. For property crime arrest rates, the p value of  $< .05$  is not as significant as  $.005$ , but it is still a significant result.

These tests are directed at the first research question, which wondered if there is a difference in crime fighting success between the two organizational model groups. For both Violent Crime Arrest Rates and Property Crime Arrest Rates, the answer is yes; there is a difference.

A multiple regression analysis was conducted to determine the relationship between crime fighting success and Contract Police Services. Table 4 contains the results of the multiple regression analysis.

For Violent Crime Arrest Rate, the unstandardized coefficient value of  $-.183$  indicates that for every additional city that chooses Contract Police Services, the mean Violent Crime Arrest Rate decreases by  $.183$  percentage points. Likewise for Property Crime, the unstandardized coefficient value of  $-.073$  indicates that for every additional city that adopts Contract Police Services, the mean Property Crime Arrest Rate decreases by  $.073$  percentage points. The unstandardized coefficient values for City Population and City Crime Rate show that they didn't have a strong pull on the arrest rates. What this test indicates is that Contract Police Services has a significant negative relationship with Violent and Property Crime Arrest Rates.

Worth noting, though, are the  $R^2$  values of  $.073$  for Violent Crimes and  $.038$  for Property Crimes. This is a measure of the proportion of variation across Arrest Rates that is explained by the independent variable and two control variables. So, Contract Police Services, City Population, and City Crime Rate explain 7% of the variation across Violent Crime Arrest Rates, and less than 4% for Property Crime Arrest Rates. This is a relatively low value.

### **Chapter 5: Conclusions**

There is a significant difference in crime fighting success for Violent Crime Arrest Rate and Property Crime Arrest Rate between cities with Contract Police Services and Independent Municipal Departments. This is a key finding of the study, and an unexpected finding. In Nelligan and Bourns' study of California Contract Services, they found a significant difference in crime fighting success for violent crime only. California also has 143 cities identified using Contract Police Services, to Washington's 14. The

lower N for the Washington study made significant results seem less likely. The significant findings of  $<.05$  for both Violent Crime Arrest Rate and Property Crime Arrest Rate are strong indications of a difference. Future research should be done to expand the low N of the Washington State study.

A second key finding is that there is a significant negative but weak relationship between Contract Police Services and crime fighting success for both Violent Crime and Property Crime. This suggests that Contract Police Services may not be a suitable policy if the goal is to maximize arrest rates. However, a study over a longer time period might show that Contract Police Services change over the lifespan of the organization. A limitation of this study is that it was only a twelve-month period. Future research could include longitudinal studies or comparing arrest rates in a city before and after a change in the Organizational Model.

Even though Organizational Model, Population, and Crime Rate together account for only negligible influence on crime fighting success in this study, the negative relationship found is important. Cumulative difference in crime fighting success could accrue in inequality as a result of this policy. Even though the extent to which Contract Police Services explains the lower crime fighting success is small, if the difference persists over time it may accumulate into a more considerable inequality.

These results alone are not enough to recommend policy change. Though it seems there is a difference in crime fighting success between groups, more data is needed to better explain the difference. However, these results along with a study of the cost-benefit efficiency of the policy could be much more meaningful. The policy of Contract Police Services raises issues of local control, community awareness, and responsiveness,

which might be better studied by more qualitative research methods. Much study is needed on this growing policy area.

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Appendix A

Table 1: *Frequencies*

|   | <b>Contract Police Services</b> | <b>Independent Municipal Department</b> |
|---|---------------------------------|---|
| Total sample                                  | N=14                            | N=177                                   |
| <b>Control Variables (<math>\mu</math>)</b>   |                                 |   |
| Population                                    | 20,482                          | 20,624                                  |
| Crime Rate (per 1,000 residents)              | 183.8                           | 365.8                                   |
| <b>Dependent Variables (<math>\mu</math>)</b> |                                 |   |
| Violent Crime Arrest Rate                     | .5095                           | .6818                                   |
| Property Crime Arrest Rate                    | .1018                           | .1745                                   |

Table 2: *T-test Results for Violent Crime*

|                                  | <b>Organizational Model</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|----------------------------------|-----------------------------|-------------|-----------------------|
| <b>Violent Crime Arrest Rate</b> | Contract Police Services    | .5095       | .1539                 |
|                                  | Independent Municipal Dept. | .6818       | .2131                 |

P<.005

Table 3: *T-test Results for Property Crime*

|                                   | <b>Organizational Model</b> | <b>Mean</b> | <b>Std. Deviation</b> |
|-----------------------------------|-----------------------------|-------------|-----------------------|
| <b>Property Crime Arrest Rate</b> | Contract Police Services    | .1018       | .0391                 |
|                                   | Independent Municipal Dept. | .1745       | .1115                 |

P<.05

Table 4: *Multiple Regression Results*

|                                  | <b>Contract<br/>Police<br/>Services</b> | <i>P value</i> | <b>City<br/>Populatio<br/>n</b> | <i>P value</i> | <b>City<br/>Crime<br/>Rate</b> | <i>P value</i> |
|----------------------------------|---|----------------|---------------------------------|----------------|--------------------------------|----------------|
| Violent Crime<br>Arrest Rate     | $B = -.183$                             | $p < .005$     | $B = 4.283E-007$                | $p < .5$       | $B = .000$                     | $p < .5$       |
|                                  | $R^2 = .073$                            |                |                                 |                |                                |                |
|                                  |   |                |                                 |                |                                |                |
| Property<br>Crime Arrest<br>Rate | $B = -.073$                             | $p < .05$      | $B = .000$                      | $p < .1$       | $B = 3.617E-007$               | $p < 1$        |
|                                  | $R^2 = .038$                            |                |                                 |                |                                |                |
|                                  |   |                |                                 |                |                                |                |