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**MANAGING CRIME COUNTS:
An Assessment of the
Quality Control of NYPD Crime Data**

By

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Introduction

How do we know whether a police department is performing successfully? During the 1970's and 1980's most criminologists and even most police executives believed that controlling crime was beyond the capacity of the police. Hence, *crime rates* were a relatively unimportant measure of police effectiveness. Two other measures were considered more suitable. One was *response time* which calculated how quickly patrol officers responded to citizen calls for assistance. Another was *clearance rates*, the percentage of crimes against victims, such as burglaries, that the police believed they have solved. Now, most large police departments are explicitly trying to reduce crimes against victims. Crime rates have become the gold standard for evaluating the competence of police departments.

The NYPD has emphasized such crime reduction since the early 1990's. In part, the change in New York City is attributable to the 1991 Safe Streets/Safe City legislation which, after the reductions in officer numbers during the 1970's fiscal crisis, added resources to the department.

Technological and management innovation is another factor, especially the NYPD's COMPSTAT management model, introduced in the mid 1990's. Since then, most large urban police departments have introduced performance management models which, like COMPSTAT, use information about the frequency, type and distribution of crime to guide police practices--and to make crime reduction a responsibility of all department levels, but in New York City, most especially of the local precincts.

As crime reduction has come to play a critical role, as both indicator of performance, and guide to resource allocation, the accuracy of "the numbers" is ever more significant. Police departments must be able to claim—credibly--that their crime statistics are accurate.

This study, the results of which were first presented at a weekly lunch sponsored by NYU Law School's Center for Research in Crime and Justice, found that the NYPD has introduced internal auditing and quality control functions to ensure the accuracy of NYPD crime data. In their report, Professor Dennis C. Smith of NYU's Robert F. Wagner

School of Public Service, and Robert Purtell of the University at Albany's Rockefeller College, examine the complexity of crime statistics, discuss the common criticisms of crime numbers, and explore how the NYPD has implemented a distinctive, three-part quality control system to ensure the accuracy of its crime statistics—in effect, they have conducted an external audit of internal management practices, while also comparing the NYPD's practices to the quality control practices of eight other large police departments.

They conclude that the NYPD maintains the most robust and systematic quality control practices currently in use. Since their findings reinforce and extend an earlier New York State audit and other related studies, they conclude that that City and Department officials, and the public, can be reasonably assured that NYPD crime data are accurate and reliable. This is a significant assurance, especially at a time when New York City has been reported by the F.B.I (June 15, 2006) as ranking 25th in Index (major victim) crime in the 25 largest cities in the United States.

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MANAGING CRIME COUNTS:

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Public Awareness and the Complexity of Crime

New York claims to be the safest large city in America. In December 2005, Mayor Michael Bloomberg announced, "Once again, New York City has the distinction of being America's safest big city. We've not only maintained that position, but improved upon it, making America's safest big city even safer." "Today's report by the FBI shows that we are decreasing crime in nearly every category across New York City and most importantly, our decrease in violent crime outpaces the nation by nearly six times.¹ Inevitably, when something as dramatic and unexpected as the New York City crime reduction story is told, some skeptics and cynics pose alternative explanations. One is that since the police control crime reporting perhaps the numbers cannot be trusted. This issue has been addressed in 2000 in a New York State Comptroller audit of NYC crime reporting practices. The report was favorable but it was limited in its scope and completed more than four years ago. It is time for another, more probing assessment.²

In recent years, the Department has implemented an extensive set of reforms aimed at maintaining the integrity of its crime numbers. It has introduced a Data Integrity Unit reporting to the Office of the Commissioner, and also random and targeted audits of crime records by an expanded Quality Assurance Division..

Despite all the attention in the public media to crime, fear of crime and crime reduction, it seems likely that the general public, even the well educated, have little appreciation of the complexity of "crime." Crime trends reported in the news are the product of the FBI Uniform Crime Report (UCR). The "UCR" covers a limited subset of property and violent

¹ News from the Blue Room, PR- 467-05, December 19, 2005, Mayor Bloomberg and Police Commissioner Kelly announce New York City is the safest big city in America according to the FBI uniform crime report.

² Our review, while more comprehensive, of course was also limited in scope. Our conclusions are based on conversations with senior command staff and a review of written materials. We neither observed the actual sampling or auditing processes nor did we test the accuracy of the sampling procedures used by the Department in its audits. We can only infer how the written procedures were implemented in practice beyond a general comparison of those standards to accepted auditing practice, from other indirect means, such as an analysis of the consistency of multiple measures of crime in New York City, and the consistency of crime-report patterns.

crimes (long called “index” crimes)³ and does not include many actions classified by law as crimes. For example, “white-collar crimes” are not included in the UCR.

Most crime in America occurs in cities and the first line of defense against citizen crime victimization is local. Consequently, any inquiry into the existence, levels, and patterns of crime in America must begin with city police-departments.

The New York City Police Department (NYPD) is by far the largest police department in the United States. The dramatic reduction in crime in America over the last decade began in New York City, and was led by New York City. Indeed, New York City’s crime reduction over the past decade and a half accounts for a disproportionate share of the total drop in reported crime in America. To understand urban crime and crime reduction, it is hard to imagine a better place to look than New York City.

What is and is not a crime changes over time—there is no clear cut, compelling definition. Criminologists—and police—subscribe to a legally-grounded definition. Crime is conduct, prohibited by a legislature, with penalties such as a fine or imprisonment. But legislatures (and the courts) can reshape criminal codes. The nation has experienced culture clashes over whether abortion or the manufacture and sale of alcohol should be a crime. Local police departments, such as the NYPD, enforce the law against classic victim crimes, such as homicide, rape, robbery and burglary; victimless crimes such as sale and possession of drugs; and other crimes. Crime definitions and penalties can shift. Thus, using another person’s credit card without permission was always a crime, but “identity theft”, per se, only was defined as a distinct crime category a few years ago. Those who enforce the criminal code have to be vigilant to keep pace with changing laws.⁴

³ The FBI recently discontinued reporting a summation of the crimes it tracks, the so-called Index, and now reports the number of each crime category. The Index, long criticized by criminologists for simply adding the different crimes without weights for seriousness, became politically sensitive when crime became such a prominent public issue and politicians and public officials used the Index to compare their crime fighting success with other jurisdictions. Local officials are not constrained by the FBI decision. They can and do replicate the method long used by the FBI to produce the desired comparative ranking.

⁴ Graeme R. Newman, “Identity Theft” in Center for Problem –oriented Policing, 2003. Lease, M., and T. Burke (2000). “Identity Theft: A Fast-Growing Crime.” FBI Law Enforcement Bulletin 69(8).

Typically, citizens make the “first call” (metaphorically and literally, they decide that they are victims, that they want to report it, and they place the call to the police), the 911 call-response operator provides another characterization, the responding officer makes an assessment based on the evidence presented and the criteria he has been given. The officer’s judgment is subjected to multiple reviews within the Department. The prosecuting attorney will add her appraisal. Although, all these perspectives play a role in the overall justice system, only the judgment of police are counted in official crime reports. The police contribution is, in turn, shaped by the system of Uniform Crime Reporting created by the FBI more than seventy years ago to standardize crime reporting throughout the highly decentralized American system of policing. Every police department in America uses a list of crimes arrayed in a hierarchy to classify and count crime. When, as is often the case, multiple offenses are present in a single incident, they report only the highest- level crime based on the ranking.⁵

The term “reported” modifies the word “crime” in very significant ways. Both citizens and police have considerable discretion in reporting crime. Most, but not all, crimes are known first to those who suffer them as victims. Criminologists long suspected that many victims of crimes do not report their victimization, due to, among other reasons, embarrassment, fear of reprisal, or lack of confidence in the police response, lack of incentive, or as a result of a desire to avoid contact with police (in the case of persons that have other issues with the law, such a illegal immigrants or persons with a criminal record), or because the reputation of the police discourages contact. Until 1973, the only statistical measures of crime were those reported to the police and in turn reported by the police. Since then, an independent measure has been available as a result of the National Crime Victimization Survey conducted by the US Justice Department. This survey, directed annually to a representative sample of households across the nation, has documented the long hypothesized underreporting of crime. In some categories of crime especially, such as rape, a majority of victims do not report their victimization. While there is a variable gap by category of crime between those known to and reported by the police, and victimizations reported in the NCVS, studies have shown that over the

⁵ While the hierarchy rule was designed to reduce duplicate counts, much potentially useful information was lost. Current information-management technology has made possible a new “incident-based” reporting system (NIBRS) that many departments are developing as a supplement to the UCR. Romona R. Rantala and Thomas J. Edwards, “Effects of NIBRS on Crime Statistics,” a Bureau of Justice Statistics Special Report, July 2000.

years the two trends track rather closely, at least in the 1990s.⁶ This national pattern is also found in a study of the correlation between UCR and NCVS data for New York in a study by Patrick Langan and Matthew Durose⁷ In their comparison of New York City reported crime and victim survey data, the correlation, which was generally high, grew stronger since 1994, the year management innovation CompStat was introduced. In their attempt to validate reported-crime trends with independent measures Langan and Durose also examined the correlation between reported homicides and the NYC Medical Examiners reports. These also provided strongly positive evidence of the validity of official reports.

Citizens' reports of victimization may initially come in the form of a 911 call for service, or by a citizen flagging police on patrol, or police direct observation of a victimization corroborated by a citizen report. This stage of the reporting process introduces procedures and forms developed by police over the years. A 911 call and the assignment of police response generate reports. Police encounters with victims and/or witnesses generate reports. Typically, an initial police response is sent by radio to the dispatcher when an officer arrives on the scene of a call for service (e.g., when dispatched by radio in response to a 911 call), and this response classifying the situation encountered is added to the record of the call. The police on the scene complete a written "scratch" report that is, according to policy, saved even if a formal crime complaint report is completed. The experience of the victim, which may be presented to the responding officer in a long and complicated narrative, has to be coded as one of a relatively limited number of categories of events. Again, according to policy, while the narrative may include a record of multiple crimes, only the most serious-- in terms of a hierarchy supplied by the FBI and intended for standardized use nationwide – will be entered in the official crime-count.

The challenge of categorizing a reported victimization is generally not appreciated. Even if the facts of an event are clear, how to interpret them and fit the facts to a predetermined category is often contested between citizens and police, between responding police officers and their supervisors, and between both the officer who wrote

⁶ Steven D. Leavitt, "Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not" in Journal of Economic Perspectives, Volume 18, Number 1, Winter 2004.

⁷ Patrick A. Langan and Matthew R. Durose, "The Remarkable Drop in Crime in New York City" Bureau of Justice Statistics, December, 2003,

the report and his/her supervisor and central crime recording staff. In the NYPD, in addition to direct supervisor review, a report may also be reviewed at the Precinct and Borough command levels, and by either or both the central Quality Assurance Division (QAD) or the Data Integrity Units (DIU) that report directly to a Deputy Commissioner. In this internal review at NYPD, the controlling authority is the criminal law. In interviews with police officials, two examples frequently were mentioned. Both are important in part because they are high-volume crime-categories: assault and larceny.

By law, if an assault of one person by another results in *injury* and involves the use of a weapon or an *object*, the victimization is a “felony assault.” What if the injury is a superficial scratch and the object is a telephone?⁸ To the consternation of some police officers or supervisors, and prosecutors who think a felony assault should involve an injury warranting an ER visit at least, and the offending object should be a weapon like a knife or at least a baseball bat, a scratch by a tossed telephone, under the NYPD’s interpretation, must be categorized as a felony assault.

If a visitor to the City leaves her suitcase at the curb while hailing a taxi and finds it missing when her attention returns, most likely she will report to the police that she has been “robbed.” Since the victim was not confronted by a thief --- much less one with a weapon --- this victimization is not an armed robbery, but it is a larceny. The question is: What kind of larceny? The answer depends on the value of the property taken, and valuing anything is a matter of judgment. The suitcase may have contained two business suits purchased two years ago. It may be in the interest of the victim, contemplating an insurance claim, to use a high estimate of value. If the value of the missing property is more than \$1,000, it is a felony or Grand Larceny. If the value is estimated to be less, it is recorded as a Petit Larceny, a misdemeanor. The distinction has significance not just to the citizen but to the Department in terms of its effort to reduce serious crime and the resources it commits in response to different patterns of crime. In general, more serious crimes receive more follow up attention and, thus, consume more resources. Each police department provides officers with policy guidance

⁸ Actor Russell Crowe was arrested and charged with felony assault in an incident at a New York City hotel in which he allegedly threw a telephone at a clerk, resulting in a scratch to the victim. New York Times, June 7, 2005.

for recurring situations such as this. Some, like NYPD, also review and monitor compliance with the guidelines provided.

Police discretion in defining the level of a larceny has been a source of skepticism about police reports of crime since the Washington DC Police Department was, in the 1970s, found to be systematically manipulating larceny reports to give the appearance of a successful crackdown on crime. At the time, the FBI distinguished larcenies based on the value of the property stolen. It counted the theft of property valued more than \$50, “Grand Larceny” in the UCR, but did not include the theft of property valued at less the \$50 (“Petit Larceny”). Given the high volume of larceny of both kinds, and the un-weighted summation of reported crimes in the so-called FBI Index, a drop in grand larcenies could have a significant impact on a city’s crime-rate. Using a variety of methods, investigators found that the DC Department was discounting the value of property reported stolen to reduce the number of “Grand Larcenies,” the category that was included in the FBI Index. In the only empirical study documenting police misreporting of crime, Seidman and Couzens presented evidence of this pattern of crime seriousness shifting in Washington, DC.⁹

In recent months allegations have appeared in the media that the crime reports on which New York’s crime reduction claims are based rest on a foundation of questionable crime-statistics.¹⁰ The most extensive treatment of a charge of crime-report fudging in New York City is an article in the Village Voice by Paul Moses that sympathetically repeats the allegation that NYPD has “cooked the book on crime statistics.”¹¹ Moses quotes a PBA magazine article that purports to tell how it is done:

So how do you fake a crime decrease? It’s pretty simple. Don’t file reports, misclassify crimes from felonies to misdemeanors, undervalue the value of

⁹ David Seidman and Michael Couzens, Getting the Crime Rate Down: Political Pressure and Crime Reporting, *Law and Society Review*, Volume 8, Number 3, Spring 1974.

¹⁰ This allegation arises from time to time and in a number of jurisdictions. A Bureau of Justice Statistics report, “Bridging the Gaps in Police Crime Statistics” acknowledges “pressure to falsify crime data” and cites newspaper articles in *The Philadelphia Inquirer* from November 1998 (“How to Cut City’s Crime Rate: Don’t Report It”), *The New York Times* in 1998 (“As Crime Falls, Pressure Rises to Alter Data”) and *The Atlanta Journal-Constitution*, (“Manipulation of Crime Statistics Alleged”), among others.

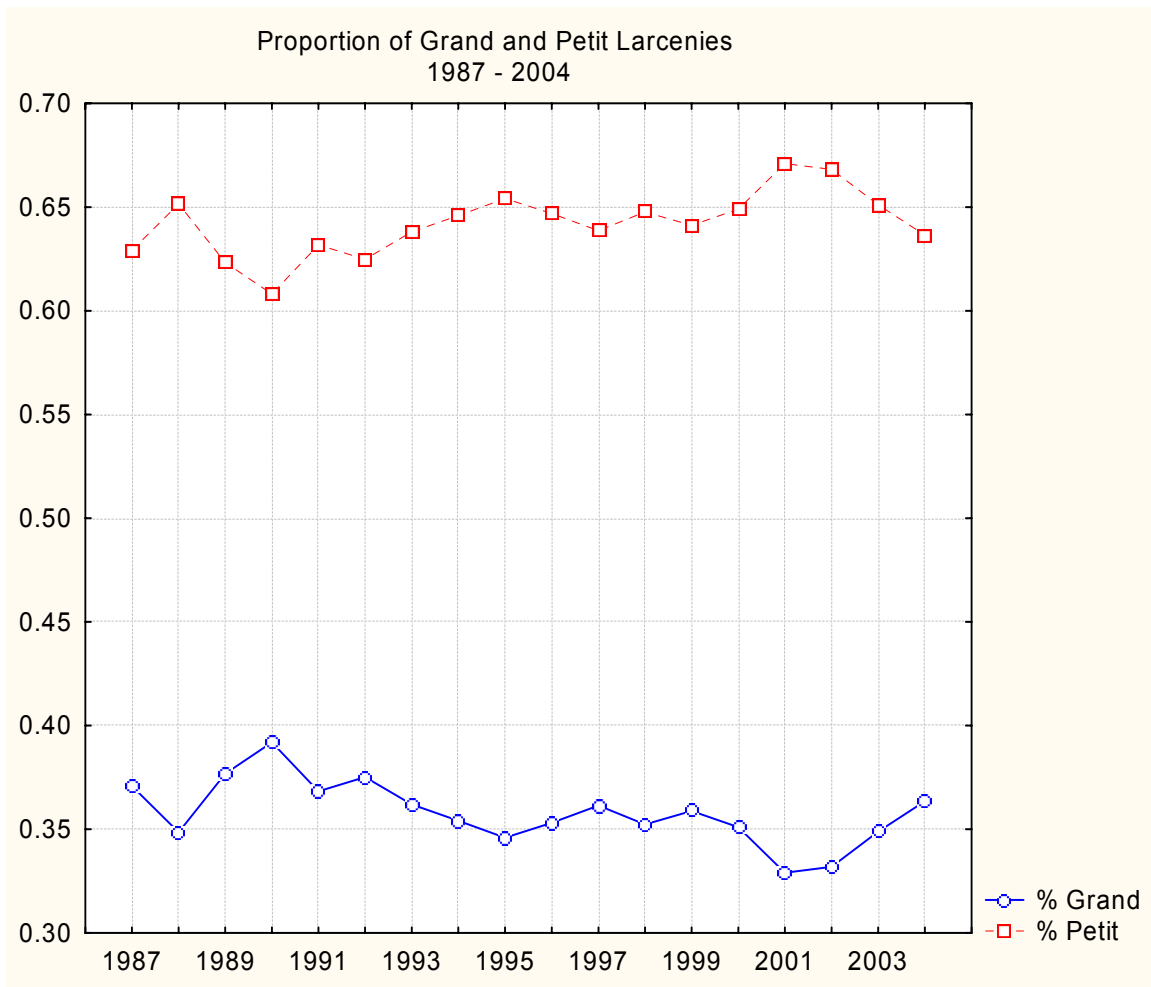
¹¹ Paul Moses, “Corruption: It figures. NY Police Department’s crime stats and the art of manipulation,” *Village Voice*, March 29, 2005.

property lost to crime so it's not a felony, and report a series of crimes as a single event. A particularly insidious way to fudge the numbers is to make the victims feel like criminals so they walk away just to spare themselves further pain and suffering.

Moses expresses surprise that there has not been "any outcry. No comptroller audits." For some reason Moses did not discover what a quick web search reveals: a 2000 New York State Comptroller Audit of crime reporting by NYPD. The audit by Democratic State Comptroller Carl Mc Call of crime-data collection and reporting (used by Republican Mayor Giuliani to claim victory in the war on crime) states that "...we conclude that that the City and Department officials can be reasonably assured that COMPSTAT data are accurate, complete and reliable."¹² Regarding the absence of an outcry, the Voice article quotes City Council Public Safety Committee Chair Peter Vallone, Jr.: "This is a charge that seems to happen during union negotiations."

To eliminate the incentive for police departments to engage in the form of fraudulent reporting found in Washington DC, the FBI changed its practice and now includes all larcenies. NYPD CompStat crime-data, however, still distinguish between larceny of less than \$1,000, and more. In the Department's auditing of crime reports we note that larceny is singled out for attention. Acknowledging the need to interpret carefully the data on misdemeanor crimes given that they are particularly sensitive to police enforcement policy changes over time, we have replicated the Seidman and Couzens analysis by examining the trend in the ratio over time of grand and petit larcenies in New York.

¹² State of New York, Office of the State Comptroller, Division of Management Audit and Financial Services, "New York City Police Department: Accuracy of Crime Statistics." (Report 2000-N-8) A recent report by the State Comptroller Alan Havesi on the reporting of violence and disruption in schools was, by contrast, very critical: "Violent incidents in New York State high schools have not been accurately reported to the State Education Department (SED) and SED has not done enough to address misreporting problems or to effectively identify schools with serious violence problems, according to an audit released today by New York State Comptroller Alan G. Hevesi, "Audit: SED Mismanaging School Violence Data Collection, Some Schools Underreporting Violent Incidents: Five Districts Failed to Report 8 out of 10 Violent Occurrences," May 22, 2006.



Over the eight-year reporting period for which we have monthly data, grand larcenies averaged 34.7% of the total larcenies reported in New York City. The analysis below (and a more detailed presentation in Appendix 3) supports the contention that the proportional grand-larceny statistics reported by the NYPD do *not* contain any cycles or trends when eight-year monthly-data are analyzed. Rather, they represent a consistent pattern of reporting suggesting random variations around a stable mean between 1997 and 2005. The only variations from that pattern occurred in four out of the ninety-six reporting months with two of those cases being more than two standard deviations below the average and two more than two standard deviations above the overall eight year average proportion of grand-to-petit larcenies.

However, as shown below, the 1987 -2004 annual data suggest a very slight .17% downward drift in the proportion of grand-larcenies. In the past several years, however,

with the elaborated quality assurance and data integrity effort of the current administration, the proportion of grand larcenies has taken a decidedly upward turn.

Table One – Descriptive Statistics for Monthly Grand-Larceny Data

Descriptive Statistics (Sheet1 in Larceny time-series data.stw)					
	Valid N	Mean	Minimum	Maximum	Std.Dev.
% Grand	96	0.346816	0.307833	0.407231	0.018710

Table Two – Monthly Outliers More than 2 STD's from the Eight-Year Mean

Month	Year	Reported % of GL	STD's from Mean
December	2004	40.72%	3.25
December	2003	39.25%	2.46
February	2002	30.78%	(2.09)
February	2001	30.78%	(2.09)
Overall Average		35.80%	

This analysis supports the contention that the proportional grand-larceny statistics reported by the NYPD do not contain any cycles or trends when either the eight-year monthly-data or the eighteen-year annual data are analyzed. Rather, the grand-larceny data appears to represent a consistent pattern of reporting suggesting random, memory variations around a stable mean between GL 1987 and 2005. Where variations in the data did exist, they tended to be corrected within three months.

The data are inconsistent with any claim the NYPD today is “downgrading” crime reports. The small decline in the proportion of grand larcenies earlier in the decade does not mean that such downgrading was occurring. Changes of that magnitude could be the result of shifts in law enforcement practices, or changes in community behavior.

Other Crime Reporting Issues

Not all crimes are included in either the UCR or CompStat. While issues of the use of police discretion and ambiguity arise here, changes in these practices will show up in the

total list of reported crime and sometimes be the focus of media attention. Some crimes are only “reported” when police observe persons engaging in behavior in which the community in general is the “victim,” such as a person engaging in or soliciting the services of a prostitute, or entering a public-transit system without paying the fare. In these latter instances, the crimes only become known incident to an arrest by police. In order to combat the practice by derelicts of approaching motorists with window squeegees, in 1993 Commissioner Kelly searched for and found a violation of the law that could be used to deter this behavior. While it turned out that the number of so-called “squeegee men” was small, the police decision to enforce this law created a surge of crimes incident to these arrests.

The rise in popularity of small, portable and relatively expensive cell phones and iPods has created new opportunities for victimization. This shift in consumer products on the market has been shown to be capable of causing a “crime wave” on the New York City subways. Given the very low level of subway crime today, small shifts in absolute numbers can generate large shifts in term of percentage increases.

In the 1970s, concern about corruption of patrol officers from contact with drug dealers led to a change in street-level drug-enforcement. The result was a dramatic drop in drug arrests—and a reduction of thousands of drug crimes these arrests would have “recorded.” As Deputy Commissioner Michael Farrell was quoted as observing in the Village Voice article, “....greater attention to domestic violence and state mandatory-arrest laws have likely increased reporting of simple assaults.” Thus, police enforcement policies and strategies can on occasion cause reported crime to increase — or decrease.

The reporting of crime requires decisions by citizens, by police officers who take the initial report and supervisors and data processors along the way. In addition, in the NYPD, an emphasis on assuring the quality and integrity of the data means that, with some regularity, crime reports will be independently reviewed and if warranted, revised.

Coincident with the major shift within NYPD during the past decade from responding to crime to reducing crime, the role of crime reports has changed in many ways, some dramatic. One such change is from police as report takers to report investigators. If the

goal of the organization is to control crime, then simply recording the details of an investigation underutilized the citizen's capacity as an informant. NYPD's shift to a practice of investigating those arrested for even minor offenses like fare beating, checking for weapons or outstanding warrants, has been widely reported in the literature. Less noted is the practice of police in reporting victimization. The desire to learn from experience extends to the process of taking reports from victims. In taking a report of a stolen vehicle, the police are trained to explore as much as possible the circumstances of the theft. The police are looking for patterns in crime to aid in making an arrest and preventing future victimizations. In the process of investigating crime reports, on occasion, the police uncover fraudulent claims. Police have found through investigation that some crime reports are insurance scams, that reports of auto thefts were an effort to avoid returning a leased vehicle that has exceeded its mileage, and so on. For officers accustomed to the old style of report-taking, the new approach might seem like an effort to discourage victims from reporting a crime. Unchecked, this practice could, of course, be abused; unexplained, it could be misunderstood.

Management uses of crime data

In the past, crime statistics were like a compendium of vital statistics. They were important for policy making, such as budgetary decision-making and resource-allocation strategies, but were essentially historical. In the management of NYPD today, crime data are more like vital signs in a hospital. They are monitored continuously and used in making course corrections on a week-to-week basis. Hence, the excitement associated with the creation and expected operation of the NYPD Real Time Crime Center.¹³ The ability to see and analyze crime-trends in the making is a logical extension of the use of CompStat to manage the performance of the Department, as is the focus by Commissioner Kelly on Impact Zones within precincts to target resources where the crime problems are greatest. This increased capacity will make the Department even more dependent than before on crime data that is valid, reliable and accurate when it comes into the decision-making process. Therefore, the aim of data-integrity and quality-control initiatives has to be error prevention and not merely retrospective correction.

From our investigation, it is clear that NYPD has applied the same principles of performance management to improving data integrity and achieving quality control in

¹³ Kareem Fahim, "Center Gives Police Hi-tech Help," New York Times, July 15, 2005.

crime reporting that it previously employed in its effort to reduce police corruption through the reformed Internal Affairs Bureau¹⁴, and in crime-reduction throughout the City¹⁵. The fact that NYPD was a pioneer in creating a separate Data Integrity Unit in the Office of the Commissioner, as well as a Quality Assurance Division that systematically samples and reviews crime reports both reflect the Department's practical recognition of its dependence on valid, reliable and accurate crime data. An examination of the Data Integrity Unit's list of functions shows the organizational-learning and organizational-change roles it is expected to play.¹⁶

NYPD Audit and Quality-Control Processes: Comparison with Professional Standards

As part of our analysis of the crime statistics produced by the NYPD, we reviewed both the Department's Data-Integrity Unit (DIU) and Quality-Assurance Division (QAD) practices through discussions with key Department personnel and by examining the Department's written practice-guidelines and operational reference-guides.

Because of the breadth of the Department's activities in this area, we would characterize the NYPD's current data-assurance practices as encompassing three integrated

¹⁴ Frank Anechiarico and Dennis C. Smith, "Partners in Performance: Effectiveness and Integrity in the Public Sector," paper presented at a Ethics in the Public Sector, Leuven Belgium, June 2005,

¹⁵ Dennis C. Smith, 1996; Smith and Bratton, 2001.

¹⁶ Functions of the Data Integrity Unit: Audit Complaint Reports and Complaint Follow-Up Reports on a continuous basis to identify error and provide the Deputy Commissioner, Strategic Initiatives/Executives Staff with results and recommendations for improvement. Conduct special audits of designated crimes and precincts in accordance with the instructions of the Deputy Commissioner, Strategic Initiatives. Examine Complaint Reports and Complaint Follow-Up Reports generated by all commands for accuracy and prepare error notifications for respective Commanding Officers of any corrective action required/taken. Train newly promoted Captains, Lieutenants and Sergeants in the proper supervision of Complaint Report and Complaint Follow-Up Report preparation and the hierarchy of offense classification as defined by the Federal Uniform Crime Reporting guidelines. Evaluates the On-Line Complaint System and Omniform Complaint System for ease of use and makes recommendations to Management Information Systems division for modifications. Maintain a library of legal decisions and Departmental guidelines relating to crime classifications as a reference file to properly advise any command requesting clarification of the elements of various crimes. Provide assistance to individual precincts and borough commands in developing programs to enhance accurate crime reporting. Provide guidance to precinct crime analysis personnel regarding crime classification and jurisdiction. Review current training methods regarding crime report preparation and make recommendations for revised and/or additional training sessions.

processes. First, it includes a high-level system's and data-integrity review by the Data Integrity Unit (DIU) that focuses on the completeness and coding accuracy of the information entered into the Department's data-capture and reporting systems. Second, the Department's Quality Assurance Division (QAD) carries out detailed random and regularly-scheduled audits of the processes that leads to computerized crime reports. Finally, DIU and QAD fill a quality-assurance role for the Department. They not only take steps to correct the errors they find but also use what they have learned from their reviews to modify coding practices, revise operational procedures and integrate those changes into the Department's ongoing training efforts.

Because of the scope of these activities, this review has a wider framework than would normally be employed to evaluate standard internal-audit practices. Internal audits typically focus on identifying problem areas within a process and, with the exception of recommendations for improving accounting practices, end with general recommendations about what needs to be done to correct those problems. The NYPD's internal-audit processes go beyond that to provide specific coding, procedural and training solutions meant to mitigate future occurrences of the problems found in their audits.

In our experience, these operational and training responsibilities are somewhat unique to the NYPD's internal-audit practices. Normally, this type of activity is more closely associated with organizational efforts at continuous quality improvement and is the purview of dedicated quality-assurance teams made up of line managers.

Few internal auditors have either the mandate or the operational experience necessary to take this last step. Typically, auditing is a function staffed by relatively junior people reporting to a professional audit manager or director who was likely to have been promoted from within the audit department or another staff function. It would not be inappropriate to characterize most internal auditors as junior staff members looking to be promoted out of their audit responsibilities. Perhaps reflecting the strategic value that senior NYPD commanders place on crime data and the data's central role in operational planning, the Department's staffing pattern differs markedly from those of a typical audit unit. From the command structure down to officers assigned to performing the audits, the majority of the people in both the DIU and QAD units can be characterized as

supervisory personnel with direct line and command experience. Although our preliminary analysis cannot fully support this claim, it appears that the NYPD views their crime-statistics units as places to be promoted into not out of.

For comparison with NYPD, we have assessed the approaches and practices of other major police departments. What is clear from our review of the literature is that a number of other large city departments have faced scandals when evidence of systematic underreporting of crime was discovered by outsiders. In recent years, there have been instances of questionable reporting practices in NYPD, but they have been detected by the Department itself. They have resulted in serious sanctions of those involved.

In order to have a widely-accepted set of reference points, we have also subjected the Department's practices to a dual standard and have looked at the NYPD's general compliance with both the Institute of Internal Auditor's (IIA) *Standards for the Professional Practice of Internal Auditing* and the International Organization for Standardization's (IOS) *Guidelines for Planning and Performing Quality Audits*. Because of the limited scope of our review, we did not do a detailed point-by-point comparison of NYPD's audit and quality-control processes to the standards.

In compliance with both standards, NYPD has segregated its DIU and QAD units under a chain of command that is independent of both the Department's boroughs and the reporting units which generate the crime statistics. Further, NYPD procedures isolated all data-correction functions by vesting final authority for classifying crimes in those units. When there are disputes, the judgment of the DIU and/or QAD units and those senior command officers who have responsibility for those units is the prevailing standard.

The Department has tracked the error rate in the reports it audits. The number of errors, never large, is nevertheless declining to the present 1.8 percent. A Quality Assurance Division memorandum¹⁷ reported that since January, 1999, the Complaint Assessment Team has reviewed 233,537 reports. The report also describes the error corrections, upward (4,608, or 2.0 %) and downward (972, which is 0.4%).

¹⁷ NYPD Commanding Officer, Quality Assurance Division, "Evaluation of Complaint Reports Citywide By Quality Assurance Division, April 27, 2005.

This strict interpretation bias can also be seen in the policy as applied by DIU and QAD with respect to categorizing crimes. The DIU and QAD apply the more stringent standard imposed by letter of the law rather than the adopting one based on prosecutorial discretion which would tend to exclude crimes the District Attorney's office elects not to prosecute as one of the seven majors from those categories. It is also evidenced by the QAD's decision to use the generally-accepted accounting-convention of applying cost to larceny classifications. Where incontrovertible estimates of fully-depreciated, fair-market value cannot be obtained, such as is the case with Xenon automobile headlights, QAD, strictly applying the New York State penal law, values these stolen car parts at their replacement cost. Additionally, in contrast to the practice of other jurisdictions to remove the relatively new crime of identity theft from the larceny category, the NYPD continues to classify these victimizations as larcenies despite the obvious opportunity this classification change offers to lower the number of reported larcenies. Taken together, these standards have a tendency to increase the number of reports of major crimes.

Audit standards require that reviews be based on samples that are large enough to uncover systematic errors, i.e., errors that are persistent throughout the system being audited. This principal was applied by the New York State Comptroller's office when it elected to conduct its crime-statistics audit based on a random sample of twenty-five precincts and its subsequent decision to end its audit early when it had not uncovered any significant evidence of misreporting after reviewing seventeen of those twenty-five precincts.

The sampling procedures employed by the NYPD appear to be based on a more stringent standard for detecting errors. Rather than sampling among its reporting units, the NYPD conducts semi-annual reviews of all of the Department's reporting units. By choosing to sample all crime categories within every reporting unit twice every year, the NYPD's audits focus not only on uncovering possible systematic reporting-errors that pervade the entire command structure but also on identifying data errors that may be specific to a single reporting-unit or a single crime-classification. It is important to note that this sampling strategy requires that the total number of review cases increases each time new classifications of crime are introduced.

In addition, auditors generally scale sample sizes to match the volume of data in the process being audited. Here too, the Department has exceeded normal auditing standards. The command officers we interviewed stated that they had increased sampling size since the institution of the audit system in 1998 despite the decrease in the overall number of reported crimes. DIU reported reviewing all crime reports in the rape category, where total crime incidents are low and sampling would have been both impractical and inaccurate, and reviews all change reports (DD5's), another place where the potential for data-manipulation may be high.

To assure accuracy and completeness, both the IIA and ISO standards require auditors to cover the full range and scope of the processes reviewed with special attention to process elements where errors might occur or quality might be compromised. In the case of the NYPD's crime-statistics collection and reporting efforts, the command officers we spoke to identified three critical areas where crime statistics might be misreported. First, responding officers might elect not to report a crime. Second, responding officers might not properly classify a crime. Finally, responding officers, or someone in the supervisory structure, might elect to change the categorization of a crime after it has been reported. The DIU and QAD have audit strategies for dealing with each of these contingencies.

QAD has responsibility for assessing the extent to which responding officers fail to report a crime either because of inappropriate judgment or because of willful intent. They do so by conducting periodic, randomly-timed reviews of radio calls at all of the reporting units that contribute data to the crime-statistics database. Radio calls are the first reporting-unit-level indication that police assistance has been requested. As such, they form the basis for the chain of events that either leads to a crime report or a determination that no crime has been committed. QAD auditors both follow, and evaluate the accuracy of, the paper chain from the radio call through the decision to either report or not report a crime and confirm the responding officer's categorization of what happened through direct contact with parties involved in the incident.

The DIU and QAD work together to assure the accuracy of the information entered into the crime-statistics database. In traditional audit terminology, DIU performs both system's reviews and data-integrity audits. They do this by selecting random samples of

reported crimes from all of the reporting units that enter data into the crime statistics database and comparing the crime characterizations reported in the system to what is indicated in the detailed supporting information. QAD extends this review process by drawing random samples of reports and reviewing the “scratch,” revised and final copies of each report for consistency. In addition, QAD follows standard auditing practice by confirming the facts in those reports through callbacks to every fifth complainant.

To control for post-reporting manipulation of the statistics, QAD samples a disproportionately large number of change reports (DD5's). The change process is used to reclassify crimes after they have been entered into the crime-statistics system. This process is also the focus of the soon to-be-implemented automated-change reporting system and the implementation of the Real-Time Crime System that will automate both tracking of change reports to original complaints and facilitate the review process.

Supplementing these central audits of all reported crime statistics are self-reviews at both the Borough and precinct level. Periodically, QAD also reviews these self-audits.

In addition to these regular randomly-scheduled reviews, QAD also responds to specific charges of data-manipulation and publicly-reported claims of misreported crime statistics. In these cases, a separate special-investigations unit is detached to conduct reviews whose scope ranges from random samples to full reviews of all levels of available documentation.

Finally, consistent with standard auditing practice, the Combined Unit's operating procedures call for internal hierarchical reviews of all audit reports. In this process, levels of supervisors review specific findings and either approve or disapprove auditor's recommendations.

When either or both of the DIU and QAD detect an error, it is corrected by the unit. Reporting-unit commanders are subsequently informed of the changes and allowed to appeal the reclassification decision through the Combined Unit's chain of command.

In our opinion, when taken together, these audit procedures provide assurance to a reasonable level of statistical accuracy that actions brought to the attention of the

department were captured, properly coded and not changed without a valid reason. However, the NYPD current crime-statistic audit procedures, indeed no audit procedure, is capable of correcting the threat to accuracy of crime statistics that results from victimization incidents that were not reported to the police. If there are significant errors in the NYPD's crime statistics today, they are likely to fall into that category of crime unreported by the public. It is worth noting here that the findings of Langan and Durose on the high correlation between official crime reports and victimization survey trends counters any suggestion of underreporting, while still a missing piece in the quest for real-time crime-readings, has not shifted in recent years in any significant way .

A report by the Comptroller of the State of New York (the Comptroller) on its 2000 crime-statistics audit reflects the normal and customary sampling practices employed by auditors who assume that problems are likely to be widespread and pervasive not localized and specific. As a result, the Comptroller's auditors chose for examination a random sample of twenty-five reporting units but terminated their investigation early after finding no statistically significant errors in seventeen of those reporting units. In contrast, NYPD's sampling priorities reflect the philosophy that data-integrity problems may be concentrated in either a specific reporting unit and/or a specific part of the data-reporting process.

One focus of the combined efforts of the DIU and QAD units is generating a systematic reduction in the rate of crime-reporting errors. Here too, the data supports a case for the effectiveness of the DIU and QAD' efforts. Between 2000 and 2004, the rate of misclassification has dropped from 4.4% in 2000 to 1.8% in 2004, and from 3.4% in 1999 when the current audit practices were introduced.

Our brief review of the processes and procedures employed by the Department's DIU and QAD functions provides additional evidence in support of the findings of the New York State Comptroller's 2000 audit of the Department's crime statistics. Again, these findings are also consistent with Langan and Durose's (2003) confirmatory empirical analysis that compared crime trends reported by the Department with those generated by the New York City Medical Examiner's Office and the US Department of Justice National Crime Victimization Survey.

Based solely on the structure and scope of the Department's audit and quality-assurance practices, we feel those audit and quality-assurance practices have both the depth and scope to uncover both systematic and localized reporting biases. As a result, there is every reason to believe that the crime statistics generated by the Department accurately reflect both the level and trends in the crime in New York City with a reasonable degree of error as indicated by the annual correction statistics developed by the Department's auditors. As currently structured, both DIU and QAD detect errors and correct the specific errors found in their samples.

The net effect of the *Department* practices and policies that we have described here can be seen in the bias toward upgrading crime statistics as evidenced by the nearly five to one ratio of upgrades versus downgrades between 1999 and 2004.¹⁸ This pattern is the opposite of what one would expect if the Departmental policy were to tilt the count to lower crime. Combined with a declining error rate (again, now below 1.8 percent) over the past years, it seems reasonable to infer that the investment of the Department leadership in maintaining the integrity of crime reports is increasingly recognized, and taken into account, throughout the ranks.

New York City Practice in a Comparative Context

To ascertain if and how other large city departments in America addressed the concern about the reliability and accuracy of their crime reports we conducted a telephone survey of the data integrity security procedures and practices of ten large departments. A profile of practices emerges from the eight departments¹⁹ that did provide a description of their efforts to maintain the quality of crime statistics: no other department has systems in place that come close to matching the set of high level, overlapping, systematic audits of crime reporting now employed by NYPD. In a number of departments, the respondent explained that a major emphasis of the crime report review was to make sure that crime was not *over* reported. In the past in several departments surveyed, we learned that a lack of understanding of the UCR hierarchy rule about only counting the highest crime in an incident involving multiple offenses resulted in inflated

¹⁸ NYPD, Quality Assurance Division, "Evaluation of Complaint Reports Citywide by Quality Assurance Division. Report QAD #655s.05, May 4, 2005.

¹⁹ Atlanta, Detroit, and Miami did not respond, despite follow-up contacts.

crime numbers. Crime review and UCR training has corrected this pattern of error in reporting.²⁰

In most departments surveyed, the review of accuracy is largely the responsibility of line commanders, under the general supervision of the unit that compiles and reports crime-statistics. Philadelphia, which faced extensive media criticism of its crime-reporting practices in the late 1990s, has initiated a more elaborate system of checks, including a separate Quality Assurance unit, but still does not have the degree of organized review by specialized units, following elaborated procedures, that is found in NYPD.²¹ See Appendix 2.

Conclusion

To maintain public confidence, police departments must be able to claim that they know that their crime statistics are accurate, and show how they know. NYPD, a frequent leader in policing innovations, has set the standard for auditing and quality control functions that ensure the accuracy of NYPD crime data. In this report we have addressed the complexity and contextual nature of crime statistics. Building on earlier studies and a New York State Audit, we examined common criticisms of crime numbers, and explored how the NYPD has implemented a distinct, three-part quality control system to ensure the accuracy of its crime statistics. The structure and form of this system were found to exceed in rigor the practices common in the private sector, and are far more exacting than practices typically used in public-sector organizations, and especially in police departments across the nation—which typically do not enjoy the auditing resources of the NYPD. We reviewed a study that shows a high correlation between crime reported by police and crime victimization reported by New Yorkers in the National Crime Victimization Survey, something that would not be found if the official crime records were manipulated.

Going beyond process, as an additional check, we undertook an empirical analysis of trends in larceny, one of the crimes often suspected of manipulation, which showed no

²⁰ It is not clear that the UCR trend reports reflect these “technical” adjustments.

²¹ According to media reports Philadelphia planned to engage an outside academic expert to conduct crime-report audits similar to those done in the past in St. Louis, but that plan was not implemented. Michael Matza, et al “Panel to overhaul crime reporting: Criminologist will head a Philadelphia effort to ensure accuracy by police,” Philadelphia Inquirer, December 9, 1998.

evidence of suspect practice in New York. Based on a survey, we found that the NYPD system, especially as compared to the quality-control practices of eight other large departments, is by far the most robust and systematic quality-control approach in current use.

Taken together the findings presented here reinforce and extend an earlier New York State audit. We conclude, as did the State Comptroller five years ago, that the City and Department officials, *and the public* can be reasonably assured that NYPD data are accurate, complete and reliable.

Bibliography

Frank Anechiarico and Dennis C. Smith, "Partners in Performance: Effectiveness and Integrity in the Public Sector," paper presented at an ASPA Conference on Ethics in the Public Sector, Leuven Belgium, June 2005,

The Atlanta Journal- Constitution, "Manipulation of Crime Statistics Alleged",. cited in Bureau of Justice Statistics report, "Bridging the Gaps in Police Crime Statistics," 1999.

Kareem Fahim, "Center Gives Police Hi-tech Help," *New York Times*, July 15, 2005.

Institute of Internal Auditor's (IIA) *Standards for the Professional Practice of Internal Auditing* (p 21) International Organization for Standardization's (IOS) *Guidelines for Planning and Performing Quality Audits*. (p 21)

Patrick A. Langan and Matthew R. Durose, " The Remarkable Drop in Crime in New York City" Bureau of Justice Statistics, December, 2003,

Steven D. Leavitt, "Understanding Why Crime Fell in the 1990s: Four Factors that Explain the Decline and Six that Do Not," *Journal of Economic Perspectives*, Volume 18, Number 1, Winter 2004.

Thomas J. Lueck, "Serious Crime Declines Again in New York at a Rate Outpacing the Nation's," *New York Times*, June 7, 2005.

Michael D. Maltz, "Bridging the Gap in Police Crime Data," Bureau of Justice Statistics, September, 1999.

Paul Moses, "Corruption: It figures. NY Police Department's crime stats and the art of manipulation," *Village Voice*, March 29, 2005.

Graeme R. Newman, "Identity Theft" in Center for Problem -oriented Policing, 2003. Lease, M., and T. Burke (2000). "Identity Theft: A Fast-Growing Crime." *FBI Law Enforcement Bulletin* 69(8).

State of New York, Office of the State Comptroller, Division of Management Audit and Financial Services, "New York City Police Department: Accuracy of Crime Statistics." (Report 2000-N-8)

State of New York, Office of the State Comptroller, Division of Management Audit and Financial Services, SED Mismanaging School Violence Data Collection, Some Schools Underreporting Violent Incidents: Five Districts Failed to Report 8 out of 10 Violent Occurrences," May 22, 2006.

The New York Times in 1998, "As Crime Falls, Pressure Rises to Alter Data," Cited in Bureau of Justice Statistics report, "Bridging the Gaps in Police Crime Statistics"

The Philadelphia Inquirer , "How to Cut City's Crime Rate: Don't Report It", cited in Bureau of Justice Statistics report, "Bridging the Gaps in Police Crime Statistics," 1999.

Romona R. Rantala and Thomas J. Edwards, "Effects of NIBRS on Crime Statistics," a Bureau of Justice Statistics Special Report, July 2000.

David Seidman and Michael Couzens, "Getting the Crime Rate Down: Political Pressure and Crime Reporting," *Law and Society Review*, Volume 8, Number 3, Spring 1974.

Dennis C. Smith, "What can public managers learn from police reform in New York? COMSTAT and the promise of performance management," presented at the 19th Annual Research Conference of the Association of Public Policy and Management (APPAM) in Washington, D.C., Nov. 6-8, 1997.

Dennis C. Smith with William, Bratton, "Performance Management in New York City: COMPSTAT and the Revolution in Police Management,"(with William Bratton) in *Quicker, Better, Cheaper?: Managing Performance in American Government*, edited Dall Forsythe, SUNY Press Albany, 2001.

APPENDICES

APPENDIX 1

PETIT LARCENY vs GRAND LARCENY CITYWIDE 1990 thru 2004

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>	<u>Total Larcenies</u>	Ratio Of:	
				<u>Petit Larceny</u>	<u>Grand Larceny</u>
2004					
Jan	6297	3807	10104	0.62	0.38
Feb	6026	3232	9258	0.65	0.35
Mar	7441	3915	11356	0.66	0.34
Apr	6632	3665	10297	0.64	0.36
May	6571	3587	10158	0.65	0.35
June	7663	4255	11918	0.64	0.36
July	7481	4108	11589	0.65	0.35
Aug	8244	4559	12803	0.64	0.36
Sept	7304	4372	11676	0.63	0.37
Oct	7560	4255	11815	0.64	0.36
Nov	7543	4469	12012	0.63	0.37
Dec	<u>6607</u>	<u>4539</u>	<u>11146</u>	0.59	0.41
Total:	85369	48763	134132	0.64	0.36
2003					
Jan	7300	3755	11055	0.66	0.34
Feb	5480	2898	8378	0.65	0.35
Mar	6896	3452	10348	0.67	0.33
Apr	6287	3127	9414	0.67	0.33
May	7781	3749	11530	0.67	0.33
June	7988	3801	11789	0.68	0.32
July	8170	4381	12551	0.65	0.35
Aug	7323	4018	11341	0.65	0.35
Sept	8238	4596	12834	0.64	0.36
Oct	7905	4314	12219	0.65	0.35
Nov	6586	3943	10529	0.63	0.37
Dec	<u>7300</u>	<u>4717</u>	<u>12017</u>	0.61	0.39
Total:	87254	46751	134005	0.65	0.35

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>			
2002					
Jan	7947	3746	11693	0.68	0.32
Feb	6804	3026	9830	0.69	0.31
Mar	7058	3453	10511	0.67	0.33
Apr	7507	3533	11040	0.68	0.32
May	8077	3908	11985	0.67	0.33
June	7628	3843	11471	0.66	0.34
July	8396	3954	12350	0.68	0.32
Aug	7939	3930	11869	0.67	0.33
Sept	8029	4165	12194	0.66	0.34
Oct	8401	4390	12791	0.66	0.34
Nov	7299	3752	11051	0.66	0.34
Dec	<u>7063</u>	<u>4071</u>	<u>11134</u>	0.63	0.37
Total:	92148	45771	137919	0.67	0.33

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>	<u>Total Larcenies</u>	<u>Ratio Of:</u>	
				<u>Petit Larc</u>	<u>Grand Larc</u>
2001					
Jan	7334	3802	11136	0.66	0.34
Feb	6666	3296	9962	0.67	0.33
Mar	7436	3744	11180	0.67	0.33
Apr	7577	3668	11245	0.67	0.33
May	8208	3843	12051	0.68	0.32
June	8060	3890	11950	0.67	0.33
July	8647	4137	12784	0.68	0.32
Aug	8753	4185	12938	0.68	0.32
Sept	7322	3407	10729	0.68	0.32
Oct	8318	4239	12557	0.66	0.34
Nov	8185	4099	12284	0.67	0.33
Dec	<u>7979</u>	<u>4019</u>	<u>11998</u>	0.67	0.33
Total:	94485	46329	140814	0.67	0.33

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>			
2000*					
Jan	6636	3695	10331	0.64	0.36
Feb	6629	3647	10276	0.65	0.35
Mar	7547	3843	11390	0.66	0.34
Apr	7014	3895	10909	0.64	0.36
May	7496	4132	11628	0.64	0.36
June	7965	4340	12305	0.65	0.35
July	8624	4587	13211	0.65	0.35
Aug	8719	4771	13490	0.65	0.35
Sept	8017	4648	12665	0.63	0.37
Oct	8116	4628	12744	0.64	0.36
Nov	7656	4439	12095	0.63	0.37
Dec	<u>7044</u>	<u>4472</u>	<u>11516</u>	0.61	0.39
Total:	91463	51097	142560	0.64	0.36

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>			
1999*					
Jan	7279	3852	11131	0.65	0.35
Feb	7032	3673	10705	0.66	0.34
Mar	7571	4153	11724	0.65	0.35
Apr	7195	3897	11092	0.65	0.35
May	7665	4332	11997	0.64	0.36
June	8020	4635	12655	0.63	0.37
July	8195	4548	12743	0.64	0.36
Aug	8462	4641	13103	0.65	0.35
Sept	7934	4457	12391	0.64	0.36
Oct	7954	4503	12457	0.64	0.36
Nov	7415	4362	11777	0.63	0.37
Dec	<u>7348</u>	<u>4463</u>	<u>11811</u>	0.62	0.38
Total:	92070	51516	143586	0.64	0.36

* Larceny statistics for 2000 thru 1997 are from OLCS

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>	<u>Total Larcenies</u>	<u>Ratio Of:</u>	
				<u>Petit Larc</u>	<u>Grand Larc</u>
1998*					
Jan	7916	4500	12416	0.64	0.36
Feb	6972	3798	10770	0.65	0.35
Mar	7706	4224	11930	0.65	0.35
Apr	7553	4061	11614	0.65	0.35
May	7927	4211	12138	0.65	0.35
June	8025	4501	12526	0.64	0.36
July	8791	4762	13553	0.65	0.35
Aug	8887	4596	13483	0.66	0.34
Sept	8646	4598	13244	0.65	0.35
Oct	8467	4673	13140	0.64	0.36
Nov	7737	4185	11922	0.65	0.35
Dec	<u>8109</u>	<u>4522</u>	<u>12631</u>	0.64	0.36
Total:	96736	52631	149367	0.65	0.35

<u>YEAR</u>	<u>Petit Larceny</u>	<u>Grand Larceny</u>			
1997*					
Jan	8068	4444	12512	0.64	0.36
Feb	7127	4088	11215	0.64	0.36
Mar	7960	4615	12575	0.63	0.37
Apr	7961	4691	12652	0.63	0.37
May	8596	4812	13408	0.64	0.36
June	8584	4837	13421	0.64	0.36
July	9528	5238	14766	0.65	0.35
Aug	9222	5143	14365	0.64	0.36
Sept	8998	5006	14004	0.64	0.36
Oct	9012	4905	13917	0.65	0.35
Nov	7718	4592	12310	0.63	0.37
Dec	<u>8301</u>	<u>4824</u>	<u>13125</u>	0.63	0.37
Total:	101075	57195	158270	0.64	0.36

	<u>Petit Larceny</u>	<u>Grand Larceny</u>			
1996	109336	59687	169023	0.65	0.35
1995	124906	66061	190967	0.65	0.35
1994	140434	77009	217443	0.65	0.35
1993	154850	87853	242703	0.64	0.36
1992	152366	91492	243858	0.62	0.38
1991	167136	97430	264566	0.63	0.37
1990	168313	108487	276800	0.61	0.39
1989	185196	111939	297135	0.62	0.38
1988	206996	110717	317713	0.65	0.35
1987	187875	110756	298631	0.63	0.37
1986 **	117239	175075	292314	0.40	0.60
1985	99043	173798	272841	0.36	0.64
1984	93206	167351	260557	0.36	0.64
1983	97860	164872	262732	0.37	0.63

* Larceny statistics for 2000 thru 1997 are from OLCS

** On 11/1/1986 the definition of a Grand Larceny was changed to include theft of property valued at more than \$1000 from the previous dollar amount of more than \$250.

Appendix 2 Crime Audit Practices of Other Large Departments in the United States

	Boston	Chicago	Houston	Phoenix	Philadelphia	Los Angeles	San Diego	Washington, D.C.
Audits?	Yes	No	Yes	Yes	Yes—3 types.	Yes	Yes—2 types.	Yes
Name of Unit	Field Report Unit	Detective Division	Inspections Division.	Crime Analysis and Research Unit.	Quality Assurance Bureau.	CompStat Unit	Crime Analysis Unit, San Diego Regional Association of Governments	Research and Resource Development Unit
Is this unit independent (specialized quality control function)?	No	No	No	No	Yes	No. (Some outside review by Kroll as a result of a consent decree.)	CAU-No SDRAG-Yes	No
Who conducts the audits?	Civilians responsible for crime coding and classification.	Supervisors, investigators in Detective Division.	Police officers and supervisors.	Civilians and officers.	Supervisors (16-18).	Supervising detective, 3 officers and three civilians with supervisory rank	Civilians.	Civilians.
What does the Audit consist of?	The Field report unit reviews every incident report to determine if classification is proper and make necessary corrections. Every incident report is reviewed and a monthly consolidated report is sent to the districts	Besides Supervisory review, investigators review all reports (except drug cases) and determine accuracy in terms of description and coding.	Audits are part of a larger evaluation of different areas within the command (complaints, overtime, staffing). It consists of a review of all reports from either a 3 month or 12 month period. (12 months usually in response of an allegation)	Certain categories of incidents are automatically reviewed to check for coding accuracy, others are reviewed if the statistical pattern seems irregular. Also participated in 2 FBI audits in last three years, where FBI sends a 3 person team to conduct a comprehensive crime coding process audit.	1 st types—review of scratch reports from 4 to 7 randomly selected days per month (every report reviewed from those days—600-1200). 2 nd type—monthly audit reviews 20% of detective reports to ensure proper procedures followed during detective investigation. 3 rd type—monthly review of reports were a crime classification was changed (20% of re-classified reports). *Special Audits	Special scrutiny is given to each operating unit as it comes up for CompStat meetings. Primary focus is assurance of correct classification, consistent use of UCR principles.	CAU reviews all homicides, rapes and robberies on a monthly basis, as well as all crimes in which there is any question about the crime classification or location (to ensure accurate reporting by/within precincts). All statistics are also reported to a regional body—the San Diego Regional Association of Governments—which performs an audit of crime statistics from all municipal governments and law enforcement agencies in San Diego county every 5 years. This is an independent, contracted audit that they are paid for.	Audits are done in response to specific issues, usually an irregularity in crime statistic patterns or a specific request from within the department. When conducted, we take a random sample of incidents (SPSS) and if a problem is detected, we include all incidents within that crime category in our audit. Regular “data reconciliations” are conducted to ensure different units are coding and reporting crime incidents consistently—these are done weekly or monthly.

	Boston	Chicago	Houston	Phoenix	Philadelphia	Los Angeles	San Diego	Washington, D.C.
Are complainants or officers re-interviewed?	Officers are sometimes called to clarify report information.	Complainants are always re-interviewed.	No, though re-interview of victims sometimes ordered in final report.	Officers re-interviewed.	Re-interviews of complainants is encouraged, but poor response from victims resulted in few re-interviews.	Supervisors are directed to review some reports submitted, with a tickler file to follow up on compliance.	Citizens are not re-interviewed. Officers are sometimes re-interviewed.	Officers are re-interviewed.
How long do the audits take?	1 month (monthly cycle).	Ongoing—this “audit” function is a main responsibility of investigators.	2-3 months	1 month. FBI audits can take 6 months to 1 year.	Usually one week.	Ongoing.	CAU audits take one month, SDRAG can take from 6 months to a year.	2-6 months.
Are the results posted or made public?	Distributed within the department.	No.	No	FBI audits are announced to staff and city government, internal audits used in weekly publication in department.	Reports are sent out within department when crimes are re-classified and/or crime figures adjusted.	No.	Once SDRAG completes their audits, they then release a report that rates accuracy of each of these departments/agencies , talks about things that are and aren’t captured accurately and why.	Only if it is in response to a public allegation or as part of the FBI UCR report. Also, when major classes of crime are re-classified.
How is information from audits used by the department?	To ensure accurate classification of crime, and at times used in training.	Mostly used to ensure classification of individual incidents. Could be used for discipline or re-training, but this rarely happens.	Precinct commanders are responsible for taking steps to correct problems cited in reports.	Coding staff often directly deliver training that incorporates issues uncovered through analysis.	A couple district commanders transferred as a result of poor audits, but mostly used in training officers and supervisors.	Email messages are sent to all supervisor staff admonishing accuracy and calling attention to concerns. Accuracy of reporting emphasized now in training.	Primary focus of CAU audits is to ensure accuracy of crime classification and location. Sometimes information is used in training.	The focus is on training unless errors appear to be systematic or deliberate. IF this happens, the inspector general is brought in (independent).
Other information?	Frequent disagreement between Field Report Unit and district commanders regarding classification.		Within each precinct there is a sergeant responsible for reviewing reports for proper classification.		Districts must prepare supplement reports to account for misclassifications. * <i>“Special Audits”</i> are conducted when there are spikes in crime or unusually data patterns.	LA reported that concern with the accuracy of crime reports is relatively new, that prior to the introduction of CompStat crime analysis was not emphasized, and compliance with UCR principles was neither emphasized nor consistently checked.		Crime numbers verified mostly through “data reconciliation”—incident reports now linked with dispatch calls through a computer system—this helps us ensure nothing gets lost.

Appendix 3 Statistical Analysis of Larceny Proportions

To the extent feasible in analyzing the proportion larcenies that were reported as grand and petit, we have paralleled the approach that Seidman and Couzens used in their 1974 study, the only quantitative empirical test in the literature of crime reporting practice of a large department. We tested monthly and annual reported proportions of grand and petit larceny to determine if there were any significant trends in the data or signs of disruptions in the data-pattern that would mirror those found in the Seidman and Couzen's study.

Visual inspection of the annual proportions of reported grand and petit larcenies over the 1987 to 1994 period appear to show random fluctuations in the proportional data with no apparent trends. However, a simple regression of the proportion-of-grand-larcenies-reported on time did show a slight .16% annual downward drift in the proportion of grand-larcenies in both the monthly and annual data.

The presence of some level of structure in the data was confirmed through two classes of tests that can either confirm or refute the presence or absence of structure in time-series data. First, we tested the data for normality and found weak evidence that the data was not normally distributed. We also tested the periodograms associated with the underlying structure of the time series. Here again, the tests indicated that the periodograms were not exponentially distributed indicating there was some level of structure in the data. Had the data been normally distributed with exponentially distributed periodograms, it would have been characterized as "white noise" with both a stable mean and a stable pattern of variation around that mean.

To determine the source of the apparent structure in the data, we used time-series model-fitting techniques to determine if the structure was indicative of a trend in the data, an autoregressive model, or of a pattern of mean-reverting changes in the variation of the data around a time-invariant mean, a moving-average model. These tests indicate that the structure was indicative of a moving-average model and that there were no sustained, auto-regressive trends in the proportion-of-grand-larcenies reported in either the annual data or the monthly data. The moving-average structure in the data was indicative of what statisticians call short-memory, mean-reverting pattern of variation in

the data that tends to reflect the overall mean level of reported grand larcenies within one period for the annual data or three periods for the monthly data. In essence, both the annual and monthly data show random variations around the mean with a tendency to revert to the long-term mean proportion-of grand-larcenies reported. In the case of the monthly data, mean reversion occurred within one quarter. One possible interpretation of this would be that the audit practices and training protocols that the Combined Units impose on the reporting units are able to identify variations from accepted reporting-practice quickly and correct those deviations in a very short period of time.

Given the lack of trend in the data, testing the data for abrupt changes in trend using the interrupted-time series methodology employed by Seidman and Couzens was not feasible. However, we did subject all possible subsets of the reported proportion-of-grand-larceny time-series to outlier tests and tests of means that would have indicated whether some number of single reporting periods or some series of reporting periods was statistically different from the overall base of reported data. These tests did not find any indications of statistically-significant variations in the pattern of reported data in the annual proportion-of-grand-larceny data and only two months (December 2003 and December 2004) in the monthly series showed up as outliers. We do not have an explanation for why those months were statistically different from the remainder of the reported data. However, in both months, reported grand larcenies were above the range of what would have been expected. These higher reported levels of grand larcenies are consistent with the elaborated quality assurance and data integrity effort of the current administration and what appears in the graph to be an upward drift in the proportion-of-grand-larcenies reported over the past three years.