

Cashing the Public Safety Dividend

Re-Calibrating Spending on Police Services in an Era of Declining Crime Rates

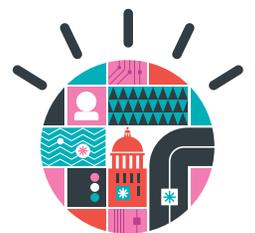
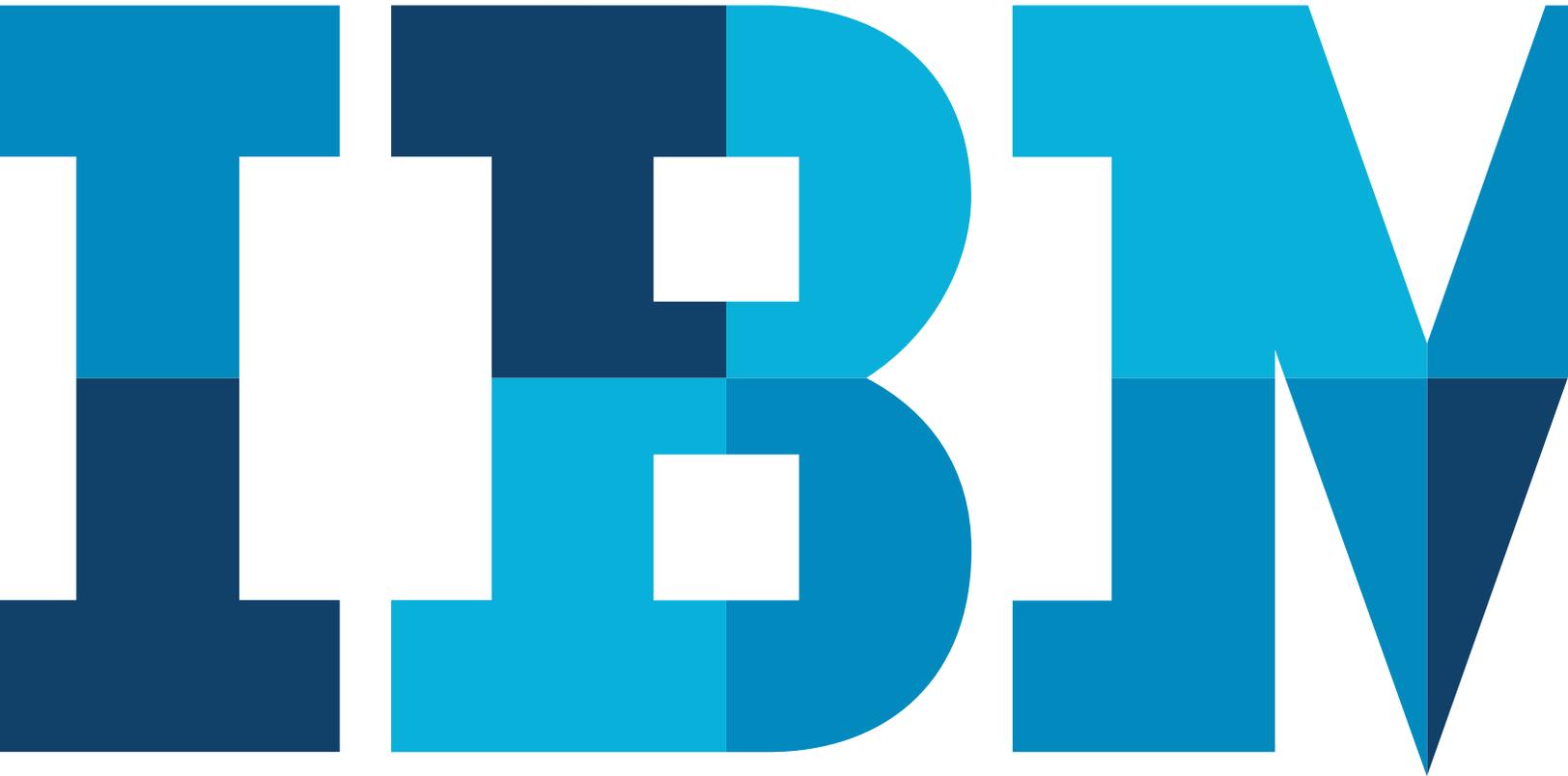
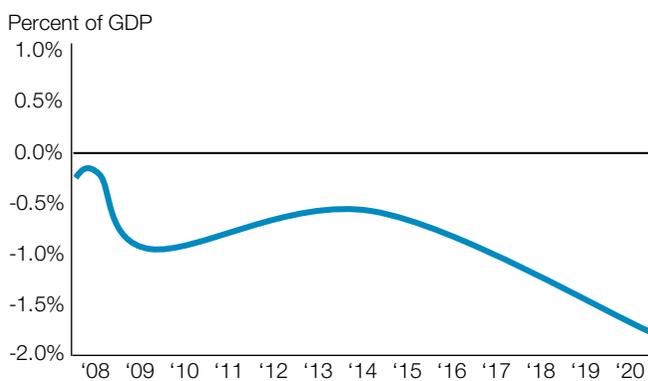


Table of Contents

Executive Summary	3
Police services and the mission of cities	4
How much bang do we get for the policing buck?	7
Is there a better way to fight crime?	10
The answer is all around us	13
The first steps	16
About the authors	17
Acknowledgments	18
Footnotes	18

Executive Summary

Local governments in the United States are struggling. Collectively they are running a structural deficit of \$225 billion, which means that on average cities are facing a 1.2% deficit in their general operating budgets. The Government Accountability Office (GAO) projects that local government finances will continue to deteriorate over the next ten years even if Federal and State support holds steady, an unlikely scenario given the condition of Federal and State government budgets (see Figure 1).



Source: State and Local Government Fiscal Outlook, April 2011 Update, Government Accountability Office

Figure 1: State and Local Budget Deficits

While the recent recession has aggravated the fiscal challenges facing cities, it is not the cause of them. Over the past several decades, local governments have increased service levels and made long-term commitments (particularly in terms of employee pensions and retirement healthcare coverage) that will be very challenging to honor. At the same time, cities have failed to replace their existing infrastructure on a timely basis and are not adequately funding the new infrastructure they will need to support their anticipated future growth.

Faced with the prospect of continued flat revenue growth and a general lack of enthusiasm for increased taxes, cities are scrambling to find large and sustainable cost savings opportunities. The usual suspects – across-the-board reductions, labor furloughs, and pension fund refinancing – are not generating the permanent changes in municipal cost structures that cities require. City officials must think more fundamentally about their respective missions in order to

determine whether or not there are less costly ways to provide the core services they are charged with delivering.

Cities need to rethink their business models to focus on long-term investment aimed at stimulating growth rather than on short-term spending intended to preserve historical service levels. The future financial viability of cities is inherently tied to their ability to attract and accommodate quality growth, and yet cities are under-investing in those areas – such as economic development and public infrastructure – that are central to stimulating that growth. Instead, they are starving long-term investments in order to preserve service levels under the assumption that robust revenue growth will return in the near term.

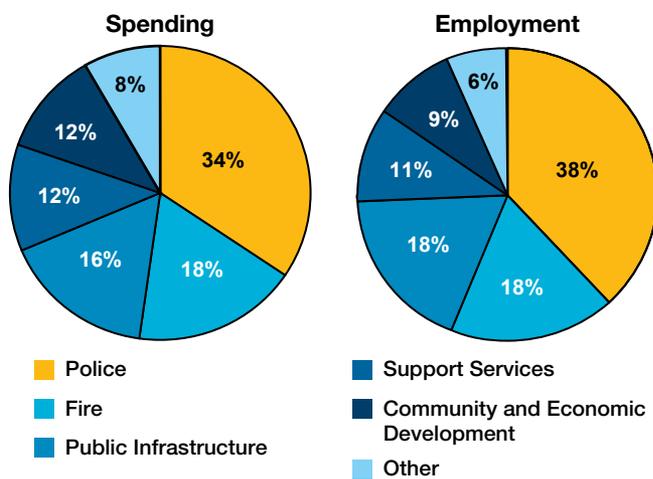
Without making the infrastructure investments needed to attract and support future growth, cities will not be able to generate the future revenues they need to support their operations. Recurring deficits will lead to more cuts, less investment, and even less growth. This cycle of disinvestment can create a feedback loop that is very difficult to reverse. “Fiscal death spiral” may be too alarmist, but it is not far off.

A rebalancing is required. Cities need to shift resources from “consumables” to “capital.” They need to scale back the commitments they have made in areas such as pension plans and simultaneously recalibrate service levels across all of their major operations. By doing so, cities can generate the cash flow needed to fund investments in transportation, water, greenspace, and economic development that will attract revenue-generating private investment.

Recalibrating city services may seem a daunting task, but if there was ever a time to rethink the role of municipal government and the assumptions underlying how it allocates its resources, this is it. During the past decade, city governments in the United States have made significant strides in analyzing their effectiveness. Performance management systems – modeled after the CitiStat system pioneered in Baltimore – have been launched in most major cities and produce a wealth of information regarding the effectiveness of municipal services. More specifically, these systems are yielding important insights into the degree to which city operations generate the outcomes they are intended to yield.

This performance data can be used more aggressively to assess the effectiveness of city services and thereby drive to inform allocation decisions. More importantly, these systems can be used to drive “meta” models designed to assess how a family of city services collectively impact urban outcomes. For example, instead of focusing exclusively on how school quality impacts educational achievement, cities are now in a position to assess how a broad set of programs and conditions – neighborhood health, social service interventions, and criminal activity – also contribute to educational results. Using these types of approaches, cities can direct resources to services that yield the highest returns as measured by improvements in desired outcomes.

The purpose of this white paper is to illustrate how this approach might be applied. In this case, we have decided to focus on police services. Policing is by far the largest single budget item in a municipal government: cities on average spend 35% of their general operating funds on police services¹; the next largest budget item – fire response services – is less than half of police spending (see Figure 2). Policing is also the last place that most cities tend to look for budget savings. If the case for rethinking resource allocation decisions can be made in the context of police spending, then its broader applicability should be evident.



Source: Smarter, Faster, Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities. IBM, 2011. Print.

Figure 2: Distribution of General Fund Spending and Employment in Municipal Governments

Based on this assessment, we have concluded the following:

1. Spending on police services is considered the primary means that local governments have at their disposal to deliver their goal of public safety, yet that spending does not appear to be a major driver of public safety outcomes;
2. Public safety appears to be the product of a large set of social and economic conditions, most of which are not related to policing activity;
3. National crime rates have declined significantly in the past 20 years, while spending on police services continues to rise at rates that exceed local government revenue growth;
4. Now may be the time to “recalibrate” spending on police services to better reflect the level of crime activity that is being experienced and to shift resources to infrastructure and economic development investments that are not only central to the future fiscal health of local governments, but are themselves key contributors to public safety.

We call this “cashing the public safety dividend”. Varying forms of this opportunity exist across local government. Our larger point is that if local governments are to live in a future of limited revenue growth, they need to rethink how desired urban outcomes are achieved. If those outcomes – public safety, an educated workforce, healthy neighborhoods – can be achieved more effectively through investments in infrastructure and economic development than through spending on direct services, then a shifting of resources from consumables to investments may be warranted. Policing is a good place to begin the conversation.

Police services and the mission of cities

Local government spending on police services in the United States has increased steadily over the past several decades. On a per capita basis, police spending has increased from an inflation adjusted \$75 per person in 1960 to \$295 per person in 2008. In other words, local government spending on policing has increased by nearly 300% during this period (see Figure 3).

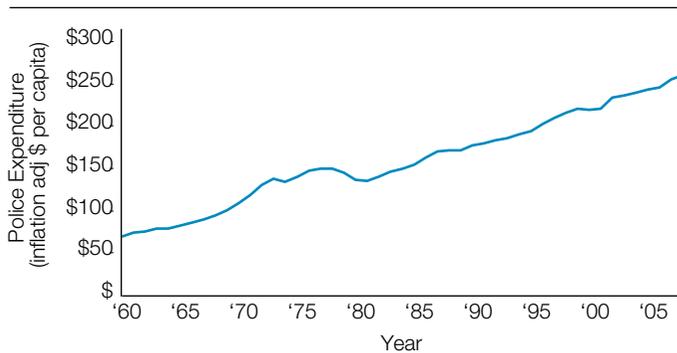


Figure 3: Local Government Per Capita Spending on Police Services (1960-2008)

This growth in police spending has outpaced spending in other local government service areas. Police spending as a percentage of total local government revenue² has increased from less than 9% in 1960 to over 14% in 2008 (see Figure 4). Spending on police services is “crowding out” spending on other municipal services including education, human services, and public infrastructure.

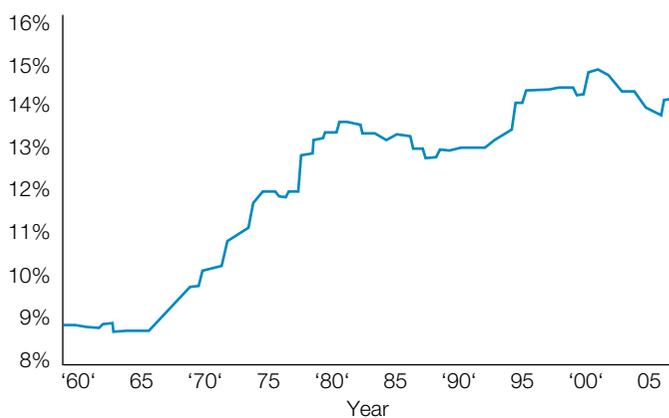


Figure 4: Local Police Expenditure as % of Local Tax Revenue

One reason local government officials have been giving police services priority over other city services is that many people believe that enhancing public safety is the most important mission of local government. The mission of a city government is to improve the quality of life of the residents, businesses, and visitors of that city, and without question, quality of life is directly impacted by how safe people are.

Since police services are provided by cities for the primary purpose of improving public safety, it is not hard to connect the role of police departments to the overall mission of municipal government. What is difficult to determine, however, is how cities should translate this public safety mission into quantifiable goals. How do we know whether “public safety” has been delivered? How do we know what the “right” level of spending is on public safety? How do we know whether additional spending on public safety will make a city safer?

To answer this question, it might be useful to consider a different example: how clean should the streets of a city be? Theoretically, there is no natural limit to the cleanliness of a street. Streets can be cleaned weekly, daily, hourly, or continually. They could be scrubbed by hand for that matter. Littering laws could be enforced without limits. If we had unlimited resources and a deep love of clean streets, we could eat off of them.

Of course, not many streets in our cities are ready to host banquet dining. Through some not altogether obvious mechanism, we have generally agreed that our streets should be reasonably tidy but not necessarily ready to pass the white glove test. We have “settled” on a definition of clean streets, and our goal has been to dedicate the resources necessary to achieve that somewhat vague definition.

Cities have (more or less) arrived at similar definitions of “mission accomplished” for park maintenance, water quality, and other city services. As fiscal circumstances change, cities may flex slightly in one direction or another regarding the quality of service they find acceptable, but in general, agreed upon service levels have been decided and local governments have been charged with delivering against those goals.

While cities have generally settled upon a set of acceptable outcomes across the services they provide, the same cannot be said for police services. Parks might be “clean enough” and streets “smooth enough,” but is a city ever “safe enough?” What level of public safety is ultimately acceptable? How many homicides? How many robberies?

There are no clear answers to those questions and just asking them can be difficult. Certainly most police chiefs would argue that even one murder is one too many, and many public officials believe that their constituents feel the same way. Indeed, public anxiety around perceptions of crime and safety in communities can be potent political issues. This desire to eliminate crime entirely might be commendable, but it is not particularly helpful in a context where scarce resources need to be allocated.

Yet the fact that we cannot find a means to answer the question of how much public safety is enough is one of the contributing factors to the growth in local government in general and in police services specifically. Since there is no agreement on what level of crime is acceptable, the police budget is the last place city management looks to find operating savings. Increasing police staffing and improving the effectiveness of policing is a high political priority; improving the efficiency of police officers or reducing spending on police is not.

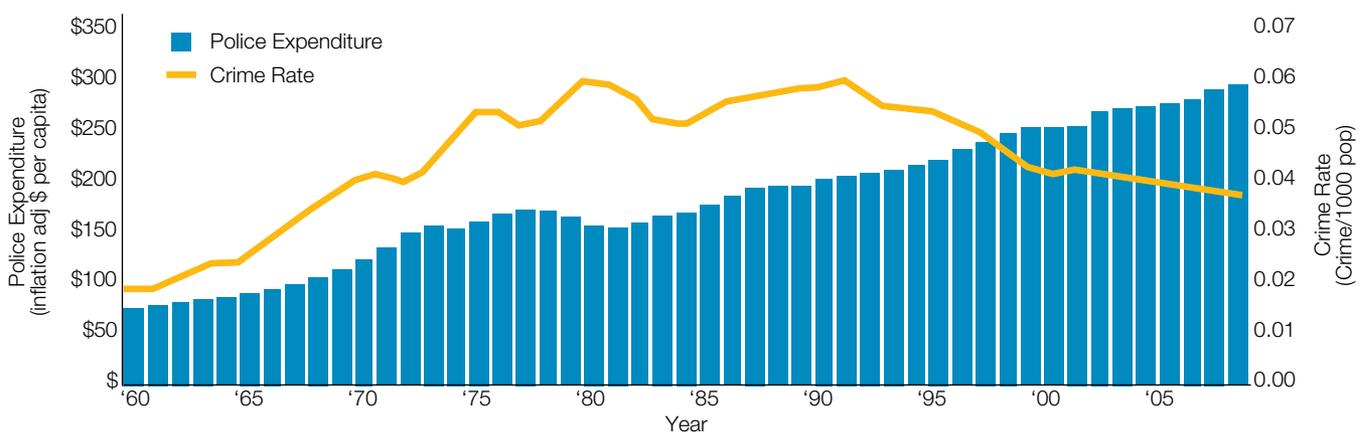
The inability to reach agreement on what constitutes an acceptable level of public safety has led to the politicization of police spending. One recent study found that the number of sworn officers employed by a city grows significantly faster in years when a mayoral election is being held than it does in nonelection years.³ Police budgets are often considered sacrosanct. Political leaders are loath to reduce spending on

police services because of the underlying assumption that the public values “public safety” more than anything else and that increased spending on police services delivers increased safety. If these assumptions hold, then the natural impulse is to increase spending on police services whenever the opportunity presents itself. Ultimately, a paradox arises.

When crime is going up, the policy and political rationale for increased spending on police services is enhanced. The public will want some type of response to the decrease in public safety, and the most linear response that city leaders can identify is to increase police spending because of the assumption that a larger police force will yield safer streets. *Police budgets go up.*

When crime is going down, however, another almost equally compelling policy rationale emerges: spending on police services is having its intended impact, and therefore in order to continue to drive crime down, spending on police services should be increased. *Police budgets go up.*

The history of police spending in the United States indicates that this is indeed what has happened (see Figure 5). Spending on police services between 1960 and 1990 increased at an annual rate of 9.8% while the crime rate was increasing at an annual rate of 3.8%. *Crime was going up, so police budgets went up.*



Source: "State & Local Government Finance." Census Bureau Home Page. Web. 29 Dec. 2010. <<http://www.census.gov/govs/estimate/>>. Uniform Crime Reporting Statistics. U.S. Department of Justice Federal Bureau of Investigation. Web. 16 Dec. 2010. <<http://www.ucrdatatool.gov/>>.

Figure 5: Police Spending Unrelated to Crime Rates

Between 1990 and 2008, crime declined at an annual rate of 2.5%⁴ yet spending on police services continued to increase at a rate of 6.2%. *Crime was going down, so police budgets went up.*

When crime is going up, police spending increases. When crime is going down, police spending increases. Crime in 2008 is at the same level it was in 1968, yet cities are spending nearly 300% more in real terms on police in 2008 as they did in 1968. Increased spending is the inevitable consequence of detaching outcomes – in this case crime rates – from spending decisions.

How much bang do we get for the policing buck?

The relationship between police spending and crime is not a topic lacking academic attention. There have been dozens of studies conducted over the past thirty years that have tried to establish a relationship between policing and crime outcomes. The only consensus we can find is that *nobody really knows whether increased police resources impact crime rates.*

A meta-assessment conducted in 2000 reviewed the results of 27 studies that had previously tried to determine the correlation between policing resources and crime. The authors conclude that of the 89 dependent variables tested in these studies, “44 found no effect of police on crime, 27 (30.3%) found that more police results in more crime, and 18 (20.2%) found that more police results in less crime.”⁶

Samuel Cameron at the University of Bradford surveyed the results of 22 studies on the relationship between police spending and crime and found that 18 of them found either no relationship or a positive one (that is, that spending on police correlates with higher crime).⁷ Similarly, the study “Specification Problems, Police Levels, and Crime Rates” showed that “36 studies gave little evidence that more police reduce crime, but they strongly suggest that more crime leads to more police.”⁸ These results are consistent with the findings contained in IBM’s recent study – *Smarter, Faster, Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities* – in which no relationship was found between spending on police services and lower crime rates, which is the outcome that police services are supposed to be driving (see Figure 6).

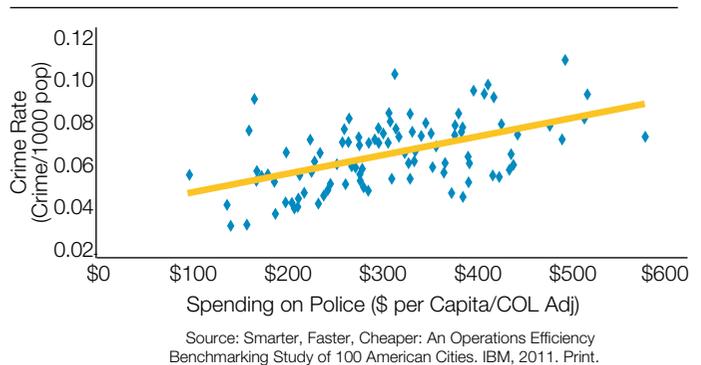


Figure 6: Spending per capita versus crime rate for 100 cities

It is a curious result. Cities that spend the most on police services have the highest crime. Despite the prevailing intuitive belief that more spending on police will yield less crime, the weight of the research suggests that spending on police has no effect on crime rates, and in fact, the cities that spend the most on police have the highest crime rates.

The notion that adding officers to a city’s police force will have a deterrent effect on crime is closely associated with recent trends in policing strategy. By elevating the visibility of police officers through an increase in their numbers, the assumption is that the opportunity for crime will diminish. In other words, if criminals see police officers they will not commit crimes. A corollary to this idea is the “broken windows” theory of policing, which suggests that rigorous enforcement of minor crimes will create a climate of law and order that will act as a deterrent to more serious criminal behavior. Therefore, the more police officers a city has on the street, the less crime it will have.

A couple of practical considerations inject themselves here. For one, police spending is highly dilutive. Between 50-60% of spending in police departments goes to the support apparatus – command positions, equipment, 911 call centers, labs, training and other administrative services. For every dollar added to a police budget only about 40 cents wind up in the form of feet on the street.



Don't Sweat Your City's Crime Ranking

In 2006, USA Today published an article with the headline "St. Louis Ranked Most Dangerous City." St. Louis Mayor Francis Slay criticized the report, saying "It's bogus to suggest that St. Louis is more dangerous than Miami, New Orleans, Los Angeles, and Chicago — it just doesn't make any sense."¹⁷

The Mayor was correct, but not for the reasons he cites in the article, which were largely about inaccurate population counts. One of the most abused data set in the field of urban studies is the Federal Bureau of Investigation's Uniform Crime Report (UCR). Each year, local police jurisdictions compile and forward their crime statistics to the FBI for inclusion in a national crime database. The FBI uses this data to analyze crime trends.

Unfortunately, these statistics are used by some to compare the relative safety of different cities. To the FBI's credit, they place a prominent disclaimer on their website discouraging people from using the data for comparative purposes. Of course that doesn't prevent headlines like the one cited above from being generated each year.

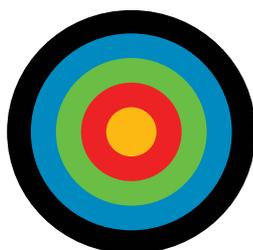
Statistics such as those found in the UCR — and similar statistics such as poverty rates and public school performance — do not provide the basis for making legitimate comparisons among cities. The reason is quite simple: these statistics apply to corporatized city boundaries that are arbitrarily drawn.

Metropolitan regions in the United States (more or less) conform to a specific development pattern. They typically began as settlements around a transportation nexus such as a port or railroad crossing. In the 19th century, most cities industrialized around these downtown areas, driving wealthier residents to the suburban periphery and leaving the working classes behind. With the de-industrialization of the late 20th century, these downtown areas went into steep economic decline: jobs disappeared, poverty increased, schools deteriorated, and crime skyrocketed. This evolution of settlement patterns within cities — also known as the Concentric Zone Model — was famously documented by Ernest Burgess and Robert Park in their book, *The City* (see Figure 7).

As a consequence of this unique evolutionary history, crime in most cities is concentrated in downtown neighborhoods. And since the crime rate is a calculation — crimes per 100,000 residents — a key factor is the size of the city across which that volume of crime is being spread.

Hence the importance of where city boundaries are drawn. Some cities in the United States were incorporated as core downtown areas. Miami and Atlanta, for example, comprise less than 8% of their respective metropolitan regions. Other cities had their boundaries drawn to include (or at some point they annexed) their surrounding suburbs. Charlotte and New York City, for example, encompass over 40% of their metropolitan regions.

In cities where crime — which is geographically concentrated — is spread statistically across a broad geography, crime rates will be lower than in those cities that do not include their suburban periphery within their borders. In fact, one could take a single metropolitan region and draw city boundaries that in one instance made the city one of the safest cities in the country, and draw a different set of boundaries on the same map and create a city that is one of the most dangerous. The arbitrary nature of the legal boundaries of cities renders these types of comparisons at best unhelpful and at worse seriously misleading. But don't expect the headlines to stop.



- Zone 1: Central Business District
- Zone 2: Transitional Zone (Deteriorated Housing, Factories, Abandoned Buildings)
- Zone 3: Working Class Zone (Single Family Tenements)
- Zone 4: Residential Zone (Single Family Homes, Yards/Garages)
- Zone 5: Commuter Zone (Suburbs)

Source: Park, Robert E., Ernest Burgess, Roderic McKenzie (1925). *The City*. Chicago: University of Chicago Press.

Figure 7: *The Concentric Zone Model*

And the feet that cities hope to have on the street are only there intermittently. Police officers generally spend less than half of their time on crime-related activities.⁹ The average police officer has many demands placed upon him/her, including training, roll calls, court appearances, special events, parking enforcement, and other duties. More significantly, of the 50% of the time that uniform police officers are actually on patrol, most of that time is spent responding to 911 calls. In other words, police officers are *responding to* crime, not proactively *preventing it*. This suggests that police are largely in place to respond to the results of criminal activity, not to engage in preventative measures.

The recent experience of New York City appears to bear this out. Between 1985 and 1999, New York City increased its sworn police force by 60%. During this time, crime dropped by 50%. Between 1999 and 2009, New York City reduced its sworn police force by 16%. During these years, crime dropped by 37% (see Figure 8).

volume of crime (and we assume that cities require more or less the same service levels from their respective police forces, particularly with regard to response times), then spending on police services among cities – *when controlled for crime rates* – should be similar. That is, any variation in spending beyond crime response can only be attributed to activities other than those directly associated with crime response.

That is not what we find. The cities of Long Beach, California and Virginia Beach, Virginia have the same crime rates, but Long Beach spends more than twice as much on police. San Francisco and Fresno, California have the same crime rates, but San Francisco spends more than twice as much on police. Two cities in Texas – Laredo and Corpus Christi – have identical crime rates, but Corpus Christi spends 90% more on police. Orlando and St. Petersburg, Florida have identical crime rates, but Orlando spends 33% more on police. Winston Salem, North Carolina and Greensboro, North Carolina have identical crime rates, but Greensboro spends 30% more on police.

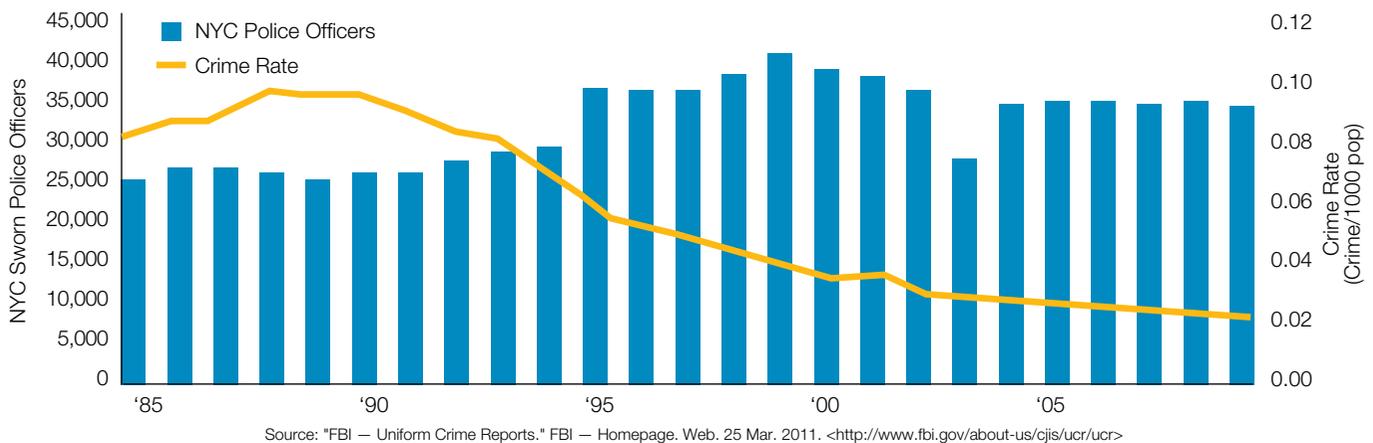


Figure 8: New York City sworn police officers vs. crime rate

It would appear that a city can significantly reduce its police presence and still experience declining crime rates. Again, this is born out in Figure 6, which shows that the cities with the lowest spending on police also have the lowest crime rates.

If police departments dedicate most of their resources to responding to crime, and if the level of resources that a police department requires to respond to crime is based on the

The City of Irvine, California spends the same as the City of Lubbock, Texas, yet has nearly 80% less crime. The City of Memphis spends the same as the City of New Orleans, but has twice the level of crime. Raleigh, North Carolina has 33% less crime than Durham, North Carolina, but spends the same on police (and they are only 20 miles apart).

Clearly, spending on policing varies significantly among cities. Even when adjusted for crime levels and cost of living, spending on a per capita basis on crime ranges from \$78 to \$853 (see Figure 9). In other words, the variation in spending among cities varies by a factor of 11 even after controlling for crime levels and cost of living. And since that spending is not related to crime outcomes (that is, it does not appear to generate lower crime), then we can only conclude that cities make very different choices about how much to spend on police services for reasons that have little to do with the crime environment they are confronting.

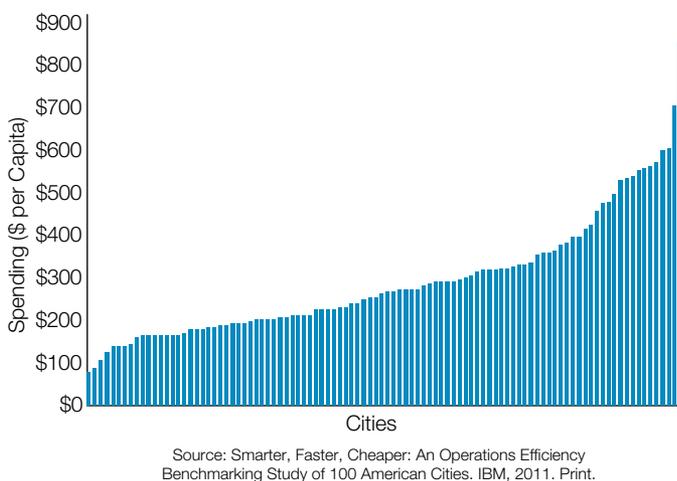


Figure 9: Per capita police spending on crime in 100 US cities (Adjusted for crime levels and cost of living)

The amount that cities spend on police is not only disconnected from outcomes (i.e., crime rates), but it is also disconnected from workloads (numbers of crimes). This finding reflects the reality that most police budgets are not subject to any type of bottom-up justification. For example, one approach for developing a police budget would be to project the number and types of crimes the city can anticipate in the next year and develop an operational budget based on the need to respond, investigate, and clear those crimes. This approach would yield police budgets that are based on workload requirements, which would drive resource requirements up or down depending on changes in the public safety conditions of the city.

This approach is obviously not currently being employed. In fact, there does not seem to be any connection between police spending and workload, or outcomes, or any other independent variable. In other words, one cannot predict how much a city spends on police simply by examining its public safety conditions. From a statistical perspective, it appears that the amount that any given city spends on police services is generated at *random*.

Of course, individual cities do not randomly select spending levels for police. However, they do rely significantly on their history. Since most cities find it difficult to reduce spending on police regardless of the actual trending of crime rates, cities have generally ratcheted up spending when the resources were available and maintained spending in tougher fiscal climates. The “crowding out” of other local government spending by police spending noted earlier is the direct consequence of this behavior. Cities have entrenched a pattern of spending that is largely a product of past spending practices.

The question moving forward is whether a better framework for informing public safety spending decisions exists. Can cities deploy a public safety resource strategy based on outcomes rather than history? And perhaps more importantly, can cities adopt an approach to public safety spending that is focused less on police services and instead considers the broader array of factors that drive criminal behavior?

Is there a better way to fight crime?

While most people equate the level of public safety with police effectiveness, there are a variety of factors that lead to a safe urban environment. If the desired outcome is low crime, then a public safety resource strategy should incorporate as many of these factors as possible. Let us start with the assumption that police do not independently “create” public safety.

The urbanist Jane Jacobs pointed out nearly 50 years ago that safe city streets are not a product of intense policing. As she recounts in *The Death and Life of the Great American Cities*, when Jacobs looked out the window of her Greenwich Village apartment she was struck by the fact that her neighborhood was extremely safe despite the fact that she rarely saw a police officer.

Jacobs concluded that public safety was primarily a consequence of the design of the streets and the activities they supported. By mixing residential and commercial uses, putting buildings close to the curb, and making the street an inviting place to walk, the environment strongly discouraged criminal behavior. When people are always around, when they know each other and their habits, and when they can easily see and hear what is going on, law breakers tend to look elsewhere for opportunity.

What held true fifty years ago holds true today. Take a walk through the safest neighborhoods in your city and you will notice that there are not police officers standing on every corner. In fact, improved crime targeting – enabled by crime statistics systems such as COMSTAT – has the opposite effect: it concentrates police resources in areas of high crime. This obviously has the effect of shifting police resources out of areas with low crime. In other words, the safest neighborhoods in a typical city actually have less visible policing, not more.

The fact that crime in cities tends to concentrate in certain geographies is also suggestive. While the occasional random act of violence in otherwise “safe” neighborhoods will garner a great deal of media attention, the fact is that in most cities crime is concentrated in distinct neighborhoods. A study of crime activity in Minneapolis found that “only 3% of the city’s geography produced 50% of calls to which police were dispatched. A mere 5% of the city’s 115,000 street addresses produced 100% of the calls for predatory crimes. These results have subsequently been replicated in Kansas City.”¹⁰ An analysis in 2009 found that almost all of Chicago’s shootings and homicides occur within 8.5% of the city’s 227 square miles.¹¹

Neighborhoods plagued with high crime rates are almost always distressed in one way or another. They are typically characterized by high poverty rates, high unemployment, low

educational attainment, and deteriorated public and private infrastructure. There is little debate that any effort dedicated to addressing the “roots” of crime will necessarily involve improving the conditions in these distressed neighborhoods.



The Riches of East Lake

East Lake Meadows in Atlanta was once a symbol for everything that went wrong in cities in the last half of the 20th century. The flight of the middle class from the city to the suburbs – enabled by highways and cheap housing – turned thriving in-town neighborhoods like East Lake Meadows into ghost towns. Governments compounded the problem by using these largely abandoned neighborhoods as the destination of choice for poorly designed public housing projects. By 1995, East Lake Meadows had been turned from a charming, tree lined neighborhood into a war zone. With a crime rate 18 times higher than the national average, East Lake Meadows was dubbed “Little Vietnam.”

And then something strange happened. Between 1995 and 2006, the total number of crimes in East Lake Meadows dropped by 76%. Violent crime dropped 95%.¹⁶ East Lake Meadows went from being the most dangerous neighborhood in the city to one of the safest. Although it took over 30 years of decline for East Lake Meadows to hit bottom, it was completely transformed in less than ten.

Was this revolution in public safety a product of new policing resources and strategies? Not at all. Instead, East Lake Meadows is a case study of how a coalition of private, public, and non-profit interests can – with a little money and a lot of sweat – reinvent an urban neighborhood.

East Lake Meadows became the Villages of East Lake because a local developer named Tom Cousins and a whole host of partners understood that the only way to improve a distressed neighborhood is to reinvent it. By closing the public housing complex and replacing it with a mixed income community with its own charter school, YMCA, and public golf course, Cousins and his team created an environment where crime could not thrive. While there are those who believe that public safety can best be imposed from above through police intervention, the Villages of East Lake is a living example of how public safety can best be created from below by eliminating the conditions that foster criminal behavior.

Most cities have strategies underway to do just that, some publically funded and many supported by private and non-profit organizations. Most of these efforts are underfunded. The Federal government has launched the Choice Neighborhoods program, which is intended to seed local programs directed at revitalizing distressed neighborhoods, but only \$65 million has been allocated to date and the future funding of the program is uncertain.

The City of Detroit, for example, is struggling to fund their efforts to tear down delinquent housing in order to create urban spaces less prone to crime and more attractive to private development. We know that many cities are suffering from deficits in their capital budgets,¹² meaning that streets, sidewalks, parks, and other public infrastructure are not being replaced or expanded at the rate necessary to improve the quality of their public spaces.

Clearly, the question becomes: are cities striking the right balance between addressing the root causes of crime and responding to the crime that occurs? Does the significant reduction in crime that cities have experienced in the past two decades create a “public safety dividend”? Should cities recalibrate spending on police and re-invest a portion of those dollars into the economic development efforts that are instrumental in eliminating the conditions that incubate criminal behavior?

Given our understanding of what drives crime rates, cities are faced with a set of parameters within which they are being asked to optimize:

1. Cities need to invest in *public infrastructure* and *economic development* to improve the conditions within distressed neighborhoods that encourage criminal behavior;
2. Cities need to fund *law enforcement services* (police services, code enforcement services, etc.) to respond to criminal behavior, which is mostly concentrated in these distressed neighborhoods.

The challenge is achieving the correct balance between these two imperatives. If a city under-invests in economic development, then the demand for law enforcement will increase. This will increase pressure to expand the capacity of law enforcement services, which will further reduce funds available for economic development. Let’s call this the “Vicious Circle of Crime.”

On the other hand, if a city is making effective investments in economic development, then the demand for law enforcement services should go down, which should allow city managers to shift resources from law enforcement services into public infrastructure and economic development. Those investments should drive crime down further, reducing demand for law enforcement services, which should free up even more resources for investments in public infrastructure and economic development. Let’s call this the “Virtuous Circle of Crime” (see Figure 10).

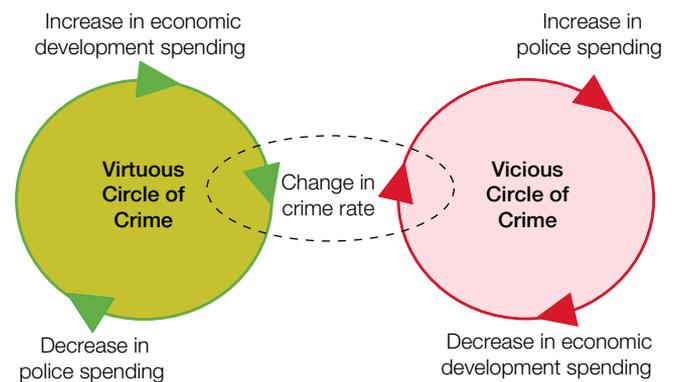


Figure 10: Responding to increases in crime by spending more on police may crowd out spending on those things that eliminate the conditions that lead to crime

Over the past two decades, the country should have been enjoying the benefits of a Virtuous Circle of Crime. As the competitive advantage of suburbs has ebbed – due primarily to their failure to invest in mobility solutions – most cities in the United States have experienced a rebirth. Cities are winning the battle for young professionals and small businesses – the engines of economic growth – which has in turn attracted private investments in real estate. Urban pioneers have transformed neglected neighborhoods into high demand destinations. Crime has dropped precipitously. Since 1990, urban crime is down 26% nationally.¹³

As a consequence of this dramatic improvement in public safety conditions, cities should be reaping a “public safety dividend.” The reduction in crime should have justified a commensurate reduction in public safety spending and a shift of resources towards investments in public infrastructure to support the new growth and attract additional growth. Instead cities have continued to increase spending on police services. An opportunity is being perhaps missed.

The answer is all around us

Despite historic reductions in crime over the past 20 years, cities have not reduced spending on police services. In fact, the sense that police spending needs to be protected is as strong as ever. In recent mayoral elections in Newark and Atlanta, for example, crime was a central campaign issue despite the fact that homicides in those cities are down 60% and 68% respectively from their peaks. No case is being made to reduce spending, primarily out of fear of public reaction.

But while there is strong sensitivity among officials to the trends in police spending, there is no concern about their *absolute* level of spending on police services. If the citizens of Boston knew that their city government spends over 40% more¹⁴ on police than the City of Chicago, would they begin to question the wisdom of that spending? If the citizens of San Diego knew that they spend twice as much on police as the citizens of Sacramento, would it raise any concerns?

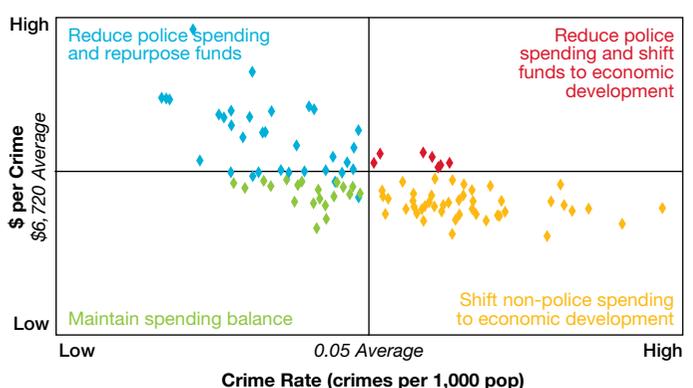
Why can some cities spend significantly less than others and still have mayors and city council members get re-elected? Primarily, we suspect that the citizens in those cities lack a point of reference. The only data point that they may be familiar with is what their city spent on police services *last year*. Any reduction in police spending from the current baseline is bad and any increase from the baseline is good.

But if cities chose to look to each other for examples of how alternative spending choices can be made, significant reductions in spending might be on the table. The City of Tampa spends 42% more on police than the City of Orlando (again, after adjusting for cost of living and crime rates). If it reduced its spending to Orlando’s level, it would save \$60

million, which is three times the budget deficit the city is facing in 2011. In Nebraska, the City of Omaha spends 60% more on police than the City of Lincoln. If Omaha reduced its spending to Lincoln’s level, it would save \$65 million, which is six times Omaha’s projected budget shortfall.

We are not suggesting a slashing of police services spending in these or other cities. We are simply trying to illustrate the point that cities spend wildly different amounts on police and that cities need to closely examine their police spending to understand whether a public safety dividend may exist in a city. For while it might be hard to make the absolute case for spending reductions on police services (“Crime is down, we should spend less”), it may be easier to make the relative case (“Crime is down, and cities x, y, and z all spend less than we do despite having higher crime rates”).

To further illustrate this point, when one compares the 100 cities included in IBM’s recent benchmarking study on the basis of spending and crime rates, some interesting patterns emerge (see Figure 11). Cities tend to fall into one of four categories:



Source: Smarter, Faster, Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities. IBM, 2011. Print.

Figure 11: Spending Per Crime Versus Crime Rate for 100 Cities

1. **Upper Left Quadrant:** Lower than average crime rates and higher than average spending on police services;
2. **Lower Left Quadrant:** Lower than average crime rates and lower than average spending on police services;
3. **Lower Right Quadrant:** Higher than average crime rates and lower than average spending on police services;
4. **Upper Right Quadrant:** Higher than average crime rates and higher than average spending on police services.

A city's position in this matrix may suggest alternative approaches to police spending decisions. Cities in the upper left quadrant, for example, clearly face a "public safety dividend" opportunity since they have relatively low crime rates but high spending on police services. To provide a sense of what the size of this "dividend" might be, let's do some math. There are 31 cities in this quadrant. If those cities reduced spending to the cohort average, \$2.5 billion would be saved. For those cities, \$2.5 billion constitutes 13% of their total budgets, so this reduction alone would eliminate their entire collective budget deficit.

Cities in the lower left quadrant are likely engaged in the Virtuous Circle of Crime, in which low crime prevails as a consequence of conditions that have been created that are unfavorable to criminal activity. They would be wise to maintain their balanced spending approach.

Perhaps the most interesting position is in the lower right quadrant, in which cities are spending relatively little on police despite having relatively high crime rates. That "freed up" spending is apparently not being used in a way to improve the public safety environment.

Cities in the upper right quadrant appear to be engaged in the Vicious Circle of Crime, where high spending on police services is crowding out other types of investments necessary to eliminate conditions conducive to crime. For those cities, their failure to shift resources from police services to economic development and public infrastructure is proving costly.

If all the cities in this sample had simply maintained their spending on police services at 2000 levels, about \$14 billion in annual revenues would have been available for re-purposing. Those revenues could have serviced roughly \$200 billion in bond debt that could have been used on capital investments in economic development initiatives. Assuming a leverage of three private dollars to every public dollar (the average leverage for tax increment financing), cities would have seen an additional \$600 billion in property investments over the past 10 years. Those investments alone would be generating approximately \$8 billion in incremental property tax revenue,¹⁵ which is more than half of the cost of the original investment.

Best of all, economic development investments have impacts beyond just public safety. Functional neighborhoods require fewer social services, less code enforcement, and lead to improved educational outcomes. If you add in the operating savings associated with the reductions in these types of expenses, investments in economic development may *well pay for themselves*.

In other words, by shifting resources from police services to economic development and infrastructure, cities can reduce crime through the permanent transformation of their neighborhoods, and do so in a way that *largely pays for itself*.

Eliminate the conditions that enable crime and crime will go down. The resulting economic development will increase revenues and lower operating costs. This is the Virtuous Circle of Crime in action. Attacking crime by improving the health of neighborhoods is not only a more cost-effective approach to public safety, but it is also a potential money-maker.

Stretching Police Resources by Improving Productivity

In the film “A Tree Grows in Brooklyn”, Officer McShane shows up at the Nolan residence almost immediately whenever a crisis emerges. Officer McShane is a street cop in the most literal sense, since his job is to “walk the beat” in the Brooklyn neighborhood where the Nolan’s reside. At the turn of the 20th century, a police officer in every neighborhood was the rule. Those days are long gone.

The reason they are gone is that police officers walking beats are not productive enough to justify their expense. Over the course of the past century – as the rest of our economy became increasingly productive – the productivity of beat officers relative to alternative means of deploying labor declined over time. In order to maintain competitive wages, police officers needed to be more productive.

By the 1960’s police officers were firmly ensconced in patrol cars. In the television show “Adam 12,” Officers Reed and Malloy rode together, primarily responding to calls issued over their police radios. They could cover a lot more ground than a couple of beat cops.

By the time the 1980’s arrived, the two officers in a car model had become unaffordable, and we moved to one officer in a car. It is unusual today to see two officers in a car. Now one officer can cover the same ground as two did previously.

The drive to increase the productivity of police officers is not a result of budget pressure. As documented earlier, spending on police services has gone up faster than real GDP. Instead, this need to increase productivity is the same faced by all economic activities: productivity needs to increase in tandem with the increase in productivity in the general economy, or it will become too expensive to provide. It is the same reason that once thriving craft industries are no longer economically viable.

The pressure to get “more for less” is more or less permanent, and IBM has helped cities like Richmond and Memphis respond to this pressure.

In 2005, Richmond was the fifth most dangerous city in the United States. The Richmond Police Department (RPD) wanted to consider options for an efficient and cost-effective way to analyze crime data, assess public safety risks, and make intelligent decisions about personnel deployment. RPD implemented IBM’s SPSS Predictive Analytics tool to generate crime forecasts. By seeking hidden relationships in the crime data, the department can more efficiently deploy patrol and tactical units. Based on these forecasts, resources are re-deployed as frequently as every four hours. These forecasting capabilities significantly enhance the productivity of all officers by focusing their attention on areas where police response will have the biggest impact.

Another means of extending the reach of police officers is by automating their eyes and ears. In recent years the City of Chicago has been extending a network of video cameras placed in public spaces. The City deployed IBM’s Smarter Surveillance Solution (SSS) that uses high-resolution cameras and video analytics to detect criminal activity. The system also provides real-time and archived video to a host of Chicago’s public safety organizations. By consolidating surveillance in command centers rather than relying on active patrols, Chicago has decreased the amount of manpower



The first steps

City officials willing to rethink their city's spending on police services can begin by critically examining their city's police budget and its relationship to public safety outcomes. We suggest the following steps as a framework for conducting just such an analysis.

1. Examine local police spending and employment history. Go back as far as the data permits.
2. Examine changes in crime rates over that period and see if any patterns emerge. Is there a relationship between police spending and changes in crime rates in your city?
3. Examine crime patterns within your city over time. How has crime shifted geographically? What factors can be identified that have impacted crime rates? Have there been demographic changes? Does the analysis reveal changes in private investment patterns? What does the data say about the impact of public infrastructure investments?
4. Compare your city's spending on police to a peer set of cities. Are there any operational conditions that can explain differences in resource allocations? Can operational efficiencies account for those differences?
5. Rebuild the police budget from the bottom up, justifying resource choices based on operating conditions and their attributable impact on public safety outcomes.

IBM has developed diagnostic tools to assist in this type of effort, but the key success factor is the willingness of city leadership to rethink its approach to public safety. Once leadership commits to this decision, the approach outlined in this paper can be applied to any number of local government services.

Given the fiscal conditions cities face, there is no better time to rethink how cities allocate their scarce resources. To date, most cities have responded to financial pressures by “squeezing” budgets with the hope that they can maintain service levels until the fiscal climate improves. This strategy is leaving long-term investments unfunded and is not advancing the goal of creating fiscally sustainable local governments. If cities continue on this path, they will have missed an opportunity to recalibrate their spending in ways that reflect their current operating conditions and spur revenue growth.

In this paper, we have tried to describe how such a recalibration might be approached in the area of police services. Equivalent approaches could be applied to fire services, planning departments, and an array of social services, all of which face very different operating conditions than they encountered even a decade ago. What services cities provide and how they provide them should be in some real way related to the outcomes that they are intended to impact. Rather than constructing budgets based on *yesterday's choices*, we are suggesting that cities instead think more strategically about how budgets can be designed based on their effectiveness in delivering *tomorrow's outcomes*.

IBM and Smarter Government

Government plays an increasingly central role in our economic lives. In the United States, government is now responsible for more than 4 out of every 10 dollars spent within our economy. Perhaps even more importantly, large sections of the private economy – health care, financial services, communications, and energy to name just a few – are more closely integrated with government than ever before. Traditional lines between the private and public sectors are becoming less distinct, and the overall performance of our economy is now dependent on improved cooperation and alignment between private companies and government. Getting government right – that is, making sure that it operates in a highly efficient and effective manner – has never been more important.

In recognition of the fact that the performance of government is the public's collective responsibility, IBM has launched its Smarter Government program. Our goal is to help governments inject intelligence into their decision support processes, business operations, and public infrastructure to improve performance and deliver better public outcomes. Governments need to maximize the public value they generate through every dollar they spend. We think we can help.

For More Information

To learn more about how we we can help your city improve performance and deliver better public outcomes, contact your IBM sales representative to request any of the following white papers or visit us online.

Smarter Government White Papers

Smarter, Faster, Cheaper: *An Operations Efficiency Benchmarking Study of 100 American Cities*

The Neighborhood-Centric City: *Achieving Fiscal Sustainability by Maximizing Returns on Investment in Neighborhood Health*

Building Smarter Cities: *The Municipal Management Scorecard*

Smarter Cloud: Shared Services for Local Governments: *Using Information for More Efficient and More Effective Local Government*

IBM Smarter Planet

IBM Smarter Planet: www.ibm.com/smarterplanet

IBM Smarter Government: www.ibm.com/smarterplanet/us/en/government/ideas

IBM Smarter Public Safety: www.ibm.com/smarterplanet/us/en/public_safety/ideas

About the authors

David Edwards

David Edwards leads the Smarter Government Campaign for IBM's Public Sector Strategy and Innovation Practice. He served for eight years as the chief policy advisor to Atlanta Mayor Shirley Franklin.



Brandon Bienvenu

Brandon Bienvenu is a Senior Consultant in IBM's Public Sector Operations and Planning Strategy Practice and a contributor to IBM's Smarter Government Campaign.



Acknowledgments

Many colleagues contributed to the analysis, findings and recommendations in this paper. We are grateful for their contributions. They include:

Chris Cafiero

Emily Garrahan

Allan Guyet

Alan Howze

Andrea Jackman

Daniel Prieto

Tack Richardson

Ashley Wills

Footnotes

- 1 General operating funds excludes spending on schools and enterprise services such as water utilities and solid waste services. Source: Edwards, David. Smarter, Faster, Cheaper: An Operations Efficiency Benchmarking Study of 100 American Cities. Rep. Atlanta: IBM, 2011. Print.
- 2 Includes all sources of revenue for local governments, including public schools.
- 3 Levitt, Steven D. "Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime." *The American Economic Review* 87.3 (1997): 275. American Economic Association. Web. 1 Nov. 2010. <<http://www.jstor.org/stable/2951346>>.
- 4 "State & Local Government Finance." Census Bureau Home Page. Web. 29 Dec. 2010. <<http://www.census.gov/govs/estimate/>>.
- 5 Uniform Crime Reporting Statistics. U.S. Department of Justice Federal Bureau of Investigation. Web. 16 Dec. 2010. <<http://www.ucrdatatool.gov/>>.
- 6 Eck, John E., and Edward R. Maguire. "Have Changes in Policing Reduced Violent Crime? An Assessment of the Evidence." *The Crime Drop in America*. By Alfred Blumstein and Joel Wallman. Revised ed. New York: Cambridge UP, 2006. 214. Print.
- 7 Cameron, Samuel. "The Economics of Crime Deterrence: A Survey of Theory and Evidence." *Kyklos* 41.2 (1988): 301-23. Abstract. *The American Economic Review* 87.3 (1997): 270. Print.
- 8 Marvell, Thomas B., and Carlisle E. Moody. "Specification Problems, Police Levels, and Crime Rates*." *Criminology* 34.4 (1996): 613. Print.
- 9 Levitt, Steven D. "Using Electoral Cycles in Police Hiring to Estimate the Effect of Police on Crime." *The American Economic Review* 87.3 (1997): 285. American Economic Association. Web. 1 Nov. 2010. <<http://www.jstor.org/stable/2951346>>.
- 10 Sherman, Lawrence W. "Attacking Crime: Police and Crime Control." *Crime and Justice* 15 (1992): 176. Print.
- 11 Johnson, Kevin, Judy Keen, and William Welch. "Homicides Fall in Large American Cities." USA TODAY. Gannett Co. Inc., 28 Dec. 2010. Web. 05 Jan. 2011. <http://www.usatoday.com/news/nation/2010-12-29-1Ahomicide29_CV_N.htm>.
- 12 The American Society of Civil Engineers (ASCE) estimates the U.S. needs \$2.2 trillion dollars of infrastructure spending during the next 5 years, much of which is urban infrastructure.
- 13 Source: Federal Bureau of Investigation Uniform Crime Report Data 1990 and 2009; Table 2 - Crime in the United States. <http://www2.fbi.gov/ucr/cius2009/data/table_02.html>.
- 14 Spending adjusted for cost of living and crime rate
- 15 Assuming an average millage rate of 14 mils (Source: Tax Foundation)
- 16 Humphreys, Jeff. "Economic Revitalization of Atlanta's East Lake Community: A Chance to Succeed." Ed. Lorena Akioka. Selig Center for Economic Growth, Terry College of Business at The University of Georgia, Fall 2008. Web. 04 Apr. 2011. <http://www.terry.uga.edu/selig/docs/east_lake_study.pdf>.
- 17 Leonard, Christopher. "St. Louis Ranked Most Dangerous City." USA TODAY. Gannett Co. Inc., 30 Oct. 2006. Web. 29 Mar. 2011. <http://www.usatoday.com/news/nation/2006-10-30-city-crime_x.htm>.



© Copyright IBM Corporation 2011

IBM Global Services
Route 100
Somers, NY 10589
U.S.A.

Produced in the United States of America
June 2011
All Rights Reserved

IBM, the IBM logo and ibm.com are trademarks or registered trademarks of International Business Machines Corporation in the United States, other countries, or both. If these and other IBM trademarked terms are marked on their first occurrence in this information with a trademark symbol (® or ™), these symbols indicate U.S. registered or common law trademarks owned by IBM at the time this information was published. Such trademarks may also be registered or common law trademarks in other countries. A current list of IBM trademarks is available on the Web at "Copyright and trademark information" at ibm.com/legal/copytrade.shtml. Other company, product and service names may be trademarks or service marks of others.

References in this publication to IBM products and services do not imply that IBM intends to make them available in all countries in which IBM operates.



Please Recycle