MEMORANDUM

TO: Gregory Suhr, Chief, SFPD

FROM: Corina Monzón, Project Manager, City Services Auditor
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DATE: January 20, 2012

SUBJECT: CompStat Review

CC: Ben Rosenfield, Controller
                      Peg Stevenson, Director, City Services Auditor
                      Kevin Cashman, SFPD Deputy Chief, Operations Bureau
                      Denise Schmitt, SFPD Deputy Chief, Administration Bureau
                      John Goldberg, SFPD Captain, Administration Bureau

SUMMARY

This memorandum responds to Chief Suhr's request for a review of the San Francisco Police Department's (the "Department") CompStat program. The Controller's Office review focuses on the process for collecting, analyzing, and reporting the 28-Day Part 1 Crime Profile. The goal of the review is to provide recommendations to ensure the consistency and transparency in crime reporting. To this end, the memorandum provides four key findings:

Findings

1. *CompStat Profile Data Sources:* The CompStat Part 1 profile is subject to fluctuations in reporting due to disparate data sources, not changes to underlying crime trends. The inherent weaknesses of these disparate data sources compromise the accuracy of the data.

2. *CompStat Unit Process:* The CompStat Part 1 profile is prone to error due to manual processes, lack of staff training, and high staff turnover.

3. *Public Crime Reports:* The CompStat Part 1 profile's reporting of Part 1 total crime and crime trends is different from what is reported to the Department of Justice's Uniform Crime Reporting (UCR) program when these figures should be relatively comparable.

4. *Crime Data Warehouse:* The Crime Data Warehouse project will address many of the current challenges with the CompStat profile. However, several issues require resolution to ensure accurate and timely crime reporting, including timely transmission of incident reports, accurate incident report titles, adherence to a process for reclassifying crime, and incident code-specific victim counts.

Recommendations

This memorandum offers recommendations to improve CompStat reporting of Part 1 Crime. We acknowledge many of the issues raised in our review of the program will be addressed with the implementation of the Incident Report System (IRS) Upgrade and Crime Data Warehouse project. However, if implemented now, we believe these recommendations would provide an immediate improvement to the CompStat profile and will also benefit the implementation of the Crime Data Warehouse. A summary table of recommendations, implementation owner, and time horizon is provided below:

ID	Recommendation	Implementation Owner	Time Horizon
Finding 1 - CompStat Profile Data Sources			
R1.1	Create Homicide and Rape data files exclusively maintained by the Homicide and Sexual Assault Units that directly interface with the CompStat DataStore to address data source weakness in current process.	Technology Division	Short-Term
R1.2	Maintain the Shooting Log in a file that directly interfaces with the CompStat DataStore, to address data source weakness in current process.	Technology Division	Short-Term
Finding 2 - CompStat Unit Process			
R2.1	Complete the development of automatically generating CompStat profiles directly from the CompStat Database to eliminate error caused by the CompStat Unit's manual process.	Technology Division	Short-Term
R2.2	Increase CompStat Unit training and institutional knowledge.	Crime Information Services Unit	Short-Term
R2.3	Increase opportunities for collaboration between the CompStat and Crime Analysis Units to leverage in-house expertise and avoid duplication of efforts.	Crime Information Services Unit	Long-Term
R2.4	Review and prioritize the Department's crime statistical and analytical reports to support effective, data-driven management decisions.	Crime Information Services Unit	Short-Term
Finding 3 - SFPD Public Crime Reports			
R3.1	Reconcile incode mapping disparities between UCR and CompStat reports to bring these reports into alignment.	Technology Division	Short-Term
R3.2	Perform routine comparisons of UCR and CompStat reports to ensure ongoing alignment of crime statistics.	Crime Information Services Unit	Long-Term

ID	Recommendation	Implementation Owner	Time Horizon
Finding 4 - Crime Data Warehouse			
R4.1	Develop CompStat profiles at least four days after the last day in the extraction period to minimize the impact of data delays on crime trend comparisons.	Crime Information Services Unit	Short-Term
R4.2	Ensure IRS Upgrade includes functional features, such a victim counts by incidents, to support accurate reporting of crime in the Crime Data Warehouse.	Crime Data Warehouse	Long-Term
R4.3	Enforce and increase training on report writing standards that support accurate and timely crime reporting.	Crime Data Warehouse	Long-Term

Next Steps

We want to thank the members of the Department who willingly gave their time and knowledge to help us understand the CompStat program. During the course of our review, we met with over 25 sworn and civilian personnel who displayed the utmost professionalism and a genuine interest in improving crime reporting. The Department has been challenged for years with limited information systems, and we were struck by the tenacity and problem solving your staff has employed to work through many of the intractable issues around data collection, analysis, and reporting.

Should you want to pursue any of the recommendations offered in this memorandum, we would be interested in partnering with you. We are available at your convenience for a discussion of next steps. Please contact Corina Monzón at 554-5003 to schedule a meeting.

PROJECT BACKGROUND, SCOPE, AND METHODOLOGY

"CompStat", short for computer statistics, is a crime control model used by several major metropolitan police departments. CompStat emphasizes holding police managers directly accountable for combating crime in their assigned area and providing them authority to deploy resources to achieve desired results. CompStat relies on the following four core principles:

1. *Accurate and timely intelligence* to effectively respond to any problem or crisis;

2. *Effective tactics* to ensure that every resource, both internal and external, is proactively considered in responding to a problem;

3. *Rapid deployment* and strategic police response via vital intelligence regarding emerging crime trends or patterns;

4. *Relentless follow-up and assessment* to critically evaluate whether or not employed tactics led to desired police outcomes.[1]

Over the years the San Francisco Police Department ("the Department") has adopted many aspects of the CompStat model, but the current form was first implemented in October 2009. The program is supported by the CompStat Unit which sits organizationally under Crime Information Services, a unit in the Administration Bureau. The CompStat Unit is staffed by officers who provide the statistical data and management information found in the CompStat "profiles." The Crime Analysis Unit, which also sits organizationally under the Crime Information Services, is staffed by civilian personnel who support the CompStat program by providing analytical work products. The profiles and analysis are reviewed at bi-monthly, public CompStat information sharing meetings with command staff and district station captains and officers.

Chief Suhr initiated a process review of the CompStat program by the Controller's Office (See Appendix A - Chief Suhr Request for Controller's Office Review) because the current profiles employ relatively new methods and have engendered concerns over the accuracy of the data.

To accomplish this review, the Controller focused on the CompStat Unit's process for collecting, analyzing, and reporting the CompStat Part 1 Crime Profile (See Appendix B - Example of 28-Day Part 1 Crime Profile) because of the importance of reporting Part 1 Crimes to city officials, other law enforcement agencies, and the public. As noted later in this memorandum, the CompStat Unit is responsible for many types of profiles (e.g. Risk Management, Traffic) but those profiles are not part of the Controller's review.

The Controller's methodology for performing the CompStat review included 1) interviews with subject matter experts; 2) document review; 3) observation/walk-throughs of the CompStat profile data collection and reporting process; and 4) data analysis. The review commenced in September 2011 and concluded in December 2011. For a detailed discussion of the methodology, please see Appendix C.

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[1] "SFPD CompStat", http://www.sf-police.org/index.aspx?page=3254, *SFPD*

What follows is a detailed discussion of our findings and recommendations regarding the CompStat Part 1 Crime Profile. The analysis is additionally supported by the following Appendices attached at the end of the memorandum:

- Appendix A–Chief Suhr Request for Controller's Office Review, dated 7/22/2011

- Appendix B–Example of CompStat 28-Day Part 1 Crime Profile for 7/31/2011 – 8/27/2011
- Appendix C–Methodology

- Appendix D–Process Flow: Incident Report Data Sources Feeding the CompStat
- Database
- Appendix E–Process Flow: CompStat DataStore Validations

- Appendix F–Process Flow: Development of Shooting Log by the CompStat Unit

- Appendix G–Process Flow: Development of CompStat 28-Day, Part 1 Crimes Profile by the CompStat Unit
- Appendix H–Comparison of CompStat and UCR Data

- Appendix I–Matrix Comparing CompStat and UCR Report Characteristics

- Appendix J–Incident Code (Incode) Mapping Comparison between the CompStat and UCR Report for Part 1 Violent Crime
- Appendix K–Analysis of 1st, 2nd, and 3rd reports of CompStat Data

FINDINGS AND RECOMMENDATIONS

Finding 1 – CompStat Part 1 Profile Data Sources

The CompStat Part 1 Profile is subject to fluctuations in reporting due to disparate data sources, not changes to underlying crime trends. The inherent weaknesses of these disparate data sources compromise the accuracy of the data.

Because the Department lacks a singular System of Record to populate the CompStat profiles, the CompStat Unit relies upon disparate data sources such as the Incident Report System (IRS), CABLE, Coplogic, Homicide and Sexual Assault Units, and the Computer Aided Dispatch (CAD) system for crime counts. Please see Appendix D, a process flow diagram illustrating the decentralized data sources feeding into the CompStat profile.

As a result, discrepancies may exist when CompStat profiles are compared to other reports that rely on different data sources (e.g., station counts, Unified Crime Reporting counts). In addition, each of these systems' weaknesses have caused fluctuations in crime numbers that are not a result of crime trends. A summary of those issues by data source is provided below and discussed in more detail in Findings 1.1 through 1.6

- IRS – incident reports therein are incomplete and/or delayed
- CABLE – incident reports therein are delayed due to data entry processes
- Coplogic – incident reports are delayed by manual entry into CABLE
- Homicide and Sexual Assault Units – counts have to be separately and manually maintained outside of IRS
- CAD[2] (Shooting Log) – incident reports therein are incomplete

F1.1 The CompStat DataStore performs a variety of data validations to ensure the accuracy of crime counts before the data is retrieved by CompStat officers from the CompStat Database.

Given the Department's disparate data sources containing incident report information, the Technology Division created the CompStat DataStore, a data collection point across these data sources, which accounts for these various systems and prevents double-counting. The CompStat DataStore retrieves incident reports that feed the CompStat profile as follows:

1. The CompStat DataStore retrieves incident reports written in IRS from the IRS Server at 05:00 and 12:00 daily. It first pulls in all initial reports from IRS and reclassifies them by incident code hierarchy[3].
2. The CompStat DataStore then pulls non-duplicative, initial reports as well as all supplemental reports from the CrimeMaps Server (CABLE). Unfounded reports are eliminated.

See Figure 1 for an illustration of the various data sources feeding into the CompStat DataStore. A more detailed process flow diagram of this illustration can be found in Appendix E.

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[2] The "Shooting Log", which is the source for the Shots Fired and Shooting Victims counts, is primarily based on review of CAD reports, which are cross-referenced against IRS reports and the "Big 19" report.
[3] Incident codes are 5-digit codes used to classify and count crime. The hierarchy refers to UCR rules for counting the single most serious incident in a report with multiple incidents.

Figure 1. Illustration of the Various Data Sources Feeding the CompStat DataStore
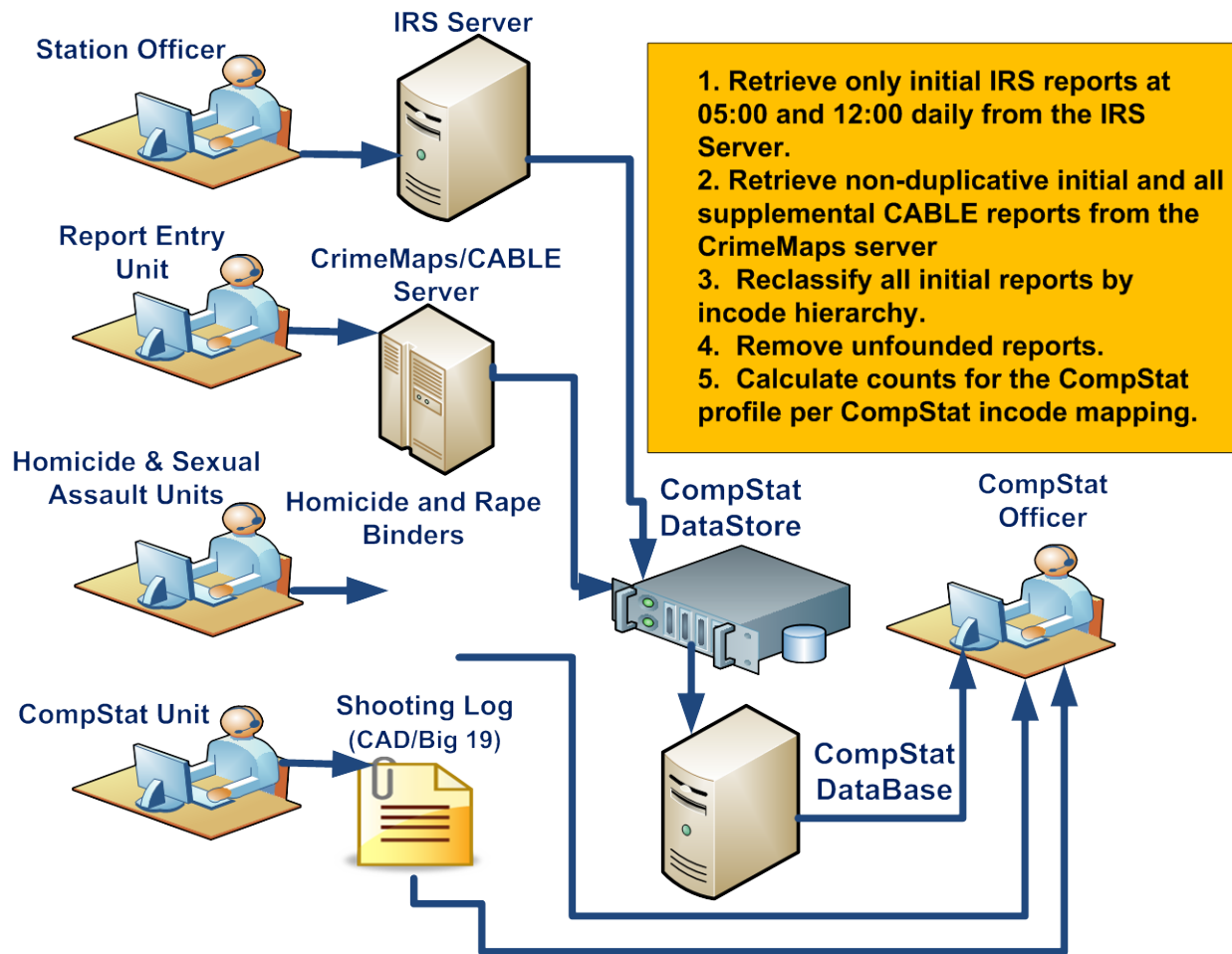
Despite the CompStat DataStore validations to avoid double-counting, there are still data fluctuations in the CompStat profile. Fluctuations are due to inherent weaknesses that exist in the systems feeding the CompStat DataStore and ultimately the CompStat Database and Excel data collection sheets. Those issues are discussed in more detail below.

F1.2 The IRS Server contains an incomplete and delayed set of incident reports due to report entry processes.

Crime counts for both CompStat and Uniform Crime Reporting (UCR) are based on incident codes associated with the titles of an incident report into the IRS system. Incident reports are first manually entered into the IRS system by the officers at the district station and then printed for sergeant and lieutenant approval. Once approved, incident reports should be signed and transmitted in the IRS system by the end of the shift. Currently, some officers do not transmit the reports from the IRS system delaying those reports by 72 hours, when a script runs to collect

them. The CompStat DataStore, the incident report collection point for the CompStat Database, retrieves these incident reports from the IRS Server at 05:00 and 12:00 daily.

In addition to the delay problem described above, the IRS system is also incomplete because reports that are not signed and not transmitted are deleted from the system after three days. Thus, if these reports are printed, approved, and sent to the Hall of Justice for entry into CABLE, they will not be accounted for by the CompStat DataStore for at least three to four days (data entry into CABLE is currently behind by two to three days and there is a 24 hour lag to load reports from CABLE/CrimeMaps into the CompStat DataStore). This example illustrates how delays into the CompStat DataStore can result in the CompStat profile crime counts that differ from what is reported by the district stations. To account for the incomplete reports in the IRS system, the CompStat DataStore must also rely on several additional data sources which are further described below.

F1.3 Incident Reports entered into the CABLE system are delayed due to data-entry processes. Currently, reports entered into CABLE will take at least three to four days to be retrieved by CompStat.

Approximately every four hours, hard copies of approved, original reports are hand-delivered from the district station to the Records Management Section at the Hall of Justice, where they are entered into the incident report module of CABLE. Reports are entered again into CABLE and are used for Uniform Crime Reporting by the Crime Analysis Unit and shared by other law enforcement agencies, such as the Courts, Adult Probation, and the Sheriff's Office. Despite having IRS as the officer's system to enter incident reports, the reliance on CABLE continues for other divisions/units and agencies because of its increased functionality including more validated front-end data (e.g., officer star numbers, vehicle types, and names), the inclusion of all incident reports from stations and Coplogic, and geo-coded data.

Since the current CompStat program began in 2009, there have been periods of time, when the backlog of incident reports not yet entered in CABLE has spanned two to three weeks; however, due to staffing changes in the Report Entry Unit in January of 2010, the backlog is currently two to three days on average. Incident reports entered into CABLE are sent to the CrimeMaps Server every 24 hours, which is retrieved by the CompStat DataStore at 05:00 and 12:00 daily.

This is another example of how delays into the CompStat DataStore, as a result of data entry processes for CABLE, could cause both data fluctuations in CompStat reports and differences in crime counts in reports whose data source relies on CABLE, such as Unified Crime Reporting.

F1.4 Property crime counts reported by CompStat fluctuated because Coplogic reports were not regularly reviewed at the District Stations, causing a backlog of incident reports that had not yet been entered into CABLE.

Coplogic is an online incident report system that allows the public to file a police report for minor crimes in San Francisco. These reports account for a significant amount of property crime reports and approximately 10-15% of all incident reports filed in the City. The entry of Coplogic reports into the CABLE system is wholly dependent upon the district sergeants reviewing their

queue of reports in the Coplogic system, approving them and printing them so they may be entered into CABLE.

As early as the late Fall of 2009, the Department noticed fluctuations in the property crime statistics and realized they were the result of sergeants not reviewing their queue of Coplogic reports for their station on a regular basis. This caused a situation where a spate of Coplogic reports were sent to the Records Management Section; that, coupled with report entry delays into CABLE, caused noticeable spikes in property crimes reported for CompStat.

Sergeants are now supposed to review Coplogic reports daily to avoid a backlog of old reports. In June 2010, the Report Entry Unit began prioritizing Coplogic reports for entry into CABLE to obviate delays of this source of incident reports.

Because Coplogic reports also account for a significant amount of initial, property incident reports that are pulled from CABLE/CrimeMaps into the CompStat DataStore, any delay in the review of reports in the Coplogic system as well as data entry into CABLE will compromise accurate reporting.

F1.5 Rapes and Homicides reports are not accurately reported in the IRS and CABLE systems. As a result, these crime counts are separately and manually collected by the Sexual Assault and Homicide Units.

The Department's systems and processes do not support the accurate counting of rapes and homicides because the official count of homicides requires medical examiner determination, and rapes are often misclassified. Homicide reports entered into IRS should not be counted by the CompStat DataStore until a medical examiner has made an official determination of homicide. However, IRS does not support the ability to note the homicide has been officially approved by the medical examiner. Thus, should the report be titled as homicide and entered into IRS at the end of the officer's shift, the CompStat DataStore would count that report in the homicide count, regardless if there was an official determination of homicide.

The CompStat DataStore also does not draw rape data from IRS, as these incident reports are often misclassified by officers. Through various audits of these numbers produced by the CompStat Database, the CompStat Unit realized that IRS and CABLE reports of rape were higher than those reported by the Sexual Assault Unit. This over-reporting is likely the consequence of inaccurate report titling (e.g., a report being titled as a rape when it is actually a sexual assault) and the lack of compliance with "unfounding" reports when crimes are misclassified in the original report. For example, if a report was titled as a rape, but upon investigation, the incident was ruled as sexual assault, the initial report would need to be unfounded via a supplemental report to discount that rape count; then, a new report would need to be written for the sexual assault incident for CompStat to accurately track this crime count.

As a result, reliance on CABLE and IRS for homicide and rape counts is neither accurate nor timely. Therefore, the CompStat Unit relies on the Homicide and Sexual Assault Units for these statistics and manually enters those counts into data spreadsheets that feed into the CompStat profile. There have been instances where the CompStat count was out of sync with the Sexual

Assault and Homicide Unit counts because the CompStat officer was unaware that the Units reclassified a past rape or homicide.

F1.6 The Shots Fired and Shooting Victims counts are incomplete because neither IRS, CABLE, nor CAD can account for all of these incidents.

The last source of crime data for the CompStat profile is the "Shooting Log", which is manually maintained by the CompStat Unit to count Shots Fired and Shooting Victims in the City. These counts have to be manually maintained because there are no discrete incident codes that map to these incidents; thus, the CompStat Database cannot count these crimes via incident reports entered into CABLE and IRS.

To tabulate these counts on a daily basis, a CompStat officer must: 1) review CAD reports for calls regarding shots fired and/or shooting victims; 2) confirm the validity of these incidents via review of IRS reports that are faxed to the CompStat Unit; 3) review the "Big 19" report (daily report of serious crime in the City) to ensure that all shots fired and shooting victims are counted; and 4) enter this data manually into a Shooting Log spreadsheet, which is copied and pasted into other data spreadsheets that feed into the CompStat profile. See Appendix F which illustrates the process steps to compile the Shooting Log.

This process, while extensive, still leaves gaps in the data because incidents with Shots Fired and Shooting Victims that are not recorded in the CAD and Big 19 reports will not be picked up by the CompStat officer. Therefore, should there be incidents with Shots Fired and Shooting Victims that are not recorded in the CAD and Big 19 reports, these counts will not be included in the CompStat profile.

Finding 1 Recommendations

The best opportunities for interim improvements to the data sources for the CompStat profile lie in streamlining the process by which the CompStat Unit obtains Homicide, Rape, Shots Fired, and Shooting Victims counts.

The Department should:

R1.1 Create a Homicide and Rape database or log that is exclusively maintained by the Homicide and Sexual Assault Units. These databases should directly interface with the CompStat DataStore so that these numbers can automatically be pulled into the CompStat profile, eliminating the manual processes by the CompStat Unit that has caused reporting errors.

R1.2 Continue maintaining the Shooting Log by the CompStat Unit in a database or log that directly interfaces with the CompStat DataStore, so that these numbers can automatically be pulled into the CompStat profile. This will obviate the CompStat Unit from having to copy and paste Shooting Log data into CompStat profile data spreadsheets and would address the incorrect tallying Excel formulas. In addition, the Department should decide on consistent data fields to facilitate uniform data entry by the CompStat Unit into the Shooting Log.

If the CompStat profile can be automatically generated from the Crime Data Warehouse (CDW) over the next phases of the CDW project, the Department would be single-sourcing the data feeding into the reports, thereby simplifying the process by which CompStat profiles are developed and reducing errors that are introduced via manual processes. Further, if other divisions and units with the Department also use the CDW as their source for crime statistics, disparities between the CompStat profile and the numbers maintained by various divisions and units will be eliminated.

The CDW has already accounted for the existing CABLE and IRS systems for incident reports; however, Coplogic reports as well as the Homicide, Rape, and Shooting Logs will have to interface with the CDW to account for all data sources currently utilized for the CompStat profile. For more recommendations regarding how to accurately report CompStat data from the CDW, please see Finding 4.

Finding 2 – CompStat Unit Process

The CompStat profile is prone to error due to manual processes, lack of staff training, and high staff turnover.

F2.1 The original design by which CompStat profiles would be developed was to auto-populate CompStat profiles directly from the CompStat Database, which would eliminate any manual processes. This approach is currently not utilized due to technical challenges.

The original concept envisioned by the Department in the Fall of 2009 was to auto-populate the profile directly from the CompStat Database, thereby obviating any manual process steps currently undertaken. Although employed until March of 2010, this automated approach never worked correctly and caused cosmetic issues and inaccurate counts, which took a significant amount of time and effort for the CompStat staff to rectify.

In March of 2010, a CompStat officer developed the current approach to develop the profiles (discussed in more detail below in Finding 2.2). Although this practice relies on manual processes and Microsoft Excel pivot tables, it was nonetheless quicker and more successful than the initial auto-population approach.

Starting in October of this year, the Technology Division began making the necessary technical changes to correctly auto-populate all the crime counts, with the exception of Homicides, Rapes, Shooting Victims, and Shots Fired. The CompStat Unit is currently waiting on the automation of the weekly profiles by the Technology Division before they can completely cut over to this more streamlined and automated method. A process by which the profiles are directly populated by the CompStat Database would eliminate the human errors made to date.

F2.2 The CompStat Unit staff relies on a manual and tedious process to pull statistical data into the CompStat profile template via multiple Microsoft Excel formulas and pivot tables.

The CompStat profile is currently developed through numerous steps, many of which involve handling multiple spreadsheets of data and many manual functions in Microsoft Excel (i.e., copy/paste, find/replace). This process has been used since March of 2010.

At a high level, data spreadsheets of incident reports are extracted from the CompStat Database for the specified date range. The CompStat officer will also populate supporting data spreadsheets with lists of Rapes, Homicides, Shots Fired, and Shooting Victims. With Microsoft Excel pivot tables and formulas, the crime counts are populated into the CompStat profile. See Appendix G for a process flow diagram illustrating the steps to develop the CompStat profile. As a result of the 16 manual steps involved with populating the CompStat profiles in Excel, the process is inevitably prone to human error.

Moreover, because the profile counts are driven from complicated Microsoft Excel formulas and pivot tables imbedded deep within the supporting data spreadsheets, errors in these Excel formulas will not be seen nor can they be addressed by the CompStat Unit, because the officers do not have an advanced proficiency in Microsoft Excel. Finding formula issues in the CompStat

profile would require a labor-intensive review of all formulas in the profile and data spreadsheets.

Consequently, concerns around CompStat crime counts are brought to the attention of the CompStat Unit, rather than the CompStat team preemptively finding and addressing these problems before the profiles are published.

In a recent example, a CompStat profile illogically reported zero shots fired, but a handful of shooting victims. This was a result of a Microsoft Excel formula error in the supporting data spreadsheets for the profile.   Further, the Controller's Office review found inaccurate and inconsistent data in the Shooting Log that should be reconciled by the CompStat Unit.

A second example of how the CompStat Unit was not able to find an Excel formula issue regards the 2010 YTD homicides. The data reported in the CompStat profile was lower than what was actually recorded by the Homicide Unit, which caused an appearance of homicides significantly increasing in 2011 when compared to 2010. The YTD homicide count is driven by an Excel formula in a supporting data tab that specified an incorrect row range for the data. That row range was not inclusive of all the homicide entries for 2010, which caused the count to be too low.

F2.3 Staff challenges, such as officer turnover, lack of Microsoft Excel training, and minimal integration of civilian crime analysts, are exacerbating the potential for error in the development of the CompStat profile and potentially other CompStat reports.

The current organizational structure of the Crime Information Services Unit allows for the CompStat Unit, who are all officers, to populate the statistics within the CompStat profiles, while the Crime Analysis Unit (CAU), who are all civilian staff, primarily provides other analytical work product to inform operational decision-making.

CompStat Unit positions are typically staffed with officers who are on modified duty; as a result, staff turnover is frequent and decreases the institutional knowledge available. For example, since this Controller's Office review commenced in September of this year, four out of seven CompStat officers have left the CompStat Unit for other positions in the Department. In addition, given the dependency on using Microsoft Excel to generate CompStat profiles and lack of formal training offered by the CompStat Unit, the officers' lack of proficiency using this Microsoft tool further riddles the process with human errors. Although CompStat and CAU report to the same captain, they are physically separated, seldom work together, and do not understand the processes behind the development of each other's work product. Further, because the CompStat Unit operates apart from the CAU, the CompStat Unit does not benefit from the skills and expertise of CAU, resulting in less effective and efficient crime analysis as well as limited opportunities to minimize and problem-solve errors as a cohesive Crime Information Services Unit.

While not part of the Controller's office review, we do note that the CompStat Unit is also tasked with development of 27 other reports. Those reports are summarized in Table 1 below. It is not clear whether or not these reports are duplicative of work performed by

CAU. These reports may be prone to errors similar to what we have already identified for the CompStat profile.

Table 1. CompStat Unit Work Product

ID	Type	CompStat Work Product	Delivery Frequency
1	Profiles	28 Day, Part 1 Crimes	Weekly
2		28-Day, Part 2 Crimes	
3		Weekly, Part 1 Crimes	
4	Risk Management	Response Time	Weekly
5		Weapons Seizures	Monthly
6		Pursuits	
7		Use of Force	
8		Traffic Collision	
9		Officer Involved Shooting	
10		MCD Complaints Issued/Closed	
11	Traffic Data	DUI	Monthly
12		Citations	
13		Accidents	
14		Pedestrians Injuries	
15		Fatalities	
16		Property Damage	
17		Injury Accidents	
18		Traffic Stop Data (E585)	
19	Other	Priority Runs	Weekly
20		Trend Lines	Weekly
21		Warrants	Daily
22		Crime Alerts	Daily
23		Shooting Victim Data	Daily
24		Sit/Lie Program (919)	Monthly
25		Passing Calls/Parking Lots (903P)	Monthly
26		Muni/Bus Inspections Program (908()	Monthly
27		Field Information Cards	Monthly

Finding 2 Recommendations

To streamline the CompStat profile development process so that it is less manual and prone to human error, the Department should implement the recommendations from Finding 1 as well as do the following:

R2.1 The Technology Division should complete the development of auto-populating the weekly profiles. This will allow the CompStat Unit to automatically populate the 28-day and weekly profiles directly from the CompStat Database until the Crime Data Warehouse can be leveraged to auto-populate the profiles.

R2.2 The Department should increase CompStat staff training and institutional knowledge.
Ideally crime analysis and reporting should be performed by professional civilian staff but to the extent that the Department continues to rely on sworn personnel the Department should:

- Require all CompStat Unit officers to take a basic Excel training course, as long as Microsoft Excel is the primary tool by which the profiles are developed.
- Implement a minimum of a one-year rotation for officers in the CompStat Unit to maintain institutional knowledge.
- Document all work processes and procedures in a training manual for new officers.

R2.3 The Department should increase opportunities for collaboration between the CompStat and Crime Analysis Units to leverage in-house expertise and avoid duplication of efforts.
Should the development of reports become streamlined as a result of the Crime Data Warehouse, the Crime Information Services Unit would become less reliant on a team of officers working on statistics gathering. Accordingly, the Department should evaluate if there are opportunities to integrate the CompStat Unit and Crime Analysis Unit.

R2.4 Review and prioritize the department's crime statistical and analytical reports. Given the tedious and manual processes currently employed by the CompStat Unit, budgetary and resource constraints across the Department, and the fact that stations are also tracking various (and potentially duplicative) statistics, the Department needs to comprehensively review and prioritize which types of reports and analyses are most necessary to make effective, data-driven management decisions. This analysis would be an important input into deciding how to prioritize which crime statistics and analytical reports should be available from the Reports Module of the Crime Data Warehouse, slated to be developed during Phases 3 and 4 of the Crime Data Warehouse project (February – October 2012).

Finding 3 – Public Crime Reports

The CompStat profile's reporting of total Part 1 crime and crime trends is different from what is reported to the Department of Justice's Uniform Crime Reporting program when these figures should be relatively comparable.

Prior to the introduction of the CompStat program in the Fall of 2009, the Department's primary public report of crime was the UCR report. The UCR report also fed the Controller's Office Performance Measurement program and more recently, the Government Barometer.[4] At issue is that the UCR report and any other report dependent on UCR data provides the public and decision makers with a different story about crime in San Francisco than the CompStat profile. What follows is a discussion as to how and why UCR reports differ from the CompStat profile.

F3.1 UCR and CompStat reports of crime show significant differences between 2010 and the present.

Figure 2 on the next page shows total violent crime as reported in the CompStat profile and the UCR report from January 2010 through September 2011.[5] The graph illustrates the following notable differences:

- **CompStat typically produces higher totals of Part 1 Violent crime.** This is largely the result of a significantly higher number of aggravated assaults being reported through CompStat relative to UCR. CompStat reports more aggravated assaults because of an incident code mapping disparity that is further discussed in Finding 3.3.

- **Part 1 Violent Crime trends in UCR and CompStat do not always align.** During the month of March 2011, for instance, UCR shows crime rising as CompStat shows crime declining, and vice versa for April 2011. See Appendix H for more detailed discussion of this finding.

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[4] The Performance Measurement (PM) Program collects performance measurement data from all City departments to help drive more efficient, effective, and thoughtful operations and allocation of resources. Similarly, the purpose of the Government Barometer is to share key performance and activity information (e.g., public safety, streets and public works, public transit, recreation, customer service, etc.) with the public on a reoccurring basis in order to increase transparency, create dialog, and build the public's confidence regarding the City's management of public business.

[5] This graph, and subsequent comparisons of UCR and CompStat data over time in this memorandum, relies on the initial report of CompStat data for that extraction period of 28 days. Crimes that are reported later, or do not reach the CompStat server when the 28-day CompStat profile is created, are not included. See Appendix H for more details on the analysis of UCR v. CompStat trends.

Figure 2. Total Part 1 Violent Crime in UCR and CompStat (Jan. 2010 - Sept. 2011)

During the month of March 2011 UCR shows crime rising as CompStat shows crime declining, and vice versa for April 2011.
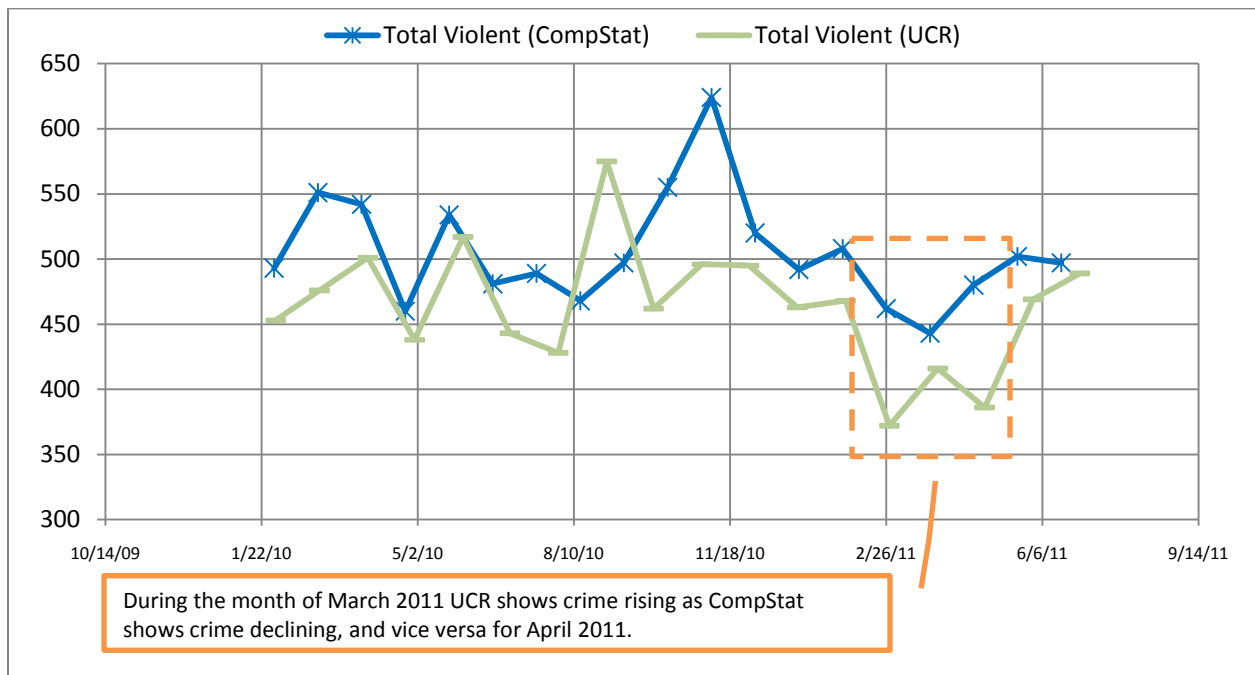
In contrast, UCR shows higher crime totals when comparing Total Part 1 Property Crime reported by CompStat and UCR. See Figure 3 below.

Figure 3. Total Part 1 Property Crime in UCR and CompStat (Jan. 2010 - Sept. 2011)
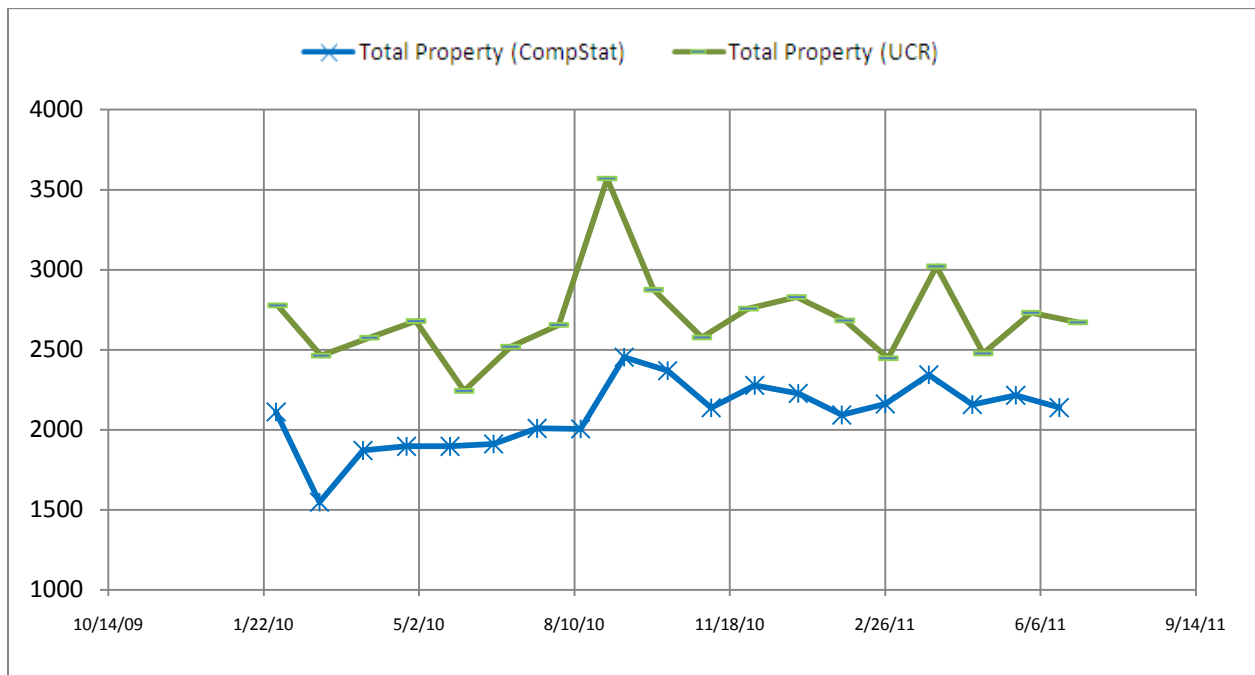
Larger UCR Part 1 property crime monthly totals are primarily a consequence of higher counts of Larceny (Personal/Other Theft and Burglary Theft From Vehicle) reported in UCR. From interviews with SFPD personnel, this is the likely consequence of Coplogic reports taking several days to reach the CompStat database.

For more discussion of the methodology and analysis used to create these graphs, please see Appendix H.

F3.2 Differing technical characteristics between the CompStat and UCR reports drive disparities in Part 1 crime counts.

While Finding 3.1 above shows significantly different counts of crime between UCR and CompStat, the Department did not intend for this result. Slight variances between these reports were expected based on dissimilar technical characteristics that were based on operational need. For example, UCR requires crime to be counted by the date the crime was reported, while CompStat counts crime by the date the incident occurred. In addition, CompStat profiles report on 28-day periods whereas, UCR reports on calendar months of 28, 30, or 31days. These differences can cause slight variances in crime counts between the two reports, but do not explain the divergent trends and significantly different figures reported in UCR and CompStat.

Contrary to the intention of the Department, CompStat and UCR count crime differently because several more characteristics are different between UCR and Compstat. The following is a summary explanation of these differences that have adverse consequences for reporting.

- **Data Sources:** CompStat relies on both IRS and CABLE systems because IRS data is more real-time than CABLE data. On the other hand, UCR reports rely exclusively on CABLE, whose report entry is currently delayed by at least three to four days.

- **Incident Code Mappings**: The mapping of incident codes, or the assignment of specific incident codes to crime type categories (e.g. robbery or auto theft), differ between the two reports. This difference is a primary cause of dissimilar reporting of crime in UCR and CompStat. See Finding 3.3 below for more discussion of the incident code mapping disparity.

- **Scoring of Offenses by Operation or Victim:** All else being equal, CompStat may be slightly underreporting aggravated assaults relative to UCR because it scores offenses differently from the UCR definition. Currently, CompStat will count one crime for each aggravated assault *incident,* rather than one for each *victim* as in UCR. As a result, if an aggravated assault incident had three victims, CompStat would count that incident as one aggravated assault, while UCR would count that incident as three aggravated assaults. This different scoring methodology is the consequence of a technological limitation in IRS, rather than a decision by the Department.

- **Regularly Updated Data**: The CompStat Datastore is continually updated with new crime data, so subsequent reports of a CompStat extraction period will have updated counts of crime whereas, UCR counts are not regularly updated with the DOJ.

For a detailed matrix comparing the characteristics between the UCR and CompStat reports, please see Appendix I.

As previously noted, our analysis reveals that the primary driver in the differences in Part 1 crime counts between UCR and CompStat is the incident code mapping for each report. This analysis is further detailed in Finding 3.3 below.

F3.3 Differences in incident code mappings are the primary driver of differences in the number of Part 1 crimes reported between UCR and CompStat.

Incident codes or "incodes," are associated to each title given to an incident report and are typically five numeric digits. Incident codes were created for UCR in the 1960s and were designed as the method by which crime is categorized and counted in the Department.

Any one crime type (e.g., Homicide, Rape, Robbery) can be associated with several incident codes because the codes can be specific to the type of weapon used in that crime, the location where the crime occurred, or the value of the property loss to the victim. For example, a robbery report can be titled, "Robbery, Street or Public Space With Gun – 03011," or "Robbery, Commercial Establishment With A Knife – 03022." Both incidents are robberies, but they each have a unique five digit incident code to denote the location and weapon used in the robberies. There are over 100 incident codes for robbery to account for the combination of factors that could have occurred during the commission of the crime. For CompStat and UCR to report comparable robbery statistics, the incident code mappings to crime types must also be the same. In the robbery example given above, both the CompStat and UCR report would have to map robbery to incident codes 03011 and 03022 to get comparable statistics.

The Controller's Office compared the incident code mapping for the CompStat Part 1 Crime report and the UCR Part 1 Crime report (POLO216) and found that the incident code mappings are *not* in sync. See Appendix J for the results of the incident code mapping comparison between CompStat and UCR for Part 1 Crime.

Table 2 highlights the number of incident codes counted in the CompStat report which are not in the UCR report and vice versa. Please note that Homicide and Rape crimes types are not listed because the counts for these crimes are separately and manually maintained by the Investigative Units and do not rely on computer systems to count incident codes to achieve accurate counts for these crimes.

Table 2. Differences in UCR and CompStat Incident Code (Incodes) Mappings

Part 1 Crime Type	Number of Incodes Used in CompStat but not in UCR	Number of Incodes Used in UCR but not in CompStat
Part 1- Violent Crimes		
Robbery	0	28
Aggravated Assault	17	3
Part 1- Property Crimes		
Burglary	*0*	*0*
Larceny (BTVF, Personal/Other Theft)	12	1
Auto Theft	1	2
Arson	2	0
Total	**32**	**34**

This difference in incident code mapping is the primary driver of disparity between the two reports. For example, Table 2 on the previous page shows that there are 17 aggravated assault incident codes mapped to the CompStat profile but not UCR, which includes several domestic violence crime types:

- 15040 -Spouse, Cohabitee, Parent of Child in Common, Inflict Injury (domestic violence)
- 04136 (battery with serious injuries)
- 15015 (child, inflicting Physical Pain, Mental Suffering, or Death)

In 2010, these 17 incident codes that are exclusively mapped to CompStat accounted for 1,212 of the 3661 aggravated assaults reported in that year or approximately 33% of the total (see "CompStat Only" in blue in Figure 4).

Figure 5 illustrates the specific incident codes that drive the differences between UCR and CompStat aggravated assault figures. As noted above, domestic violence-related crimes are the top contributer to the differences between UCR and CompStat aggravated assault figures.

Figure 4. 2010 Aggravated Assault incidents with incodes used in CompStat Only relative to those present in UCR & CompStat

- ■ UCR & COMPSTAT ■ COMPSTAT ONLY

100% — 3661
1212
67%
2449
0% — 0
Total

Figure 5. CompStat-Only Incodes for Aggravated Assault, 2010

1. Spouse, Cohabitee, Parent of Child in Common, Conflict Injury (709 incidents in 2010)
2. Battery with Serious Injuries (213 incidents)
3. Child, Inflicting Physical Pain, Mental Suffering, or Death (111 incidents)

When crimes with these additional incident codes that are present only in CompStat are removed from the 28-day totals, the Part 1 UCR and CompStat trends and figures align more closely. See Appendix H for more details on the analysis of UCR v. CompStat trends.

According to Department personnel, the incident code mapping for the UCR report has not been updated since the early 1990s. This discrepancy is a known issue for the Department as former

Police Chief George Gascón publically acknowledged the underreporting of Aggravated Assaults to the DOJ at a Police Commission meeting on December 16, 2009.

Finding 3 Recommendations

To provide the public and decision makers a consistent picture of crime in San Francisco, the Department should do the following:

R3.1 The Department should reconcile incident code mapping disparities between the CompStat Profile and the UCR Report. Because the underlying issue behind the disparity in crime counts is the incident code mapping differences between CompStat and UCR, these reports' mappings should comprehensively be reviewed and reconciled so that they are in sync. The Department may already be aware of the necessary incident code mapping updates for UCR, they just were not yet implemented in CABLE. After the incident code mappings have been reconciled, the Department should routinely compare the reported numbers for UCR and CompStat to ensure that they numbers are more or less aligned.

R3.2 The Department should perform a comprehensive review of its crime reports to ensure consistency in reporting. Within the Crime Information Services Unit, our analysis reveals that the Department has allowed a divergence in crime reporting since the CompStat program began in the Fall of 2009. As a result, it should develop a plan to bring the key characteristics (e.g., incident code mapping, scoring by victim or operation, etc.) between these two reports into alignment. For example, to address the fact that CompStat does not count the number of victims in a homicide, rape, or aggravated assault incident report, IRS should be upgraded to include this functionality. This will be a necessary feature for the Crime Data Warehouse to correctly extract crime counts that are scored by the number of victims for both UCR and CompStat reporting.

Another opportunity for alignment between the Department's public-facing reports is the continued monitoring and assessment of the data submitted for the Controller's Office Performance Measurement and Government Barometer reports. The Crime Information Services Unit has been proactive in this regard. As of July 2011, it changed the data source for these two reports to CompStat in lieu of UCR. In the last few months, the Unit has opted not to submit any serious violent and property crime data to the Controller's Office while it revises its methodology for crime reporting.

Finding 4 – Crime Data Warehouse

The Crime Data Warehouse project will address many of the current challenges with the CompStat profile. However, several issues require resolution to ensure accurate and timely crime reporting, including timely transmission of incident reports, accurate incident report titles, adherence to a process for reclassifying and unfounding crime, and incident code-specific victim counts.

F4.1 Due to the lack of timely transmission of reports into IRS, crimes and arrests for a given time period consistently increase between the first and the second report of a given extraction period. Comparisons of crime data between the most current CompStat extraction period and the previous period exaggerates the decrease in crimes and minimizes the increases in crime.

In a CompStat profile, three time periods are displayed to permit comparisons between the most recent time period and two past periods. What follows in Figures 6 and 7 below is an explanation of how the CompStat data is refreshed over multiple extraction periods and the resulting impact on comparison of crime trends.

The first column (1) of the CompStat profile shows the most current extraction period of the past 28 days—this is the "1st report" of that data.

Figure 6. Excerpt from CompStat Profile dated January 1, 2011

VIOLENT CRIMES	12/5/2010 TO 1/1/2011	11/7/2010 TO 12/4/2010	% Change	11/7/2010 TO 12/4/2010	10/10/2010 TO 11/6/2010	% Change
TOTAL VIOLENT	492	547	-10%	547	641	-15%

(1) Most recent extraction period: 12/5/2010 – 1/1/2011. This is the "1st Report" of data for this time period.

28 days after the extraction period in column (1) is first reported, it will be reported again in column (2)—this is the "2nd report" of crimes and arrests for that period as shown below in Figure 7. For the 2nd report of data for a time period, the CompStat Database will use the most current information about crime and arrests for that period. The "% Change" column (%Δ) shows the percentage change between column (1) and column (2).

Figure 7. Excerpt from CompStat Profile dated January 29, 2011. (29 days, or 1 extraction period, after report in Figure 6)

In CompStat profiles, crimes and arrests consistently increase between the first and the second report of a given extraction period.[6] See Table 3 below which shows that there was a total of 22 more crimes between the 1st and 2nd report.

Table 3. Change in violent crimes reported between 1st and 2nd Report of the Extraction Period of 12/5/2010 to 1/1/2011

Period: 12/5/10 – 1/1/11	1st Report	2nd Report	Increase in Crime	% Increase
Homicide	5	5	0	0%
Rape	5	6	1	20%
Robbery	240	248	8	3%
Aggravated Assault	242	255	13	5%

The increase in crimes between the 1st and 2nd report of an extraction period is largely due to crimes that occurred in the last three days of the extraction period and were not present in the CompStat DataStore at the time the CompStat profile containing the 1st Report was created. See Figure 8 below which illustrates this finding.

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[6] See Appendix K for a detailed explanation and discussion of how crime increases in subsequent reporting.

Figure 8. Changes in Total Part 1 Violent Crime Between 1st Report and 2nd Report of 12/5/2010 to 1/1/2011 Extraction Period, Broken Out by Incident Description and Occur Date
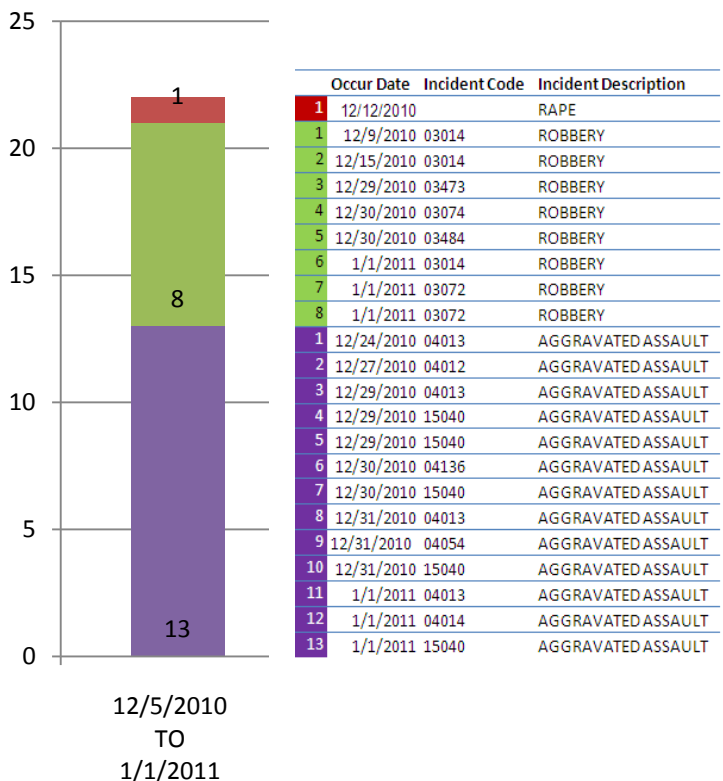
For example, from the 1st to the 2nd report, aggravated assaults increased by 13 reports. Of the 13, 11 incidents occurred in the last few days of the extraction period.

The additional crime added between the 1st report and the 2nd report of an extraction period may be the consequence of Department practices and technological limitations in SFPD. As discussed in Finding 1.2, some reports do not hit the IRS Server for 72 hours after they have been approved. This delay is caused by officers who electronically sign the reports in IRS but neglect to click the "Transmit" button. The IRS Server collects these un-transmitted reports from the terminal every 72 hours. As a result, these incident reports are not available to the CompStat DataStore for the 1st report of the extraction period, but are accounted for in the 2nd report of the same extraction period.

There is a second reason why reports are delayed in reaching the CompStat DataStore. Reports that are prepared but not signed (or unverified) are deleted after three days in IRS. Thus, if these reports are printed, approved, and sent to the Hall of Justice for entry into CABLE, they will not be accounted for by the CompStat DataStore for at least three to four days (data entry is currently behind by two to three days and there is a 24-hour lag to load reports from CABLE/CrimeMaps into the CompStat DataStore). As a result, these incident reports are also not available to the CompStat DataStore for the 1st report of the extraction period, but are accounted for in the 2nd report of the same extraction period.

Similarly, arrest and Coplogic reports experience a lag in the 1st and 2nd report of an extraction period due to data entry delays into CABLE. Arrest counts are generated through supplemental reports entered into CABLE. Coplogic reports are only entered into CABLE after they are downloaded from the Coplogic system at the stations. As a result, these counts take longer to reach the CompStat DataStore because of the manual data entry process for CABLE, which also causes reports to not be available for the 1st report, but are accounted for in the 2nd report.

The net effect of increased crime counts by the 2nd report of the extraction period is that the comparison of the 1st report of a 28-day extraction period to the previous 28-day period is not an "apples to apples" comparison, because the previous 28-day period has the benefit of additional crime data. As a result the "% Change" column in the CompStat profile, which is supposed to indicate the crime trend, is distorted. The % Change column in the profile will show an exaggerated decrease in crime and a minimized increase in crime.

F4.2 Inaccurate incident report titles contribute to the misclassification of crime.

The Department's systems require incident codes by crime type for crime reporting. To provide accuracy in crime reports, all elements of the crime must sync up with report title and incident code selection. However, audits performed by the CompStat Unit show that officers often mistitle reports, given the elements of the crime; further, sergeant and lieutenant review is not rectifying these errors.

For example, CompStat audits show that sexual assault crimes are often misclassified as rape; as a result, the CompStat Unit cannot rely on rape counts from the CompStat Database and must use the statistics that come directly from the Sexual Assault Unit. Another example of mistitled reports occurs because officers do not understand the UCR hierarchy. Specifically, officers must put the most egregious report titles/incident codes in the title section of the report, not in the narrative. For example, if the officer titles the report as an Aggravated Assault but also writes that there was a Robbery in the narrative of the report, CompStat will inaccurately count the incident as an Aggravated Assault when it should be counted as Robbery, per the UCR hierarchy. This situation indicates that officers do not always understand the criteria for appropriately titling reports, which consequently causes misclassification of crime.

F4.3 The process for "unfounding" crime is not consistently adhered to, which contributes to inaccurate crime reporting.

Misclassified crime has to go through an unfounding process in IRS, which is time and labor intensive. As a result, unfounding is not typically complied with, nor is it well understood. The lack of unfounding crimes contributes to inaccurate crime reporting.

Unfounding is the process by which an officer will enter a supplemental report for a crime that has been misclassified by marking it as unfounded, which nullifies the count for the initial report in the Department's systems. Next, the officer should create a new, initial report that correctly classifies the crime (the new report can reference the unfounded initial report number).

Our interviews across the Department reveal that this process is neither adhered to nor codified in a Bureau Order. Report entry clerks rarely see unfounded reports when they enter supplemental reports into CABLE; rather, they see supplemental reports with changed data therein. Thus, for incident code and title updates, even if the clerks catch the incident code changes and make those changes in the supplemental report, the initial report with the incorrect title is still not unfounded. Therefore, the CompStat Database would continue to count these misclassified initial reports because they are not yet unfounded.

The net result of the lack of correctly unfounding reports is that CompStat and UCR counts of crime are inaccurate.

F4.4 IRS does not functionally support victim counts for homicide, rape, and aggravated assaults.

Per UCR guidelines, homicides, rapes, and aggravated assaults should be counted by victim, not by incident. Although, the CompStat Unit relies on the Homicide and Sexual Assault Unit for homicide and rape statistics, the CompStat profile is slightly under-reporting Aggravated Assaults for incidents with multiple victims because IRS cannot track victims by incident code type. For example, if an aggravated assault incident had three victims, CompStat would incorrectly count it as one aggravated assault, when it should be counted as three aggravated assaults, given the number of victims. Although the CompStat Unit was aware of this issue, IRS was never upgraded to address this gap.

Finding 4 Recommendations

R4.1 CompStat profiles should be developed at least four days after the last day in the extraction period to minimize the impact of data delays on crime trends. The timeframe for assembling CompStat reports should be modified to at least four days after the last day of the extraction period, if more reliable comparisons between the current extraction period and the previous extraction period are to be made. This will reduce the likelihood that increases in crime or arrests in the 2nd Report of an extraction period are caused primarily by process delays with CABLE and IRS occurring three to four days after the last day of the extraction period.

Comparisons between the 1st and 2nd report data may become more accurate following the implementation of the Crime Data Warehouse due to a reduction in delay between the time when a report is written and when it arrives in the Data Warehouse. Should the above recommendation be implemented, the CompStat Unit should compare the CompStat numbers in the 1st , 2nd, and 3rd reports to verify that the underreporting of crime in the 1st report is mitigated with the production of CompStat reports via the Crime Data Warehouse.

R4.2 The Department should ensure that all functional features needed to support accurate and timely reporting of crime in the CompStat profiles are available in the IRS upgrade for the Crime Data Warehouse. Based on our interviews, we believe that many key functional features for accurate crime reporting have been accounted for the in the IRS upgrade. However, we believe it is important to highlight the need for properly accounting for victim

counts by incident codes for homicides, rapes, and aggravated assaults in IRS. Currently, IRS does not contain this functionality and CABLE functionality is limited. Therefore, the Department should enhance IRS functionality to properly account for victim counts by incident codes for homicides, rapes, and aggravated assaults.

R4.3 The Department's training for report writing should enforce the following standards. All of the above issues that negatively affect accurate reporting of crime by the Department can be ameliorated with increased training for correct report writing that enforces the following report writing standards:

- Officers should both sign and transmit reports electronically by the end of their shift, so that reports can to be sent to the IRS server and accounted by the CompStat DataStore, and eventually the CDW, in a timely fashion.

- Officers should understand that accurate and timely report writing is essential to accurate reporting of crime statistics by the Department.

- Officers should correctly title reports with the correct incident codes, given the elements of crime.

- Sergeants and lieutenants should properly review the reports during the approval process to ensure reports are correctly titled, given the elements of the crime.

- The Department should mandate adherence to the unfounding process when crimes are misclassified.

POLICE DEPARTMENT
CITY AND COUNTY OF SAN FRANCISCO
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EDWIN M. LEE
MAYOR

GREGORY P. SUHR
CHIEF OF POLICE

July 22, 2011

Mr. Benjamin Rosenfield
Controller
City and County of San Francisco
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102

Dear Mr. Rosenfield:

The Police Department is seeking the assistance of the Controller's Office, City Services Auditor, in conducting an independent audit of our CompStat Data, including our procedures for collecting and analyzing it. The Department relies heavily upon this data to formulate its directed patrol and policing plans; and to measure our effectiveness, report to City officials and to City residents. Moreover, we use this data for reporting purposes to State and Federal authorities.

In that CompStat is a relatively new methodology to our Department, it is essential that our procedures – and the information we report -- be sound and defensible.

Until such time as our new data warehouse becomes operational, we continue to rely upon antiquated systems and software that limit our ability to systematically gather data. In an effort to be most effective, it is essential that our existing methodology be sound and that we seek improvements wherever possible. Without an independent and carefully designed audit to confirm the accuracy of the Department's reporting, we can't know if we are being most effective and/or wasting valuable diminishing resources thereby leaving ourselves open to, what would be, justifiable criticism.

For these reasons, and with Jeff Godown likely headed over to Oakland PD in the not too distant future, I am requesting that your Office conduct an audit of our CompStat reporting as soon as possible to recommend improvement wherever/however possible; and to establish a solid baseline for us to use as we move forward to improved systems and software.

Should you be able to assist us in this matter, the Department will provide full access to your team and support your staff in every way possible.

Very truly yours,

GREGORY P. SUHR
Chief of Police

A1

COMPSTAT
CITY WIDE PROFILE
7/31/11 to **8/27/11**

Population:	843,402
Area:	48.1 square miles
Total sworn	2217

Administration:	**Deputy Chief Denise Schmitt**
Field Operations:	**Deputy Chief Kevin Cashman**
Chief of Staff:	**Commander Lyn Tomioka**
MTA:	**Commander Lea Militello**
Field Operations:	**Commander Richard Corriea**
Field Operations:	**Commander Mikail Ali**
Investigations:	**Commander Mike Biel**

Chief Greg Suhr
Crime Statistics for week ending **08/27/11**

| Part 1 Violent Crime Rate /per 1000: | 5.31 | Part 1 Property Crime Rate/per 1000: | 25.55 | Total Part 1 Crime Rate/per 1000: | 30.86 |

CRIME STATISTICS

VIOLENT CRIMES	7/31/11 to 8/27/11	7/3/11 to 7/30/11	% Change	7/3/11 to 7/30/11	6/5/11 to 7/2/11	% Change	YTD 2011	YTD 2010	% Change
HOMICIDE	3	2	50%	2	3	-33%	32	33	-3%
RAPE	8	6	33%	6	15	-60%	87	102	-15%
ROBBERY	287	247	16%	247	265	-7%	2185	2168	1%
AGGRAVATED ASSAULT	251	252	0%	252	255	-1%	2172	2426	-10%
TOTAL VIOLENT	549	507	8%	507	538	-6%	4476	4729	-5%

PROPERTY CRIMES	7/31/11 to 8/27/11	7/3/11 to 7/30/11	% Change	7/3/11 to 7/30/11	6/5/11 to 7/2/11	% Change	YTD 2011	YTD 2010	% Change
BURGLARY	356	323	10%	323	343	-6%	2879	3311	-13%
AUTO THEFT	217	221	-2%	221	311	-29%	2529	2543	-1%
BURGLARY THEFT FROM VEHICLE	625	690	-9%	690	703	-2%	6660	6178	8%
ARSON	14	17	-18%	17	10	70%	136	138	-1%
PERSONAL/OTHER THEFT	1016	1165	-13%	1165	1166	0%	9349	9092	3%
TOTAL PROPERTY	2228	2416	-8%	2416	2533	-5%	21553	21262	1%
TOTAL PART 1	2777	2923	-5%	2923	3071	-5%	26029	25991	0%
DOMESTIC VIOLENCE (DV) ABUSE	87	77	13%	77	76	1%	659	583	13%
CHILD ABUSE	13	20	-35%	20	18	11%	186	238	-22%
DV RELATED ORDER VIOLATIONS	30	22	36%	22	21	5%	187	250	-25%
STAY AWAY/COURT ORDR VIOLATIONS (NON-DV RELATED	65	60	8%	60	50	20%	469	526	-11%
SHOTS FIRED	29	33	-12%	33	33	0%	227	243	-7%
SHOOTING VICTIMS	25	18	39%	18	26	-31%	166	137	21%

ARREST STATISTICS

ARRESTS	7/31/11 to 8/27/11	7/3/11 to 7/30/11	% Change	7/3/11 to 7/30/11	6/5/11 to 7/2/11	% Change	YTD 2011	YTD 2010	% Change
HOMICIDE	0	0	0%	0	0	0%	14	14	0%
RAPE	1	1	0%	1	5	-80%	30	36	-17%
ROBBERY	89	81	10%	81	72	13%	724	667	9%
AGGRAVATED ASSAULT	126	139	-9%	139	142	-2%	1210	1365	-11%
BURGLARY	71	71	0%	71	64	11%	550	475	16%
ARSON	2	2	0%	2	1	100%	17	21	-19%
LARCENY	175	176	-1%	176	213	-17%	1724	2101	-18%
AUTO THEFT	15	15	0%	15	18	-17%	179	197	-9%
TOTAL VIOLENT	216	221	-2%	221	219	1%	1978	2082	-5%
TOTAL PROPERTY	263	264	0%	264	296	-11%	2470	2794	-12%
TOTAL PART 1	479	485	-1%	485	515	-6%	4448	4876	-9%

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Appendix C – Methodology

To understand the Department's processes to report CompStat profile data, the Controller's office utilized the following approach:

I.	Interviews with Subject Matter Experts (SMEs) at SFPD
II.	Document Review
III.	Observation/Walk-Throughs of the CompStat profile data collection and reporting process
IV.	Comparison of CompStat and UCR Data
V.	CompStat v. UCR Part 1 Crime Reports –Incode Mapping Analysis

Each of the above methods of analysis is further detailed in the sections below.

I.   Interviews with Subject Matter Experts (SMEs) at SFPD

To understand how the Department develops and consumes the CompStat profiles, the Controller's Office interviewed 25 subject matter experts and key stakeholders, across various Units and Divisions. The table below lists the interviewee, date(s) of interview, and stakeholder type.

ID	Interviewee	Date of Interview(s)	Stakeholder Type
1	Captain Michael Connolly	9/14/11, 9/16/11	Captain, Crime Information Services Unit
2	Captain John Goldberg	9/14/11, 9/16/11	Captain, Administrative Services Headquarters, Project Sponsor
3	Sergeant Julie Lynch	9/19/2011	CompStat Unit Staff
4	Officer Bob Leung	9/19/2011	CompStat Unit Staff
5	Officer Hector Morales	9/19/2011	CompStat Unit Staff
6	Officer Art Madrid	9/21/2011	CompStat Unit Staff
7	Lieutenant Robert O'Sullivan	9/21/2011, 11/17/2011	Former CompStat Lieutenant
8	Commander Michael Biel	9/22/2011	Commander of Investigations, Consumer of CompStat Profile Data
9	Captain John Murphy	9/22/2011	Consumer of CompStat Profile Data
10	Officer Mary Morentz	9/27/2011, 11/28/2011	Technology Division, Developed CompStat Database
11	Officer Craig Farrell	9/27/2011, 11/28/2011	Technology Division, Developed CompStat Database
12	Officer Michelle Alvis	9/29/2011, 12/2/2011	Former CompStat Unit Staff
13	Officer Jason Hui	10/3/2011	Former CompStat Unit Staff

ID	Interviewee	Date of Interview(s)	Stakeholder Type
14	Captain Daniel Mahoney	10/3/2011	Ingleside Station Captain, Consumer of CompStat Profile Data
15	Officer Amanda Kabanuck	10/3/2011	CompStat Personnel at Ingleside Station, Consumer of CompStat Profile Data
16	Officer Nicole Jones	10/3/2011	CompStat Personnel at Ingleside Station, SIT Officer, Consumer of CompStat Profile Data
17	Jeff Taylor	10/4/2011	Crime Analysis Unit Analyst, Consumer of CompStat Profile Data
18	Officer Sonya Sarcos	10/5/2011	CompStat Unit Staff
19	Lieutenant Tom Feledy	10/5/2011	Ingleside Station Lieutenant, CopLogic and Incode SME, previously oversaw Crime Analysis Unit
20	Jeanne Chisholm	10/6/2011, 10/26/2011	Manager of Crime Analysis Unit, UCR Coordinator, Consumer of data
21	Rodrigo Castillo	10/6/2011	Applications Manager for SFPD's Technology Division; CABLE SME
22	Lieutenant Jim Miller	11/8/2011	Violence Reduction Coordinator, Consumer of CompStat Profile Data
23	Leo Solomon	11/14/2011	Project Manager of Crime Data Warehouse (CDW) project,
24	Jeff Godown	11/15/2011	Former Chief of Police and Commander of CompStat
25	Mark Antonio	11/18/2011	Chief Records Clerk, CABLE Data Entry SME

II.   Document Review

The Controller's Office reviewed and analyzed documents applicable to this review including, but not limited to the following:

- CompStat profiles in Excel workbooks from 2010 – 2011
- CompStat Shooting Logs
- CompStat profile instructions and manuals
- CompStat Unit memos, internal assessments, and correspondence
- CompStat and UCR incode mappings
- List of incodes in CABLE
- Incode manuals and mappings
- Department email correspondence
- Department bulletins
- Crime Data Warehouse project PowerPoint slide presentations and overviews
- UCR Part 1 Crime reports for 2010-2011

III.   Observation/Walk-Throughs of the CompStat Profile Data Collection and Reporting Process

On two separate occasions, the Controller's Office observed and walked through each of the CompStat Unit's process steps to create the CompStat 28-Day Part 1 Crime Profile and Shooting Log. On a third and final occasion, the Controller's Office validated their process documentation with Captain Michael Connolly, Sergeant Julie Lynch, and Officer Art Madrid.

IV.   Comparison of CompStat and UCR Data

The Controller's Office graphed the CompStat and UCR Part 1 Crime monthly data from 2010 and 2011 to analyze the trends between the two reports to make conclusions around whether these reports were trending similarly or dissimilarly. See Appendix H for further details, graphs, and discussion regarding the results of this analysis.

While CompStat Part 1 Crime profiles are generated every week in 28-day and weekly formats, this analysis used a subset of the 28-day profiles. First, the CompStat 28-day profile beginning January 2, 2011 and ending January 29, 2011 was added to the dataset for this analysis. Subsequent CompStat 28-day profiles were then added to the data set to provide a complete data set for 2010 through 2011 with no overlapping days of data. For instance, data from the January 9th to February 5th CompStat profile was not used, as many of crimes from this time period would be double counted in the January 2, 2011 – January 29, 201 profile.

CompStat data was provided from multiple sources:

- For the five 28-day extraction periods between **January 3, 2010 to May 22, 2010**, the 1st Report of each extraction period was copied by hand from CompStat profiles available on sf-police.org into a master data spreadsheet. This process was required because CompStat 28 day profiles for this time period were not present on the CompStat Unit's server.

- For the seven 28-day extraction periods between **May 23, 2010 and December 4, 2010**, 1st Report data was copied directly from CompStat profiles provided by the CompStat Unit. These profiles had victim and suspect names redacted before the data was copied in to the spreadsheet for this analysis. While no changes to the CompStat profile indicator counts were observed as a consequence of the redaction process, it is possible some error may have been introduced.

- For the eleven 28-day extraction periods between **December 5, 2010 and September 20, 2010**, data was copied directly from CompStat profile spreadsheets that had yet to be redacted. The 1st, 2nd and 3rd report columns were copied, giving 3 data points for each extraction period.

While this data came from multiple sources, the original source of all of this data was the CompStat Unit; thus all reports should be comparable with one another.

The Controller's Office obtained UCR monthly Part 1 crime data from January 2010 – September 2011 from the monthly UCR reports provided by Jeanne Chisolm/CAU in PDF format, which were manually copied into a spreadsheet in preparation of graphing the data.

V.   CompStat v. UCR Part 1 Crime Reports - Incode Mapping Analysis

The Controller's Office compared the incode mapping for the CompStat Part 1 Crime report and the UCR Part 1 Crime report (POLO216) report to understand whether or not these reports count crime in the same way.

The incode mapping to Part 1 crimes in the CompStat database for the CompStat profiles was provided by Officer Mary Morentz in the document titled "INCIDCD_LTBL". By filtering this spreadsheet by "'INCIDENT VALUE (PART 1)" (Column D), you are left with a filtered set of incodes and their incident types (e.g., 01001 – Homicide by gun) by crime type.

The Controller's Office confirmed with Jeanne Chisholm (CAU) and Rodrigo Castillo (Applications Manager for SFPD's Technology Division) that the Part 1 crime numbers reported for UCR were driven off the incode mapping for the POLO216C/E reports. Rodrigo Castillo provided the "CLEARANCE REPORT INCODES PART 1"document, which is the incode mapping for the UCR Part 1 Crime report.

The "CLEARANCE REPORT INCODES PART1" mapping document uses many wildcard characters in its list of incodes by crime type. However, we derived the discrete values for these incodes with wildcard characters by comparing them to the complete list of incodes currently available in CABLE. For example, if 010** is the incode format for homicide, then all incodes available in CABLE that align with this format (e.g. 01000, 010001) are assumed to be the incodes mapped for this crime type for UCR.

With the discrete incodes mapping by crime type for both the CompStat Part 1 Crime profile and the UCR Part 1 Crime report, we utilized the Microsoft Excel VLookUp function to isolate which incodes are not available in the CompStat report but are in the UCR report and vice versa. Please see Appendix J for the results of this incode analysis which identify which incodes, by crime type, are mapped for CompStat but not UCR and vice versa.

Appendix D – Process Flow: Incident Report Data Sources Feeding the CompStat Database

District

Station Officer

Station Sergeant

CopLogic System

IRS Server

A crime occurs and an officer responds and takes down report info. A case number is received through CAD.

At the station, the officer enters the report into IRS by the end of the shift. The officer transmits the report upon supervisor approval.

The station officer prints the report for the Sergeant/Lieutenant approval. The Sergeant also reviews/prints any CopLogic reports for the station. All reports must be approved by the end of the shift.

Signed and transmitted reports are sent to the IRS Server. Signed and unsubmitted reports will be pulled onto the Server after 72 hours.

Records Dept (HOJ)

Records Department Clerk

CABLE System

CABLE/CrimeMaps Server

Every 4 hours, approved IRS and CopLogic reports are hand-delivered from the station to the Records Dept at the HOJ where they are copied & distributed. One copy is sent to be entered into laserfiche, Another copy is sent to the Reports Entry Unit where it is manually entered into the CABLE system.

All incident reports are entered into CABLE. CopLogic reports are prioritized over regular IRS reports.

CrimeMaps downloads reports from CABLE every 24 hours.

CompStat Database

CompStat DataStore

CompStat Officer

CompStat Database

The DataStore retrieves IRS reports at 05:00 and 12:00 daily. CABLE reports are retrieved every 24 hours. It first pulls in all initial reports from IRS and reclassifies them by incode hierarchy. Then all non-duplicative, initial reports are pulled from CrimeMaps. All supplemental reports are also pulled in from CrimeMaps. Unfounded reports are eliminated. Crime counts for the CompStat profile are based on the CompStat incode mapping.

The CompStat Officer access the CompStat database to retrieve requested CompStat profile data for the extraction period.

D1

Appendix E – Process Flow: CompStat Data Sources and Data Validations

IRS Server

At the stations, officers enter reports are into IRS. Signed and transmitted reports are sent to the IRS Server.

IRS Server

Transmitted reports will be pulled into IRS at 05:00 and 12:00 daily. Signed and untransmitted reports will be pulled onto the IRS Server after 72 hours.

CrimeMaps Server

All incident reports are manually entered into CABLE by the Records Unit. CopLogic reports are prioritized over regular IRS reports.

CrimeMaps Server

CrimeMaps downloads reports from CABLE every 24 hours.

Homicide and Rape Spreadsheets

Homicide and Rape counts are manually counted by the Homicide and Sexual Assault Unit.

Homicide and Rape Binders

REPORT

The "binders" of counts are emailed to the CompStat Unit and are manually entered into the CompStat Profile.

Shooting Log (Shooting Victims and Shots Fired)

Shots Fired and Shooting Victims are manually counted via review of CAD, "Big 19", and IRS reports and are entered into the Shooting Log.

Shooting Log

The Shots Fired and Shooting Victims counts are manually compiled by the CompStat Unit an entered into the CompStat Profile.

CompStat System

CompStat DataStore Validations

1. Retrieve only initial IRS reports at 05:00 and 12:00 daily from the IRS Server.
2. Retrieve non-duplicative initial and all supplemental CABLE reports from the CrimeMaps server
3. Reclassify all initial reports by incode hierarchy.
4. Remove unfounded reports.
5. Calculate counts for the CompStat profile per CompStat incode mapping.

CompStat DataStore

CompStat Database

CompStat Officer

E1

Appendix F – Process Flow: Development of Shooting Log by CompStat Unit

CompStat Officer

CAD Reports

Daily, the CompStat Officer logs into the Tiburon CAD system to review any 216, 217, and 187 calls for the date period. The officer will review the CAD report details for each call to verify if the call appears to include a legitimate shooting victim or shots fired.

For calls with a Report #, the CompStat officer records the Call #, Report #, and date on a piece of paper.

For legitimate reports, the CompStat Officer calls respective stations to request that the official incident report from IRS be faxed to the CompStat Unit.

IRS Reports

The CompStat Officer responds to any phone calls from stations regarding the status of reports.

CompStat Officer reviews faxed incident reports and determines if they are valid 216. 217, or 218 incidents.

Big 19 Report

CompStat Officer reviews and cross-references the "Big 19" report to determine if there are reports that are other Shots Fired/Shooting Victim reports not in CAD that need to be further analyzed. If so, reports are requested from respective stations.

Shooting Log

CompStat Officer enters all appropriate Shooting Victim and Shots Fired data into the Shooting Log for valid 216, 217, and 187 incidents.

On days when the CompStat profile is created, CompStat Officer copies & pastes Shooting Log data into the "Shooting11" data spreadsheet, entering "1" under the "Total Shots Fired" column for each new incident added. (Total Victims is already tabulated from the Shooting Log).

Station Keeper or PSA

The Station Keeper/PSA will retrieve the physical incident report and fax to the CompStat Officer.

Make any follow-up phone calls to CompStat re status of report (e.g., 217 was unfounded or unverifiable).

CompStat Sergeant

The CompStat Sergeant both reviews IRS reports to confirm validity of 216, 217, and 187 incidents as well as final Shots Fired and Shooting Victims counts as reported in the CompStat profile.

Appendix G - Process Flow: Development of CompStat 28-Day Part 1 Crime Profile by the CompStat Unit

Level of Effort

1.5 – 2.0 HOURS	1.5 – 3.0 HOURS	.5 – 2.0 HOURS

CompStat Unit

CompStat Database

CompStat Officer

Step 1: For specified date range, upload data from CompStat Database and export data to CompStat profile and data spreadsheets.

Step 2: Create a new folder for the current extraction period for data spreadsheets. Copy the last CompStat Profile into this folder, which will be profile template for this extraction period.

Step 3: Clear all data on supporting data tabs of the CompStat profile template, with the exception of "data"/"sheet" and other tabs that are simply updated with new rows.

Step 4: Open the data spreadsheet of raw data which corresponds to the tab on the CompStat template for which you want to populate. Where necessary, filter the "report type" column by "initial," and then copy/paste remaining rows into the corresponding tab on the CompStat template. Repeat for remaining sheets on the template.

Step 5: To calculate Homicides, retrieve the email from the Homicide Unit with the attached "Homicide Book". Enter homicide data for any homicides since the last entered homicide on the "Data" tab of the CompStat profile template, using the date the death was deemed a homicide in the date column.

Step 6: To calculate Rapes, retrieve the email from the Sexual Assault unit with the attached rape spreadsheet. Copy new data rows for rapes that occurred since the last entered rape. data into the "rape 11" tab.

Step 7: To calculate Shooting Victims and Shots Fired, copy/paste new data rows from the Shooting Log into the "Shooting 11" tab. On the "Shooting 11" tab, enter "1" under "total shots fired" (Column S) for each row that is added. Adding a "1" denotes that that this is one incident of "Shots Fired." The existing "Total Victims" column (Column R) is used to count the number of "Shooting Victims".

Step 8: On the "Data"/"Sheet" tabs, find/replace all extraction dates with updated date ranges for each column. Click "Save" to refresh CompStat profile with updated data.

Step 9: Review citywide data for any numbers that look incorrect (e.g., all zeros in a column or a row, dramatic % changes, etc.). If data looks incorrect, verify correct date ranges and filtering of initial reports types. If errors still persist, start process over.

Step 10: PDF and print CompStat profile for Sergeant review.

Step 11: The Sergeant reviews profiles for any obvious errors and will recalculate totals for violent and property crimes using a calculator. In addition, the Sergeant will also do a quick audit of a sample of profile indicators.

Step 12: The Sergeant reviews CompStat profiles with the Captain.

Step 13: PDF and email profiles to standard recipient list. Deliver hard copies delivered to Deputy Chief Cashman and FOB Commanders.

Step 14: CompStat Unit fields questions and corrections from Command Staff and Station Captains.

Step 15: After corrections have been made (or, if there are none), CompStat officers post profiles on department intranet.

Step 16: Prepare final PDF files of front-facing profiles, and send to Media Relations for posting to internet.

G1

Appendix H - Comparison between CompStat and UCR Data

In an effort to understand how CompStat and UCR reports differ, the Controller's Office graphed CompStat and UCR Part 1 Crime monthly data from 2010 and 2011 to analyze the trends between the two reports and to make conclusions around whether these reports were trending similarly or dissimilarly.

The following sections in this appendix include:

I.   Terminology
II.   Methodology for Trend Comparisons Between UCR and CompStat data
III. Challenges of Comparisons between UCR and CompStat data
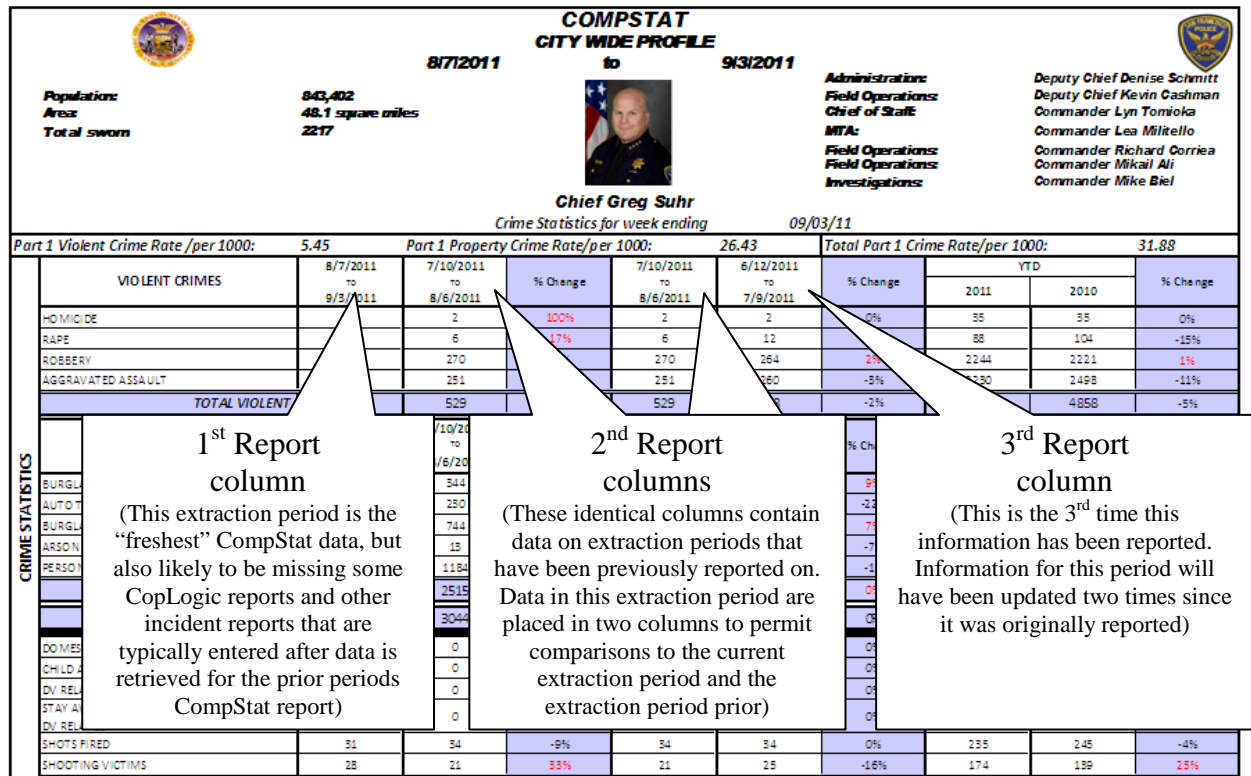IV.   Index of Appendix H Graphs and Analyses

I.   Terminology

CompStat profiles report crime in 28-day and weekly "extraction periods", which allow for comparisons of crime over comparable time periods. CompStat 28-Day Part 1 Crime profiles provide data for the current extraction period of 28 days, for the two immediately prior extraction periods, as well as for year-to-date current year and prior year counts.

Because CompStat data for each extraction period is refreshed with each new report, the Controller's Office memo uses the following terminology to distinguish the age of CompStat data. See Figure 1 below.

- When an extraction period is first reported on, typically two days after the period ends, the data present in CompStat for that period is referred to as the "1st Report." This 1st Report data may be missing reports of crimes that are reported after the profile is generated, such as incident reports that take several days to reach the IRS Server or CrimeMaps server.

- Next to the 1st Report column on each profile is the extraction period 28 days before the current extraction period. The number of crimes and arrests for this period will have been refreshed since it was first reported, approximately 28 days ago. Data for the time period in this column is referred to as the "2nd Report, and will typically contain a more complete picture of crime than in the 1st Report for that period.

- The period that is 56 days older than the current extraction period sits further to the right on the CompStat profile. Data for this period has been updated once prior during its 2nd Report, and is now considered the "3rd Report" of that data. It is likely to include almost all of the crimes that occur for that period.

Figure 1: 1st, 2nd, and 3rd Reports of CompStat Data

COMPSTAT
CITY WIDE PROFILE
8/7/2011 to 9/3/2011

Population: 843,402
Area: 48.1 square miles
Total sworn: 2217

Chief Greg Suhr

Crime Statistics for week ending 09/03/11

Administration:
Field Operations: Deputy Chief Denise Schmitt
Chief of Staff: Deputy Chief Kevin Cashman
MTA: Commander Lyn Tomioka
Field Operations: Commander Lea Militello
Field Operations: Commander Richard Corriea
Investigations: Commander Mikail Ali
Commander Mike Biel

Part 1 Violent Crime Rate /per 1000: 5.45   Part 1 Property Crime Rate/per 1000: 26.43   Total Part 1 Crime Rate/per 1000: 31.88

VIOLENT CRIMES	8/7/2011 TO 9/3/2011	7/10/2011 TO 8/6/2011	% Change	7/10/2011 TO 8/6/2011	6/12/2011 TO 7/9/2011	% Change	YTD 2011	2010	% Change
HOMICIDE	2	2	100%	2	2	0%	35	35	0%
RAPE	6	6	-7%	6	12		88	104	-15%
ROBBERY	270	270		270	264	2%	2244	2221	1%
AGGRAVATED ASSAULT	251	251		251	260	-3%	2230	2498	-11%
TOTAL VIOLENT	529	529		529		-2%		4858	-5%

1st Report column
(This extraction period is the "freshest" CompStat data, but also likely to be missing some CopLogic reports and other incident reports that are typically entered after data is retrieved for the prior periods CompStat report)

2nd Report columns
(These identical columns contain data on extraction periods that have been previously reported on. Data in this extraction period are placed in two columns to permit comparisons to the current extraction period and the extraction period prior)

3rd Report column
(This is the 3rd time this information has been reported. Information for this period will have been updated two times since it was originally reported)

CRIME STATISTICS									
BURGL		344				9			
AUTO T		290				-2			
BURGL		744				7			
ARSON		13				-7			
PERSO		1184				-1			
		2515				0			
		3044				0			
DOMES		0				0			
CHILD A		0				0			
DV REL		0				0			
STAY A		0				0			
DV REL									
SHOTS FIRED	31	34	-9%	34	34	0%	235	245	-4%
SHOOTING VICTIMS	28	21	33%	21	25	-16%	174	139	25%

Thus, upward or downward trends in CompStat profile crime indicators reflect not only changes in the number of incidents over time, but changes that are the result of continually updated data.

II.   Methodology for Trend Comparisons of CompStat and UCR Data

While CompStat profiles are generated every week in 28-day and weekly formats, this analysis used only a smaller subset of 28-day profiles. First, the CompStat 28-day profile beginning January 2, 2011 and ending January 29, 2011 was added to the dataset for this analysis. Then, CompStat 28-day profiles were added to the data set to provide a complete data set for 2010 through 2011 with no overlapping days of data. For instance, data from the January 9, 2011 to February 5, 2011 CompStat profile was not used, because crimes from that time period would be double counted in the January 2, 2011 – January 29, 2011 profile

CompStat data was provided from multiple sources:
- For the five 28-day extraction periods between **January 3, 2010 to May 22, 2010**, the 1st Report of each extraction period was copied by hand from CompStat profiles available on sf-police.org into a master data spreadsheet. This process was required because CompStat 28-day profiles for this time period were not present on the CompStat Unit's server.

- For the seven 28-day extraction periods between **May 23, 2010 and December 4, 2010**, 1st Report data was copied directly from CompStat profiles provided by the CompStat Unit. These profiles had victim and suspect names redacted before the data was copied in to the spreadsheet for this analysis. While no changes to the CompStat profile indicator

counts were observed as a consequence of the redaction process, it is possible some error may have been introduced.

- For the eleven 28-day extraction periods between **December 5, 2010 and September 20, 2010**, data was copied directly from CompStat profile spreadsheets that had yet to be redacted. The 1st, 2nd and 3rd report columns were copied, giving 3 data points for each extraction period.

While this data came from multiple sources, the original source of all of this data was the CompStat unit, and so reports of all types above should be comparable with one another.

UCR data was obtained from the monthly UCR reports provided by Jeanne Chisolm and copied into a spreadsheet manually.

III. Challenges of Comparisons between UCR and CompStat data

Some incidents are not present in the CompStat 1st Report data used for this analysis. 1st Report CompStat data is used for graphs comparing CompStat data to UCR data in the Controller's Office memorandum, which may depress CompStat figures relative to UCR, as UCR has the benefit of not reporting data until ten business days after the reporting period is over. 1st Report data, unlike 2nd and 3rd Report data, will likely not count some incidents that occurred during the extraction period but were not in the CompStat DatasStore at the time the CompStat profile was created.

Comparisons between data reported on 28-day and 1-month intervals can be problematic for making comparisons between levels of crime in CompStat and UCR. While UCR Reports are produced 12 times a year, CompStat profiles for non-overlapping extraction periods are produced 13 times a year. As a result, all other things being equal, CompStat will report lower crime volumes each period. For instance, in the month of January 2011, UCR reported 11 criminal homicides, while CompStat reported only 7 homicides between the period of January 2 – January 29, 2011. While CompStat may seem to report significantly lower homicides for the month of January, in fact four more homicides occurred on dates outside of the profile time period, January 1, January 30, and January 31.

In the graphs below, the consequence of this is to make trend lines for CompStat figures appear lower relative to the UCR line. However, trends between UCR and CompStat remain roughly comparable.

Incidents that were reported in the period after they occurred will be counted in UCR but not in CompStat. While CompStat data is continually refreshed to provide the most updated and accurate figures to the Department, the 1st Report CompStat data included here is the earliest glimpse of crime data for each extraction period. As a result, in this dataset, a crime that occurs during a given extraction period (e.g., in period ending January 29) but is reported to the Department much later (e.g., in March) will not be incorporated into the CompStat figures for the period the crime occurred (e.g., January 29). It will, however, appear in CompStat figures for the month the crime was reported (e.g. March).
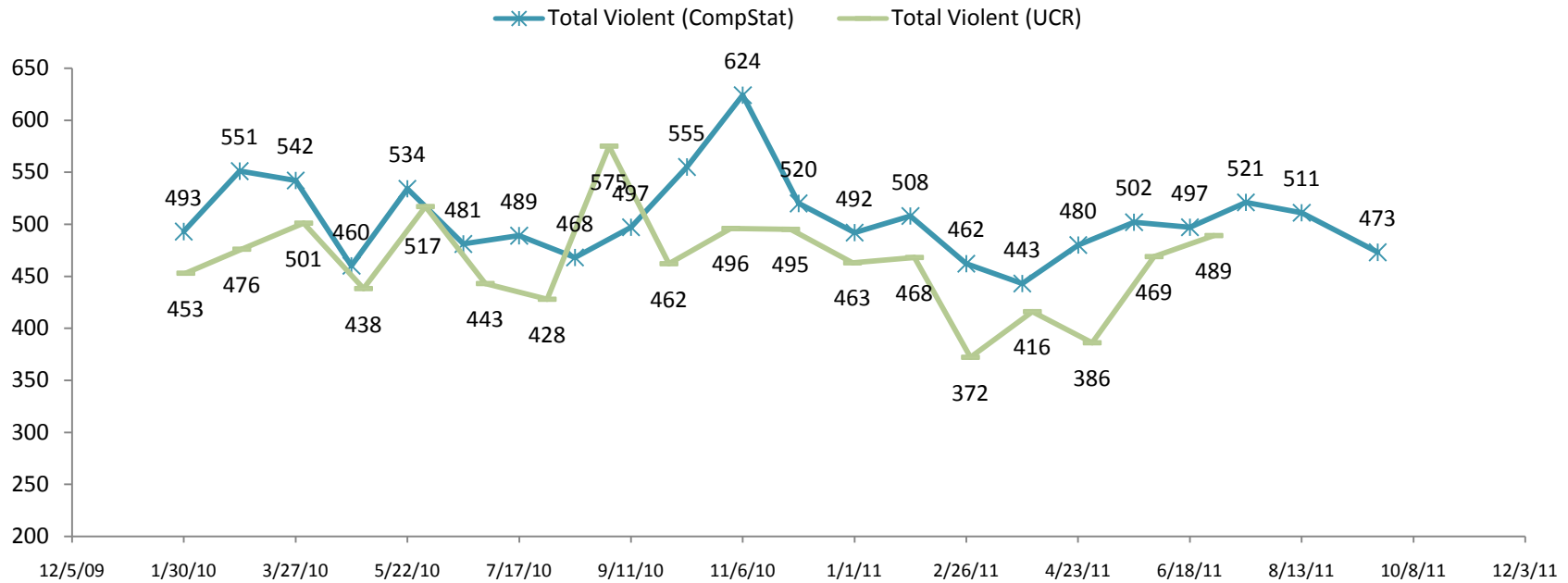
The effect of this is to depress CompStat 1st Report figures relative to UCR figures. The Controller's Office has not quantified this effect, as date of occurrence and date reported information for each incident was not readily available from the CompStat Database.

Outliers may impede comparisons. As has been discussed in Finding 2, the highly manual process to generate CompStat profiles is prone to error. As a result, some CompStat figures reported here could be the consequence of human error.

IV.   **Index of Appendix H Graphs and Analyses**

UCR and CompStat Comparisons		
Graph 1	Total **Violent Crime** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 2	Total **Homicide** Incidents in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 3	Total **Rape** Incidents in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 4	Total Part 1 **Robbery** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 5	Total **Aggravated Assault** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 6	Total Part 1 **Property Crime** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 7	Total Part 1 **Burglary** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 8	Total Part 1 **Auto Theft** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 9	Total Part 1 **Larceny** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Graph 10	Total Part 1 **Arson** in UCR (monthly) and CompStat (28-day periods)	Jan. 2010 to Sept. 2011
Analysis of CompStat reports		
Graph 11	Comparison of Part 1 violent crime in CompStat 1st, 2nd and 3rd Report Data	Dec 2010 to June 2011
Graph 12	Change in Total Part 1 violent crime between 1st and 2nd Reports of CompStat extraction periods	Dec 2010 to July 2011
Graph 13	Comparison of total aggravated assaults in CompStat 1st, 2nd and 3rd Report Data	Dec 2010 to June 2011
Graph 14	Comparison of Part 1 property crime in CompStat 1st, 2nd and 3rd Report Data	Dec 2010 to June 2011
Graph 15	Change in Total Part 1 property crime between 1st and 2nd Reports of CompStat extraction periods	Dec 2010 to June 2011

Graph 1. Total Part 1 Violent Crime
## in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011

Legend: ✳ Total Violent (CompStat)   ▬ Total Violent (UCR)

CompStat values: 493, 551, 542, 460, 534, 481, 489, 468, 497, 555, 624, 520, 492, 508, 462, 443, 480, 502, 497, 521, 511, 473

UCR values: 453, 476, 501, 438, 517, 443, 428, 575, 462, 496, 495, 463, 468, 372, 416, 386, 469, 489

(Vertical axis: 200, 250, 300, 350, 400, 450, 500, 550, 600, 650)

(Horizontal axis: 12/5/09, 1/30/10, 3/27/10, 5/22/10, 7/17/10, 9/11/10, 11/6/10, 1/1/11, 2/26/11, 4/23/11, 6/18/11, 8/13/11, 10/8/11, 12/3/11)

As the largest contributor to Part 1 Violent Crime, **aggravated assault is the primary driver of differences between UCR and CompStat Part 1 Violent Crime figures.** For more discussion on aggravated assault, see Graph 5.

However, robbery is also a significant contributor to Part 1 Violent Crime, and **differences between UCR and CompStat robbery figures also help explain cases where UCR and CompStat violent crime figures trend in opposite directions.** For instance, when robbery is removed from Part 1 Violent Crime figures, the conflicting trends between UCR and CompStat from 2/26/11 to 4/23/11 are largely explained. For more discussion on robbery, see Graph 4.

Note that dates along the horizontal axis in this graph are based on CompStat report 28-day extraction periods.

Graph 2. Total Homicide Incidents
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011

Homicide (UCR)   Homicide (CompStat)
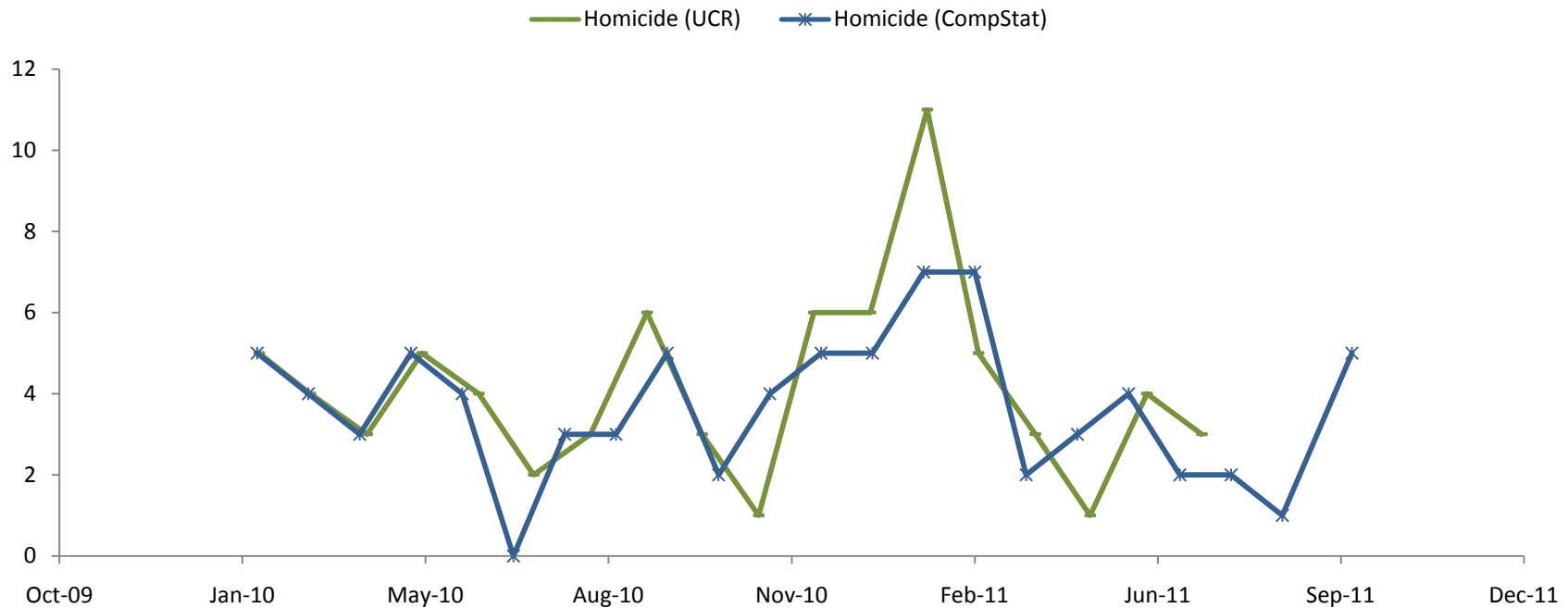
Homicide: Both UCR and CompStat figures are calculated using information provided directly from the Homicide Detail. Thus, any **differences observed between these two trends are largely attributable to**:

- **Scoring of offenses**: The UCR monthly figure is the total number of crimes that were *reported*. The CompStat figure is the number of crimes that *occurred*. Because homicides are highly likely to be reported to police in a timely manner, this distinction should have minimal effect.
- **Report time period**: UCR reports on a monthly time frame, while CompStat reports span a 28 day period. Thus, the yearly total of homicides will be spread over slightly more CompStat reports, thus reducing CompStat 28 day figures slightly relative to UCR monthly figures.

H7

**Graph 3. Total Rape Incidents
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011**
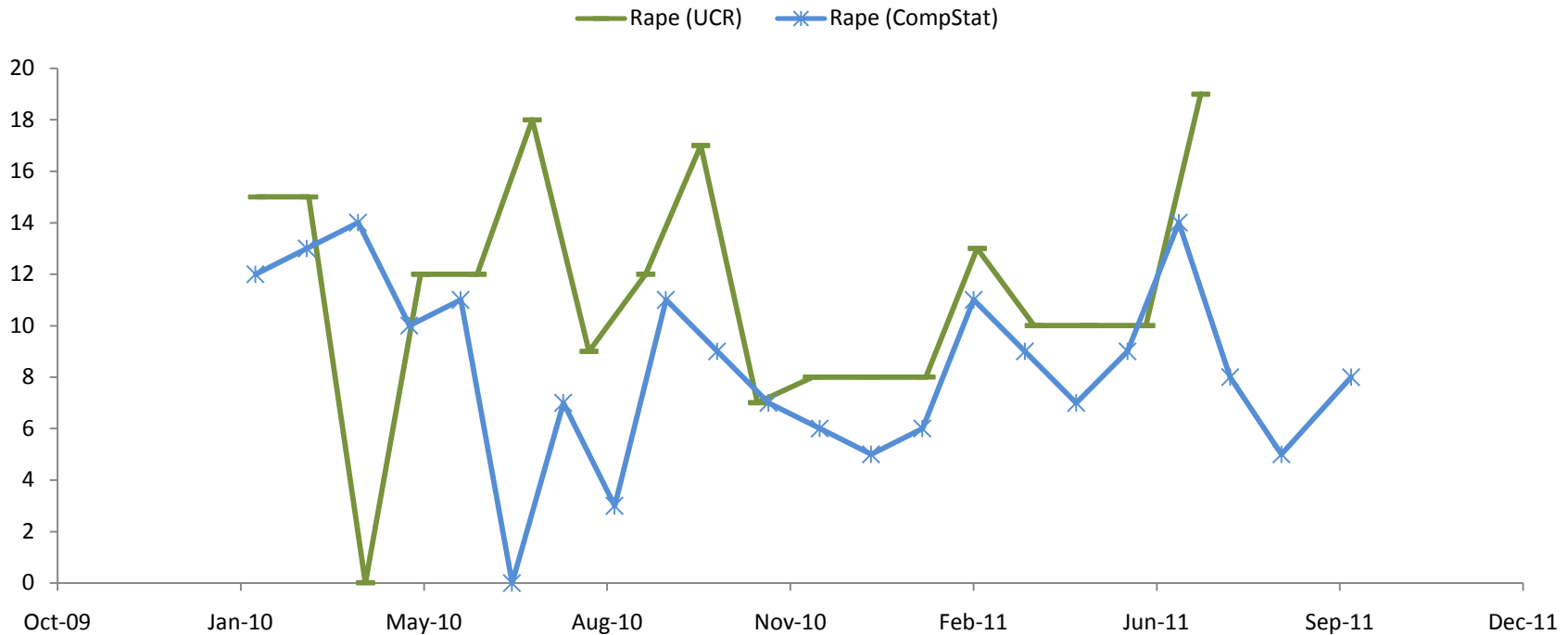
Both UCR and CompStat reports rely on the Sexual Assault Detail for incident data, so **any differences between the two figures are attributable to the scoring of offenses**. The UCR monthly figure is the total number of crimes that were *reported*, while the CompStat figure is the total number of crimes that *occurred*. Thus, crimes that are reported in different periods than they occurred would be scored differently by UCR and CompStat.

In fact, of 190 rapes through 12 CompStat extraction periods in 2010, 17% were reported more than 1 month after the incident's occurrence, and 8% were reported more than 6 months after the incident occurrence. When the rape incident data supporting the CompStat figures was counted with UCR methodology for several time periods, the CompStat figures aligned with those in UCR.

Graph 4. Total Part 1 Robbery in UCR (monthly) and CompStat (28-day periods) Jan. 2010 to Sept. 2011
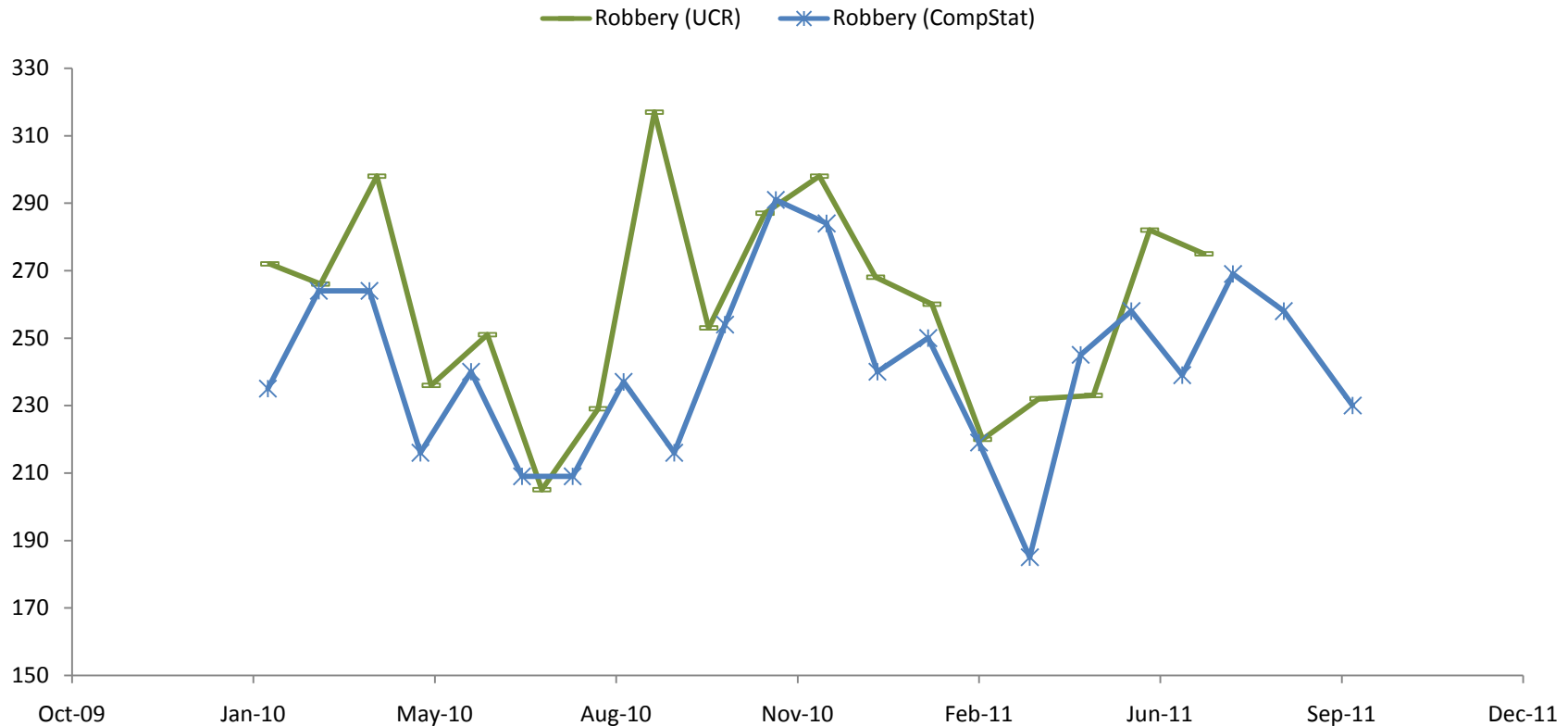
Notably, there are twenty-eight incodes used in UCR that are not present in CompStat. While some of these incodes may be present in incident reports only occasionally, cumulatively, **crimes with these UCR-only incodes could account for the differences between UCR and CompStat figures**.

As was discussed in Graph 1, robberies partially account for the opposing trends between UCR and CompStat Total Part 1 Violent Crime seen in the period of January to May 2011.
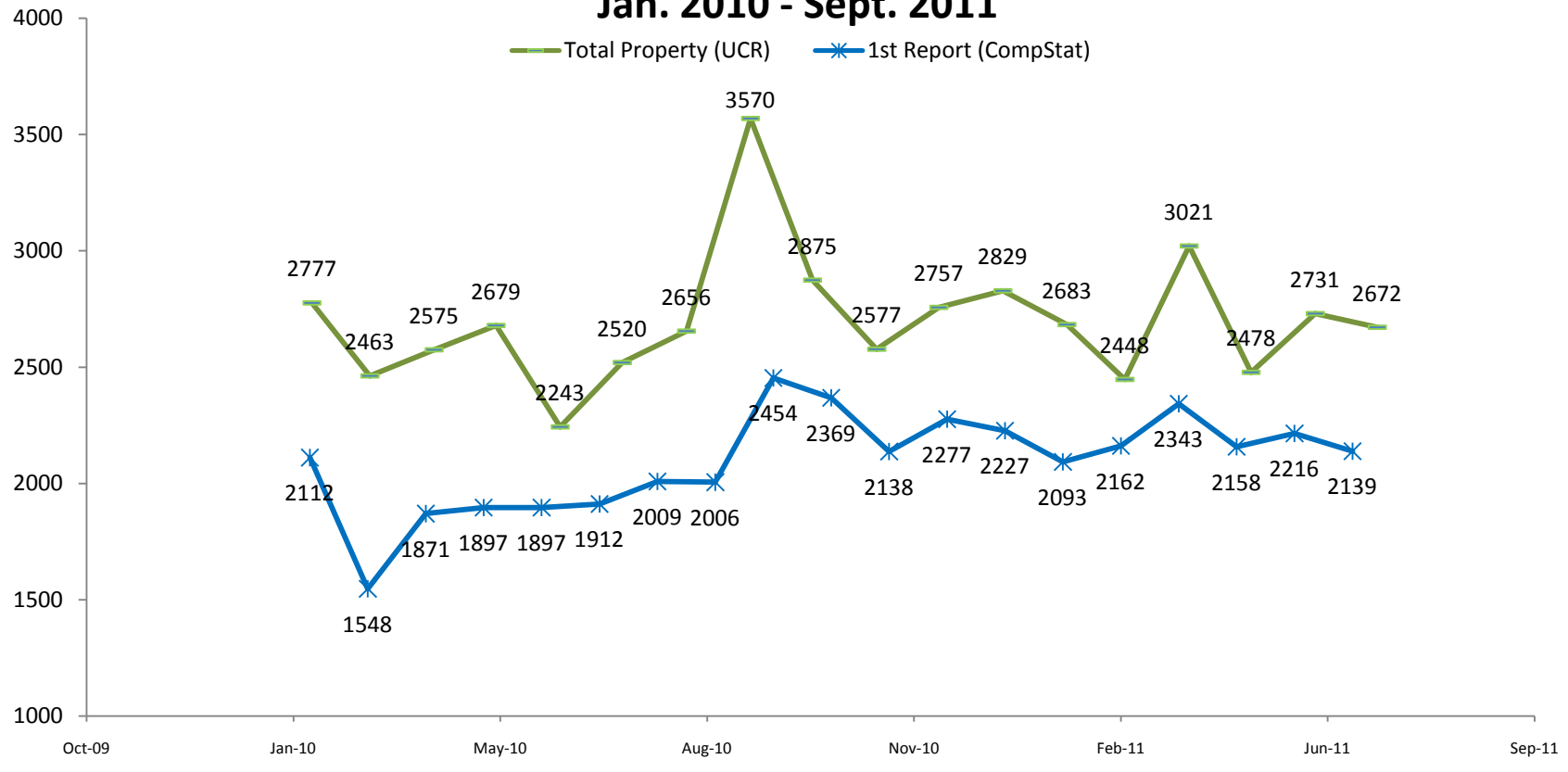
Graph 5. Total Aggravated Assault
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011
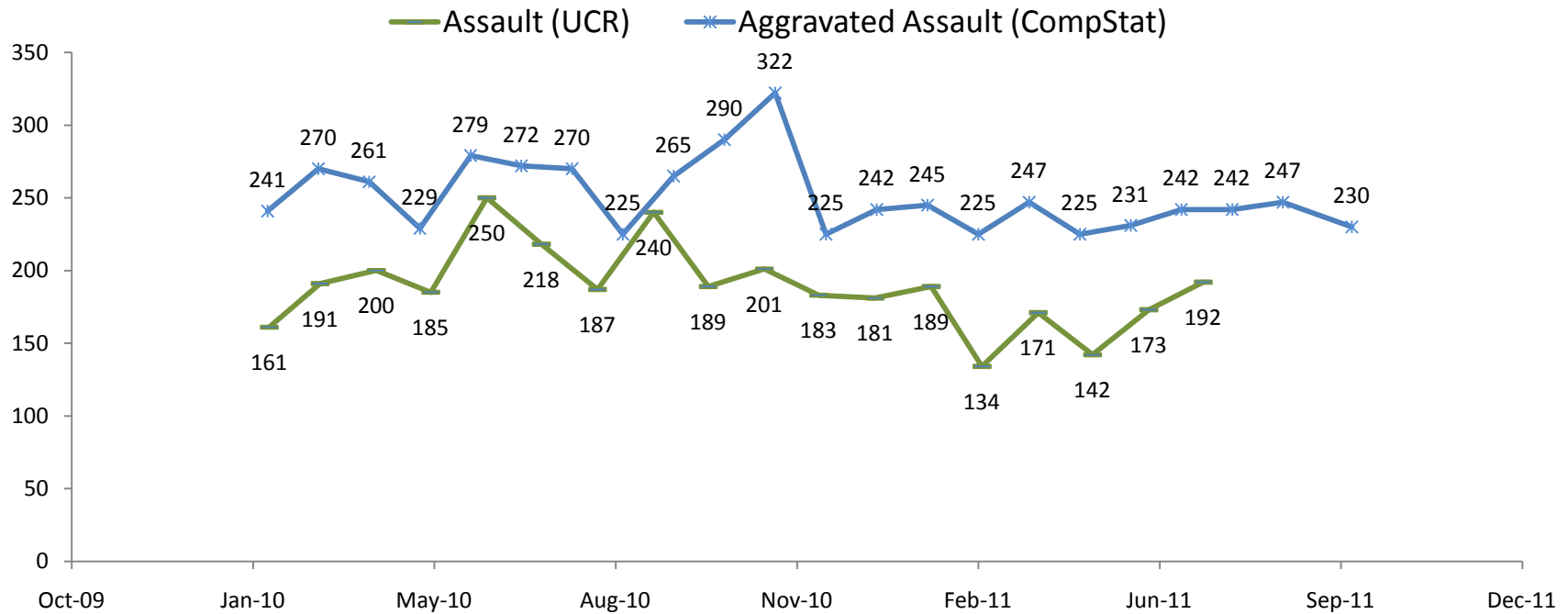
While there are several countervailing characteristics of UCR and CompStat data that help produce the trends shown, **the most significant driver of difference between the two reports is incode mappings.** There are 17 aggravated assault incodes mapped to CompStat but not UCR, and only 3 mapped to UCR that are not mapped to CompStat. The frequency at which these incodes are used contributes significantly to the differences between UCR and CompStat figures. When incidents with incodes present only in CompStat are removed from the CompStat data, the two trend lines more closely match.

Besides the date of occurrence/date reported and report time period characteristics discussed in other graphs, **a characteristic that increases UCR figures relative to CompStat is the scoring of victims and incidents:** UCR figures count the number of *victims* of aggravated assault, while CompStat figures count the number of aggravated assault *incidents*. The consequence of this is to push UCR figures higher relative to CompStat.

Graph 6. Total Part 1 Property Crime
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 - Sept. 2011

Total Property (UCR) — 1st Report (CompStat)

UCR values: 2777, 2463, 2575, 2679, 2243, 2520, 2656, 3570, 2875, 2577, 2757, 2829, 2683, 2448, 3021, 2478, 2731, 2672

CompStat values: 2112, 1548, 1871, 1897, 1897, 1912, 2009, 2006, 2454, 2369, 2138, 2277, 2227, 2093, 2162, 2343, 2158, 2216, 2139

While UCR reports noticeably higher figures than CompStat, **the trends observed in UCR and CompStat Part 1 Property Crime are strikingly similar.** Part 1 Property Crime largely consists of larceny (burglary theft from vehicle and personal/other theft), so trends observed in Total Part 1 Property Crime will be a reflection of that indicator. See Graph 9 for a discussion of larceny figures in UCR and CompStat.
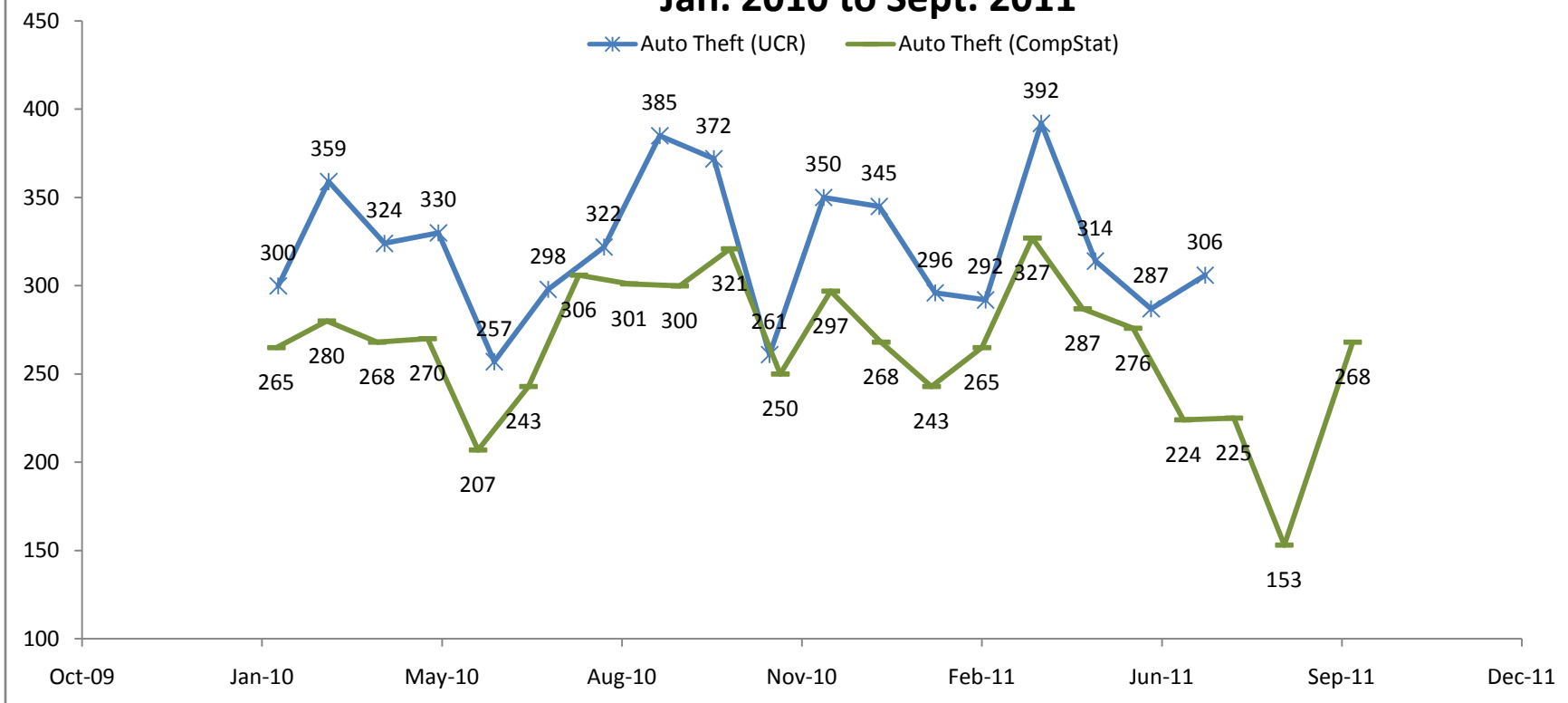
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**Graph 7. Total Part 1 Burglary
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011**

Burglary (UCR)   Burglary (CompStat)
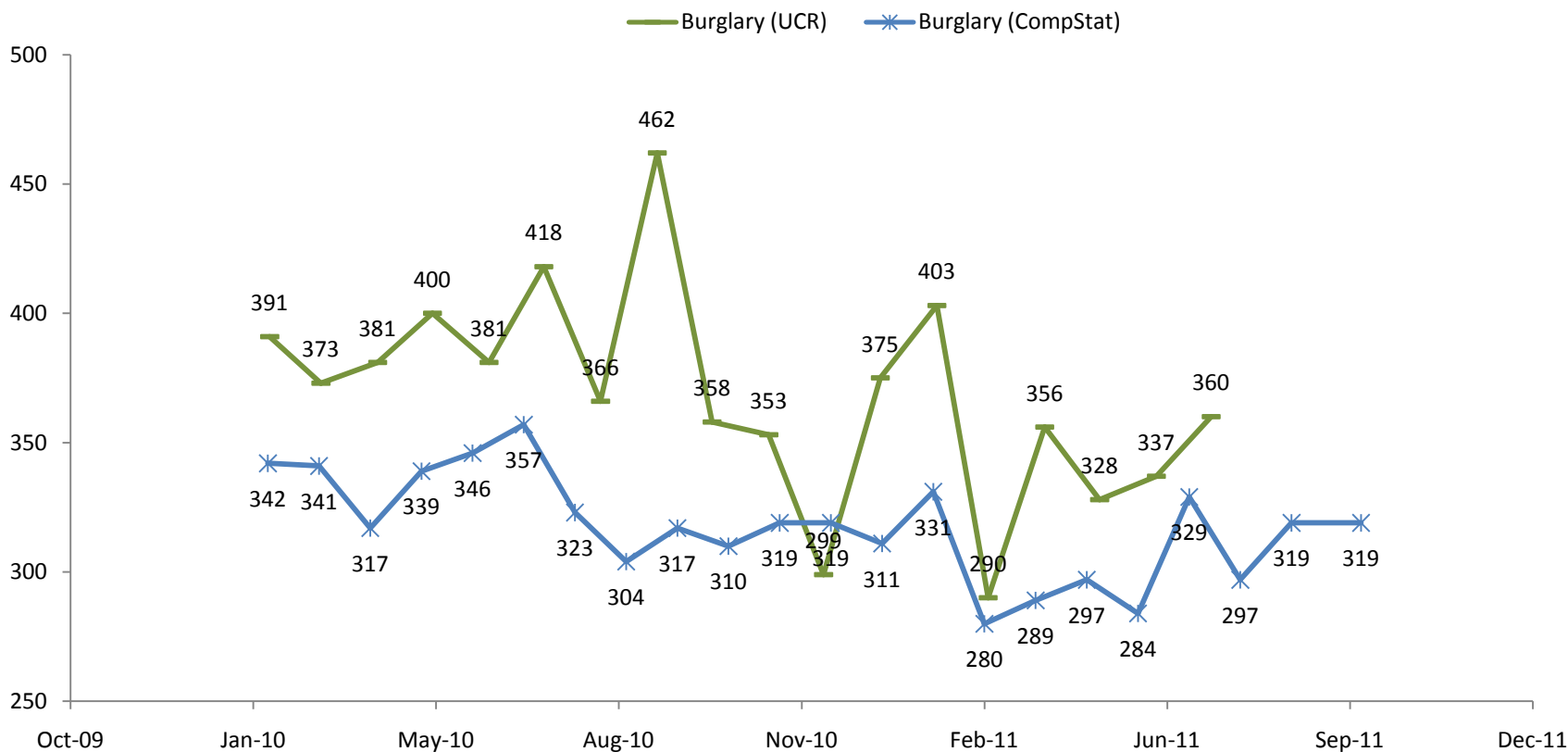
For Burglary, UCR and CompStat incodes are in alignment. Thus, any differences between the two figures are attributable to:

- **Scoring of offenses**. While CompStat counts incidents, UCR counts each offense that occurs in an incident.
- **Date of report and date of occurrence distinctions**. UCR would be expected to be higher, as crimes long after they occur will not be reflected in the CompStat data used here.

Graph 8. Total Part 1 Auto Theft
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011

Legend: ✳ Auto Theft (UCR) — Auto Theft (CompStat)

UCR values: 300, 359, 324, 330, 257, 298, 322, 385, 372, 261, 350, 345, 296, 292, 392, 314, 287, 306

CompStat values: 265, 280, 268, 270, 207, 243, 306, 301, 300, 321, 250, 297, 268, 243, 265, 327, 287, 276, 224, 225, 153, 268

Differences between the two figures could be attributable to:

- **Incode mappings.** While the incode 07027-"Auto, Grand Theft of" is mapped exclusively to CompStat, it represents a relatively minor share of auto thefts. The UCR-exclusive incodes could, however, be more significant portions of auto theft in San Francisco. 07100-"Vehicle tampering", for instance, can be reported through CopLogic, which is a common source of incident reports in CABLE.
- **Date of report and date of occurrence distinctions**. UCR would be expected to be higher, as crimes reported long after they occur will not be reflected in the CompStat data used here.

Graph 9. Total Part 1 Larceny
in UCR (monthly) and CompStat (28-day periods)
December 2010 - June 2011
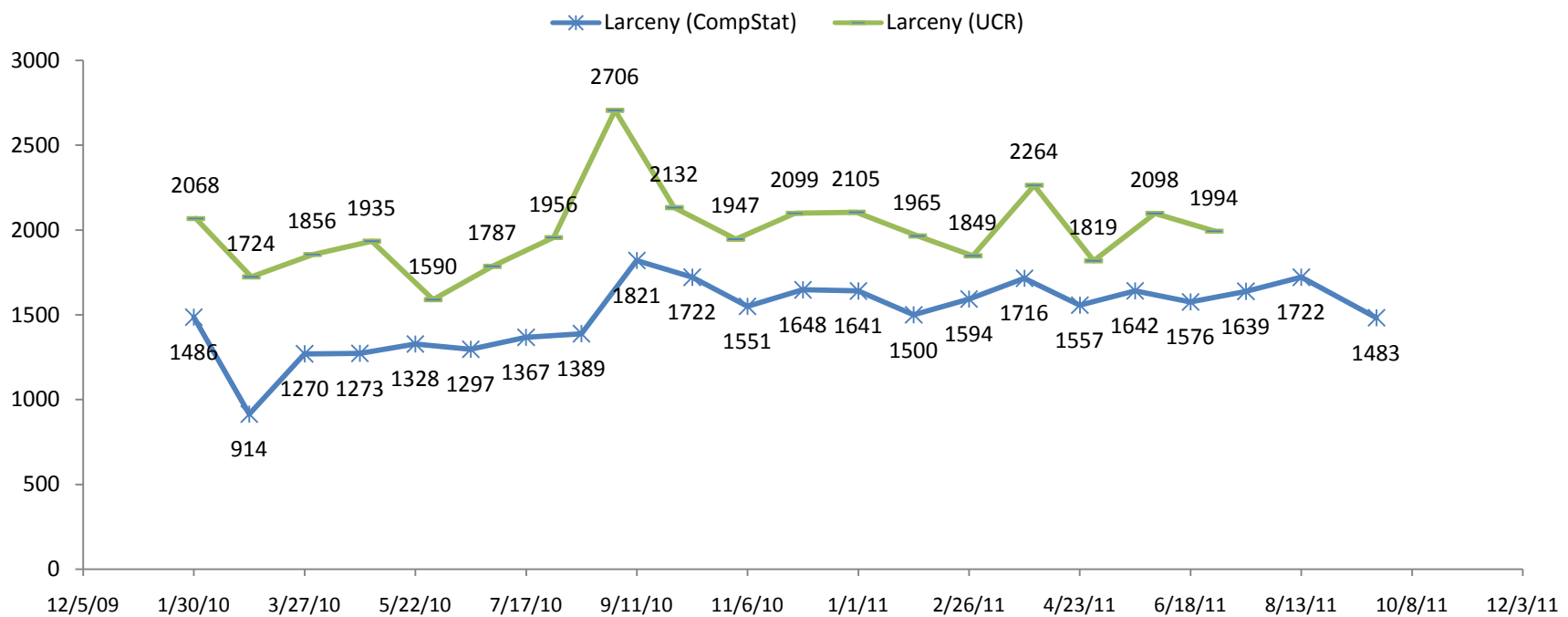
The CompStat Larceny figure is the sum of the indicators for Burglary Theft From Vehicle and Personal/Other Theft. While CompStat reports include several incodes that are not mapped to UCR, these incodes represent a number of crimes in the low-double digits each year.

As is discussed in Graph 14 below, **differences between UCR and CompStat Larceny figures are assumed to be driven primarily by delays in CopLogic reports reaching the CompStat DataStore**. Several incodes used in CopLogic reports occur frequently in CompStat data, indicating that any delays in these reports reaching the CompStat data store will affect 1st Report data.

**Graph 10. Total Part 1 Arson
in UCR (monthly) and CompStat (28-day periods)
Jan. 2010 to Sept. 2011**
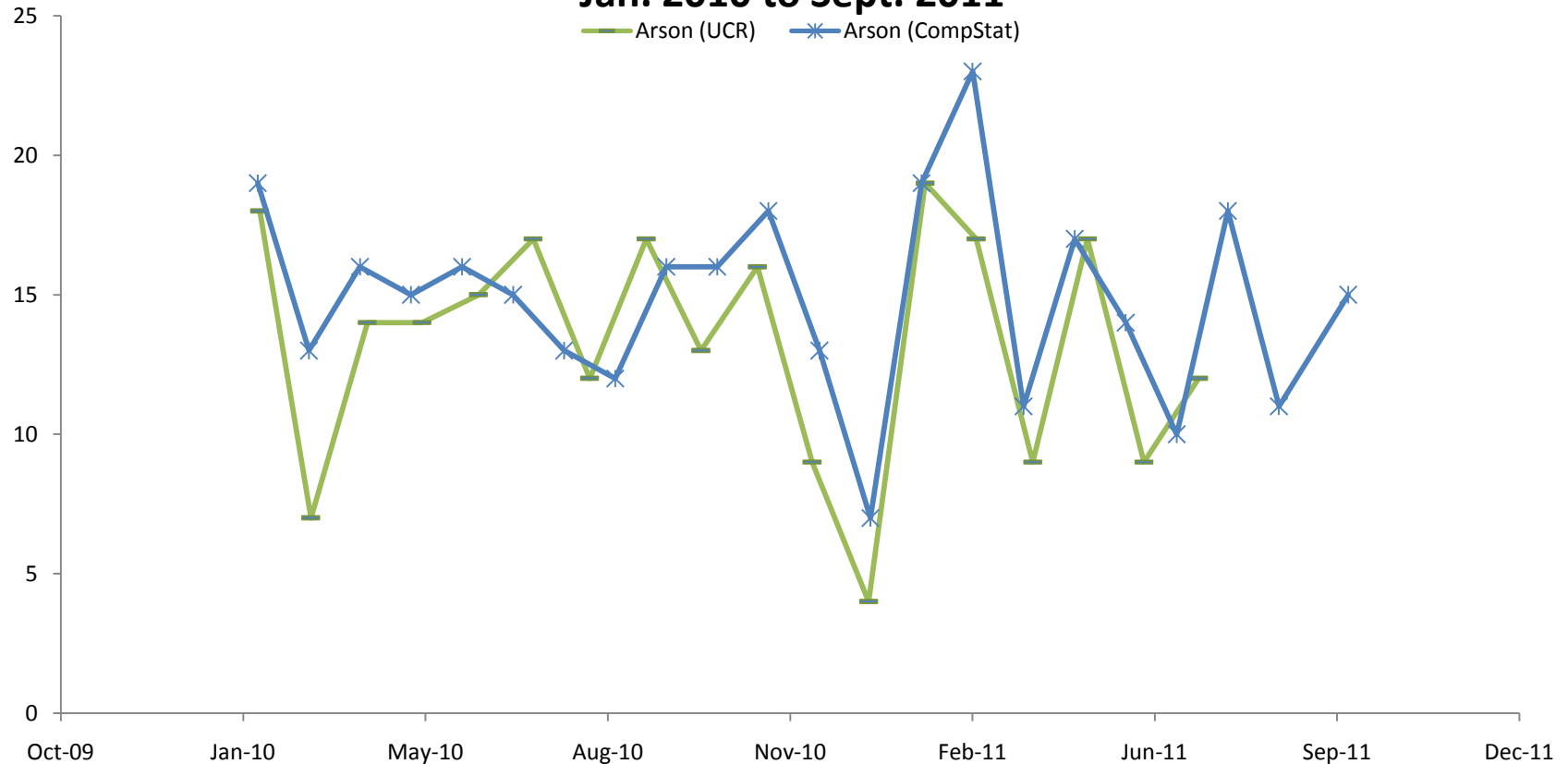
While Arson figures in UCR manually tabulated using data from the Arson Task Force, CompStat relies on incident report data in the CompStat DataStore. As a result, CompStat data may include arson incident reports that are later unfounded by arson investigators, and UCR reports may include incidents that are deemed arsons some time after the incident occurs. Thus, **differences in data collection between UCR and CompStat may drive the differences seen in the graph above**. Differences in scoring of offenses (date of occurrence vs. date reported) are not likely to be a cause of differences, as few additional arsons are added to CompStat data in the 2nd Report of each extraction period.
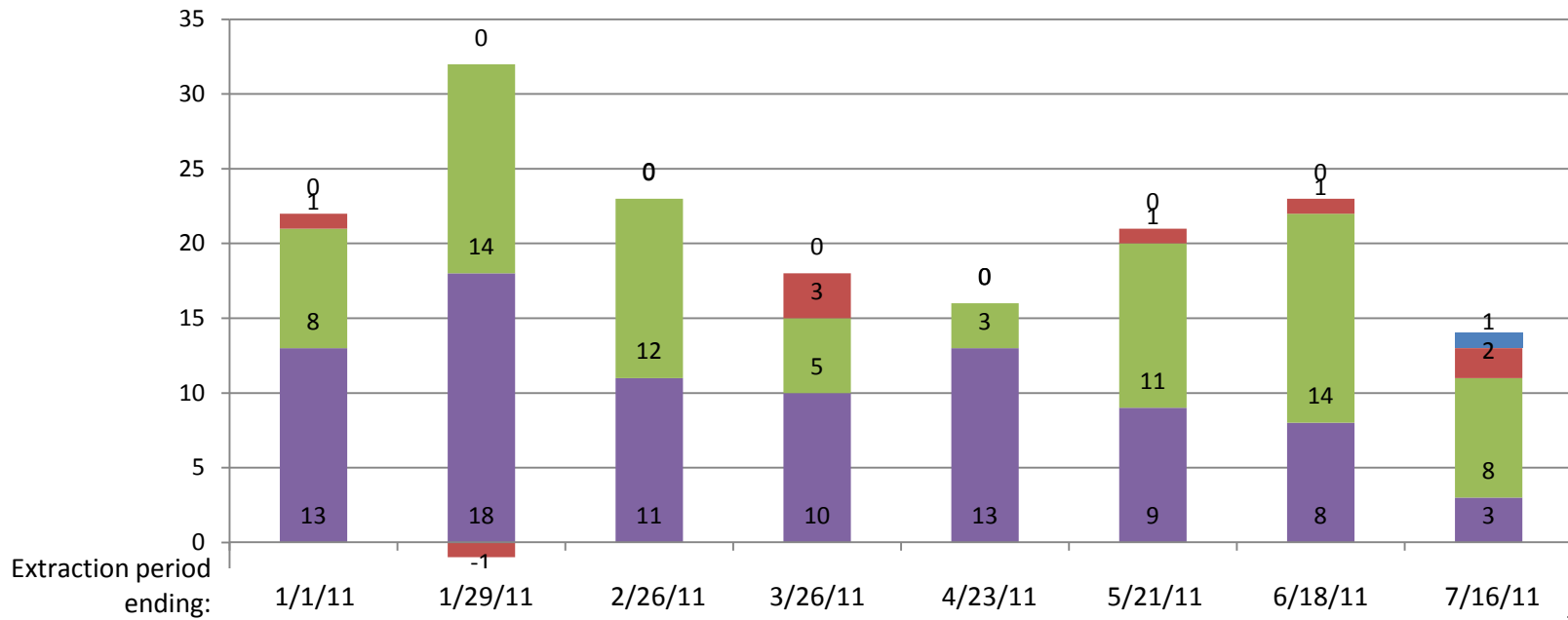
Graph 11. Total Part 1 Violent Crime
Comparison of CompStat 1st, 2nd and 3rd Report data
Dec. 2010 to June 2011
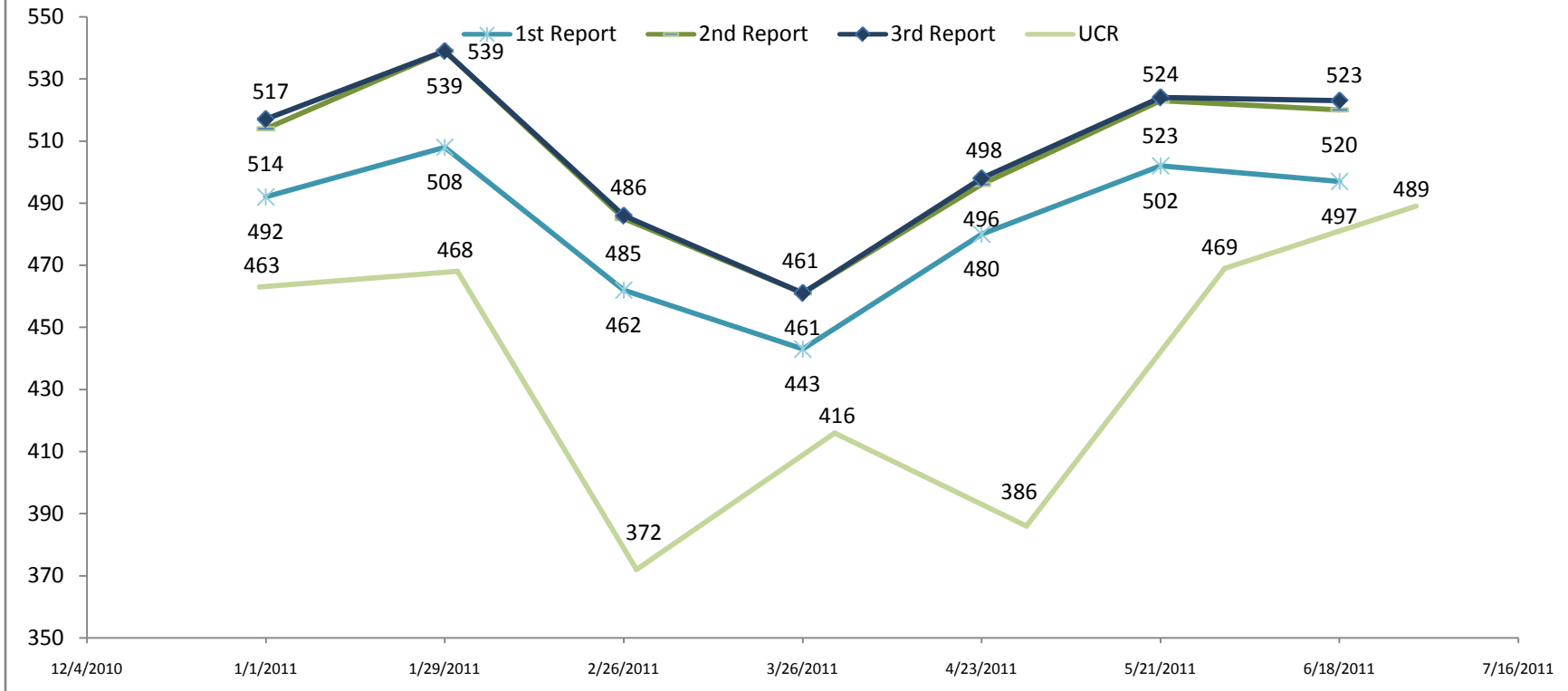
As discussed in Finding 5, incident reports that are delayed in entering the CompStat database account for the differences between the 1st and 2nd Report of CompStat data.

Graph 12. CompStat Data Change from Report 1 to Report 2 Violent Crime

Extraction period ending:	1/1/11	1/29/11	2/26/11	3/26/11	4/23/11	5/21/11	6/18/11	7/16/11
Total Change	**22**	**31**	**23**	**18**	**16**	**21**	**23**	**14**
■ HOMICIDE	0	0	0	0	0	0	0	1
■ RAPE	1	-1	0	3	0	1	1	2
■ ROBBERY	8	14	12	5	3	11	14	8
■ AGGRAVATED ASSAULT	13	18	11	10	13	9	8	3

As discussed in Finding 5, **the additional Part 1 Violent Crime incident reports entering the CompStat database after the 1st Report of an extraction period are largely aggravated assaults and robberies**. Many of these incidents occur in the last 3 days of each extraction period, an indication of the consequences of delays in report entry on the SFPD data.

Graph 13. Aggravated Assault
Comparison of 1st, 2nd, and 3rd Report of CompStat data
December to July 2011

Legend: ─✕─ 1st Report (CompStat)   ─■─ 2nd Report (CompStat)   ─●─ 3rd Report (CompStat)   ─── UCR

Date	1st Report	2nd Report	3rd Report	UCR
1/1/11	242	255	256	
1/29/11	245	263		175
2/26/11	225	236	237	134
3/26/11	247		257	171
4/23/11	225	238	240	142
5/21/11	231		240	173
6/18/11	242	250	251	192
7/16/11	242	245		

As discussed in Finding 5**, incident reports that are delayed in entering the CompStat database account for the differences between the 1st and 2nd Report of CompStat data.**
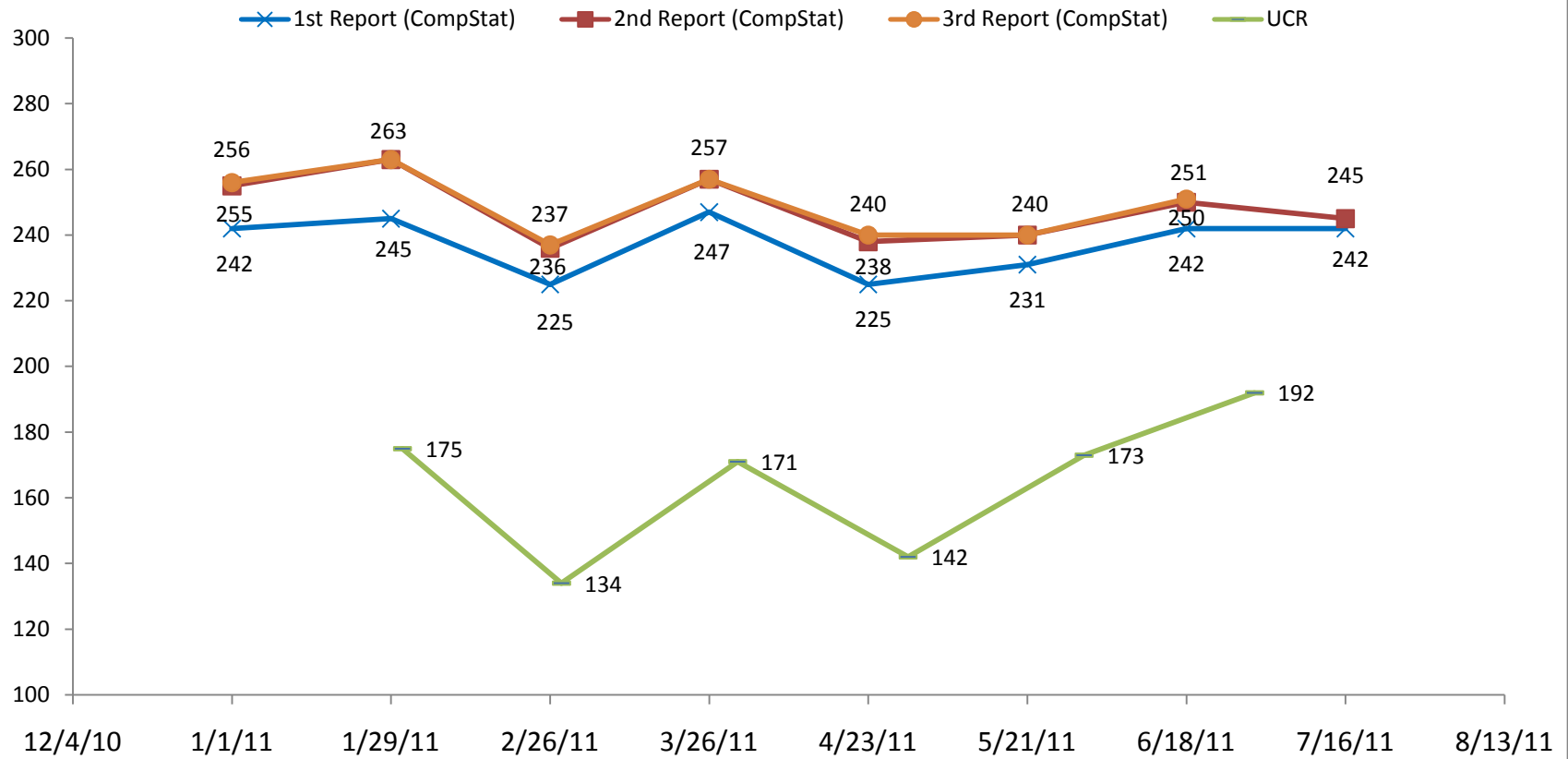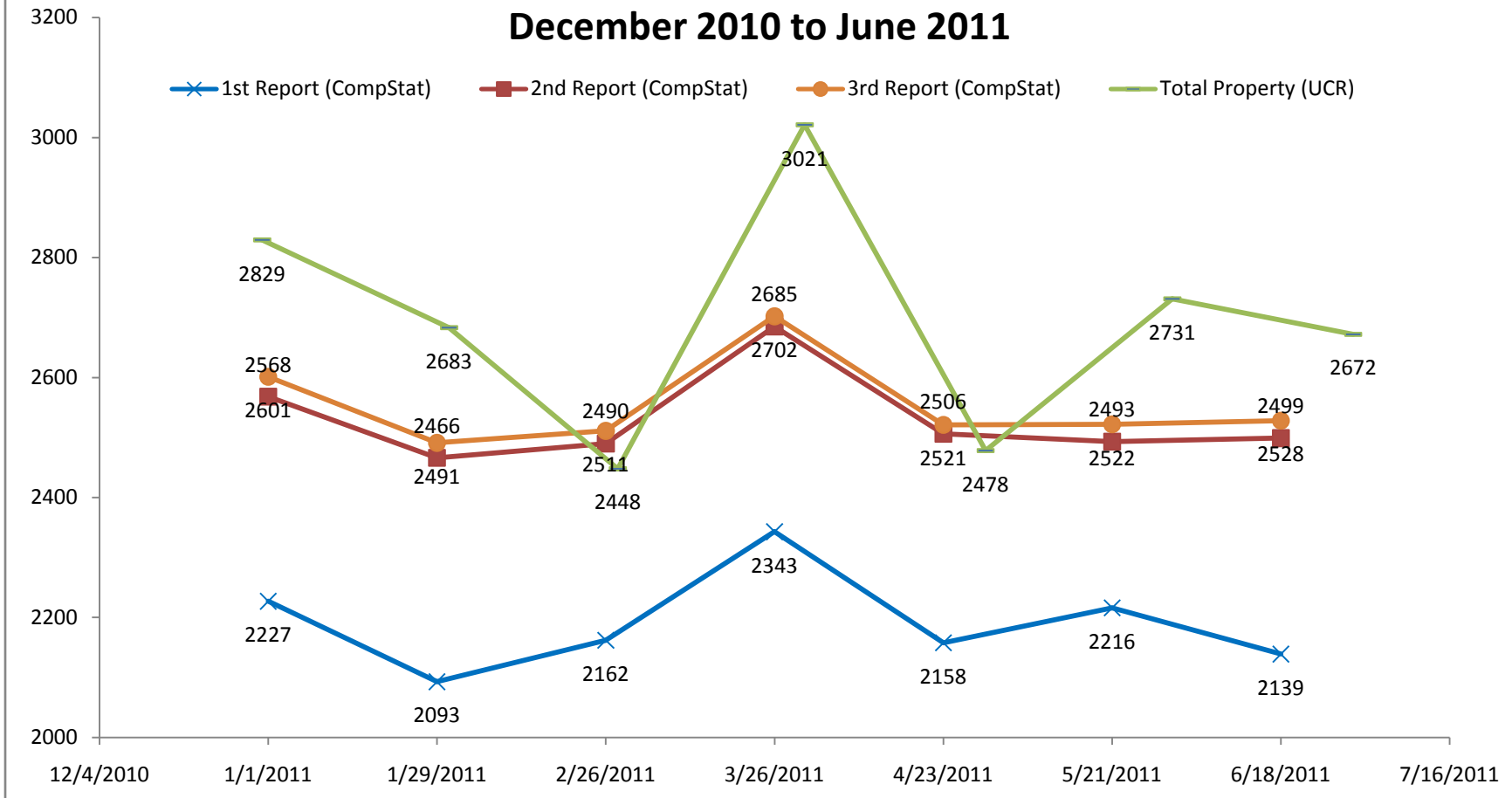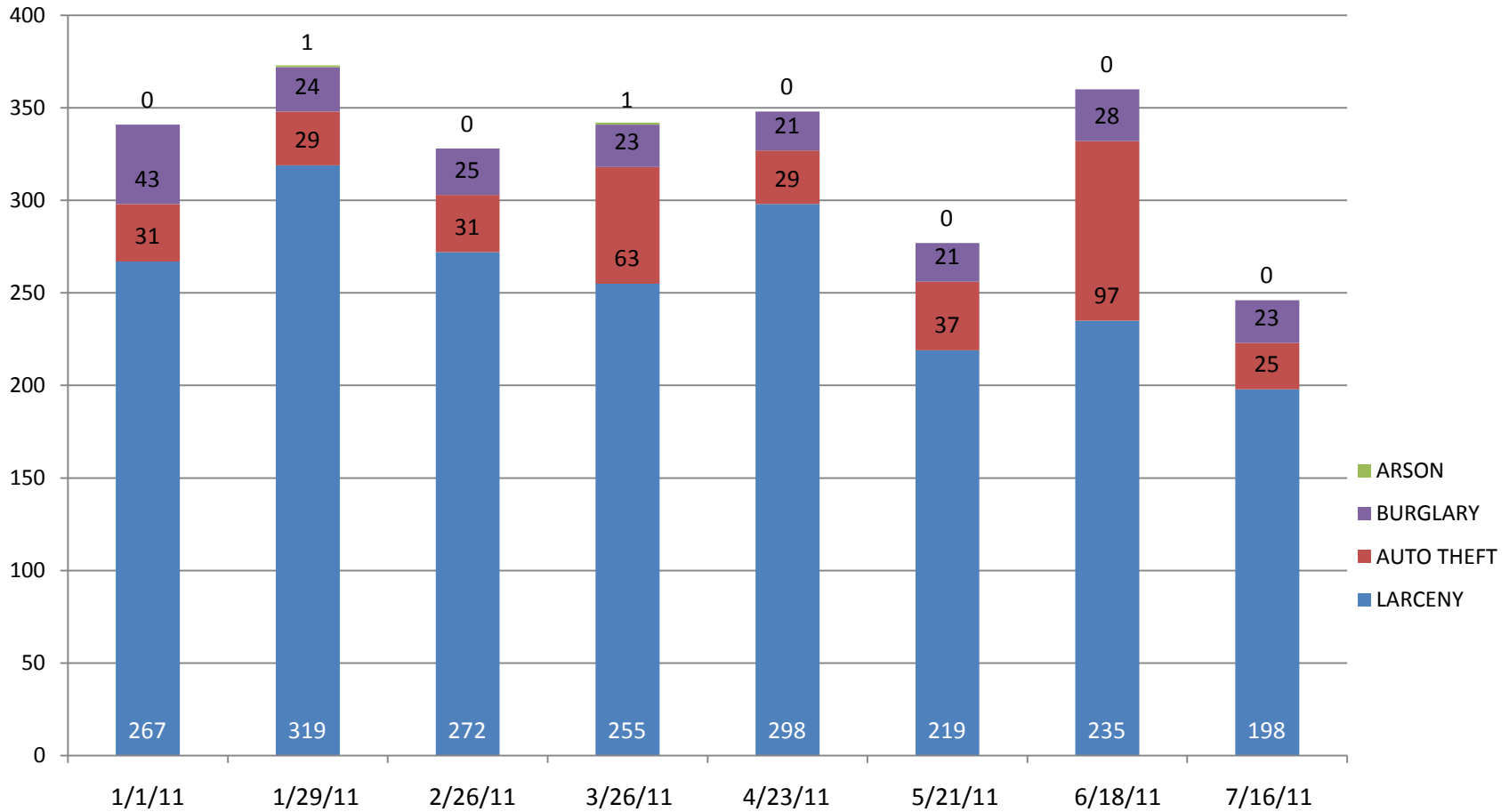
Graph 14. Property Crime
Comparison of CompStat 1st, 2nd and 3rd Report data
December 2010 to June 2011

Legend:
- 1st Report (CompStat)
- 2nd Report (CompStat)
- 3rd Report (CompStat)
- Total Property (UCR)

Data labels:
- 2829, 2683, 2511, 3021, 2478, 2731, 2672 (Total Property UCR)
- 2568, 2466, 2490, 2685, 2506, 2493, 2499 (3rd Report)
- 2601, 2491, 2448, 2702, 2521, 2522, 2528 (2nd Report)
- 2227, 2093, 2162, 2343, 2158, 2216, 2139 (1st Report)

X-axis: 12/4/2010, 1/1/2011, 1/29/2011, 2/26/2011, 3/26/2011, 4/23/2011, 5/21/2011, 6/18/2011, 7/16/2011

Y-axis: 2000, 2200, 2400, 2600, 2800, 3000, 3200

As discussed above, Larceny accounts for most Part 1 Property Crimes, and a significant portion of those incidents are reported through CopLogic. As a consequence, **delays in CopLogic reports reaching the CompStat DataStore are the likely source of drastic increases in 2nd Report CompStat data over 1st Report data**.

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Graph 15. CompStat Data Change from Report 1 to Report 2 Property Crime

Legend:
- ARSON
- BURGLARY
- AUTO THEFT
- LARCENY

Date	LARCENY	AUTO THEFT	BURGLARY	ARSON
1/1/11	267	31	43	0
1/29/11	319	29	24	1
2/26/11	272	31	25	0
3/26/11	255	63	23	1
4/23/11	298	29	21	0
5/21/11	219	37	21	0
6/18/11	235	97	28	0
7/16/11	198	25	23	0

As discussed in Finding 3, **the additional Part 1 Property Crime incident reports entering the CompStat Database after the 1st Report of an extraction period are primarily larcenies**.

Appendix I - Matrix Comparing Characteristics of CompStat and UCR Reports

	Crime Type	Crime Type Definition			Data Source			Report Time Period			Scoring of Offenses (Operation-Based v. Victim-Based)			Scoring of Offenses (Date of Occurrence v. Date Reported)			Numbers Are Automatically Refreshed by the Data Source?		
ID	CompStat	CompStat	UCR	Definitions Aligned?	CompStat	UCR	Incodes Mapping Aligned?	CompStat	UCR	Time Periods Aligned?	CompStat	UCR	Scoring Aligned?	CompStat	UCR	Scoring Aligned?	CompStat	UCR	Aligned?
Part 1 - Violent Crimes																			
1	Homicide	a.) Murder and nonnegligent manslaughter: the willful (nonnegligent) killing of one human being by another. Deaths caused by negligence, attempts to kill, assaults to kill, suicides, and accidental deaths are excluded. The program classifies justifiable homicides separately and limits the definition to: (1) the killing of a felon by a law enforcement officer in the line of duty; or (2) the killing of a felon, during the commission of a felony, by a private citizen. b.) Manslaughter by negligence: the killing of another person through gross negligence. Deaths of persons due to their own negligence, accidental deaths not resulting from gross negligence, and traffic fatalities are not included in the category Manslaughter by Negligence	a.) Murder and nonnegligent manslaughter: the willful (nonnegligent) killing of one human being by another. Deaths caused by negligence, attempts to kill, assaults to kill, suicides, and accidental deaths are excluded. The program classifies justifiable homicides separately and limits the definition to: (1) the killing of a felon by a law enforcement officer in the line of duty; or (2) the killing of a felon, during the commission of a felony, by a private citizen. b.) Manslaughter by negligence: the killing of another person through gross negligence. Deaths of persons due to their own negligence, accidental deaths not resulting from gross negligence, and traffic fatalities are not included in the category Manslaughter by Negligence	Yes	Homicide Unit	Homicide Unit + CAU analysis	N/A (#s are from Details)	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Victim	Score One Offense Per Victim	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
2	Rape	The carnal knowledge of a female forcibly and against her will. Rapes by force and attempts or assaults to rape, regardless of the age of the victim, are included. Statutory offenses (no force used—victim under age of consent) are excluded. Sexual batteries and sodomies are excluded.	The carnal knowledge of a female forcibly and against her will. Rapes by force and attempts or assaults to rape, regardless of the age of the victim, are included. Statutory offenses (no force used—victim under age of consent) are excluded. Sexual batteries and sodomies are excluded.	Yes	Sexual Assault Unit	Sexual Assault Unit + CAU Analysis	N/A (#s are from Details)	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Victim	Score One Offense Per Victim	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
3	Robbery	The taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear.	The taking or attempting to take anything of value from the care, custody, or control of a person or persons by force or threat of force or violence and/or by putting the victim in fear.	Yes	CompStat Database (IRS + CABLE)	CABLE	No	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Distinct Operation	Score One Offense Per Distinct Operation	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
4	Aggravated Assault	An unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury. This type of assault usually is accompanied by the use of a weapon or by means likely to produce death or great bodily harm. Simple assaults are excluded.	An unlawful attack by one person upon another for the purpose of inflicting severe or aggravated bodily injury. This type of assault usually is accompanied by the use of a weapon or by means likely to produce death or great bodily harm. Simple assaults are excluded.	No because UCR is victim-based and CompStat is incident-based.	CompStat Database (IRS + CABLE)	CABLE	No	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Incident	Score One Offense Per Victim	No	Date of Occurrence	Date Reported	No	Yes	No	No
Part 1 - Property Crimes																			
5	Burglary	Unlawful entry into premises with intent to commit theft. Auto boosts are not counted in this category (see BTFV).	The unlawful entry of a structure to commit a felony or a theft. Attempted forcible entry is included.	Yes	CompStat Database (IRS + CABLE)	CABLE	Yes	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Distinct Operation	Score One Offense Per Distinct Operation	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
6	Auto Theft	The theft or attempted theft of a motor vehicle. A motor vehicle is self-propelled and runs on land surface and not on rails. Motorboats, construction equipment, airplanes, and farming equipment are specifically excluded from this category.	The theft or attempted theft of a motor vehicle. A motor vehicle is self-propelled and runs on land surface and not on rails. Motorboats, construction equipment, airplanes, and farming equipment are specifically excluded from this category.	Yes	CompStat Database (IRS + CABLE)	CABLE	No	28 days	Month (28, 30, or 31 days)	No	Score One Offense For Each Stolen Vehicle	Score One Offense For Each Stolen Vehicle	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
7	Burglary Theft from Vehicle	The unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another from a motor vehicle, such as personal property, motor vehicle parts and accessories.	The unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another. Examples are thefts of bicycles, motor vehicle parts and accessories, shoplifting, pocket picking, or the stealing of any property or article that is not taken by force and violence or by fraud. Attempted larcenies are included. Embezzlement, confidence games, forgery, check fraud, etc., are excluded.	Yes	CompStat Database (IRS + CABLE)	CABLE	Yes	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Distinct Operation	Score One Offense Per Distinct Operation	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
8	Arson	Any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another, etc.	Any willful or malicious burning or attempt to burn, with or without intent to defraud, a dwelling house, public building, motor vehicle or aircraft, personal property of another, etc.	Yes	CompStat Database (IRS + CABLE)	CABLE + CAU analysis of incident reports and input from Arson Taskforce	No	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Distinct Operation	Score One Offense Per Distinct Operation	Yes	Date of Occurrence	Date Reported	No	Yes	No	No

ID	Crime Type CompStat	Crime Type Definition CompStat	UCR	Definitions Aligned?	Data Source CompStat	UCR	Incodes Mapping Aligned?	Report Time Period CompStat	UCR	Time Periods Aligned?	Scoring of Offenses (Operation-Based v. Victim-Based) CompStat	UCR	Scoring Aligned?	Scoring of Offenses (Date of Occurrence v. Date Reported) CompStat	UCR	Scoring Aligned?	Numbers Are Automatically Refreshed by the Data Source? CompStat	UCR	Aligned?
9	Personal/Other Theft	The unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another. Examples are thefts of bicycles, shoplifting, pocket picking, or the stealing of any property or article that is not taken by force and violence or by fraud. Attempted larcenies are included. Embezzlement, confidence games, forgery, check fraud, etc., are excluded.	The unlawful taking, carrying, leading, or riding away of property from the possession or constructive possession of another. Examples are thefts of bicycles, motor vehicle parts and accessories, shoplifting, pocket picking, or the stealing of any property or article that is not taken by force and violence or by fraud. Attempted larcenies are included. Embezzlement, confidence games, forgery, check fraud, etc., are excluded.	Yes	CompStat Database (IRS + CABLE)	CABLE	No	28 days	Month (28, 30, or 31 days)	No	Score One Offense Per Distinct Operation	Score One Offense Per Distinct Operation	Yes	Date of Occurrence	Date Reported	No	Yes	No	No
CompStat Secondary Events (statistics important to the SFPD to track)																			
10	Domestic Violence (DV) Abuse	Domestic violence batteries and aggravated assaults (spousal abuse, domestic partner abuse) incidents. The tally of the non-batteries incidents are a sub-set of the Aggravated Assault total count.	N/A	N/A	CompStat Database (IRS + CABLE)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Incident	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A
11	Child Abuse	Juvenile/child abuse (e.g., child neglect, physical abuse) incidents that could be both batteries and aggravated assaults. The tally of the non-batteries incidents are a sub-set of the Aggravated Assault total count.	N/A	N/A	CompStat Database (IRS + CABLE)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Incident	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A
12	DV Related Order Violations	Incidents regarding when a spouse or domestic partner violates any court orders related to domestic violence (e.g., violation of domestic violence restraining order). These incidents do not count towards the Aggravated Assault total count.	N/A	N/A	CompStat Database (IRS + CABLE)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Incident	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A
13	Stay Away/Court Order Violations (Non-DV Related)	Incidents regarding when a person violates any court orders related to staying away that are not related to domestic violence (e.g., violation of stalking restraining order, order to stay away from property). These incidents do not count towards the Aggravated Assault total count.	N/A	N/A	CompStat Database (IRS + CABLE)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Incident	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A
14	Shots Fired	This is the total number of incidents across homicides, shots fired , and shooting victims reports/calls for service (187s, 216s, and 217s). The tally of the gross negligence and shooting victim incidents are a sub-set of the Aggravated Assault total count.	N/A	N/A	Shooting Log (manual count from CAD which is verified against the Big 19 and IRS reports)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Incident	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A
15	Shooting Victims	This is the total number of victims across homicides and shooting victims reports/calls for service (187s and 217s). These incidents are a sub-set of the Aggravated Assault total count.	N/A	N/A	Shooting Log (manual count from CAD which is verified against the Big 19 and IRS reports)	N/A	N/A	28 days	N/A	N/A	Score One Offense Per Victim	N/A	N/A	Date of Occurrence	N/A	N/A	Yes	N/A	N/A

Appendix J - Comparison of Incode Mapping for CompStat and UCR Part 1 Crime Reports

Part 1 Crime Type	Incodes Used in CompStat but not in UCR		Incodes Used in UCR but not CompStat	
	Incode	Incident Type	Incode	Incident Type
Homicide	01007	Homicide, Drive-by	01041	VOLUNTARY MANSLAUGHTER WITH A SHARP INSTRUMENT
			01042	VOLUNTARY MANSLAUGHTER WITH A DANGEROUS WEAPON
	01160	Manslaughter, Vehicular	01043	VOLUNTARY MANSLAUGHTER WITH BODILY FORCE
Total	2		3	
Rape	02005	Rape, Spousal		
	04146	Sexual Assault, Administering Drug to Commit		None
Total	2		0	
Robbery			03311	ASSAULT TO ROB ON THE STREET WITH A GUN
			03321	ASSAULT TO ROB COMMERCIAL ESTABLISHMENT W/GUN
			03331	ASSAULT TO ROB SERVICE STATION WITH A GUN
			03341	ASSAULT TO ROB CHAIN STORE WITH A GUN
			03351	ASSAULT TO ROB RESIDENCE WITH A GUN
			03361	ASSAULT TO ROB BANK WITH A GUN
			03371	ASSAULT TO ROB WITH A GUN
			03312	ASSAULT TO ROB ON THE STREET WITH A KNIFE
			03322	ASSAULT TO ROB COMMERCIAL ESTABLISHMENT W/KNIFE
			03332	ASSAULT TO ROB SERVICE STATION WITH A KNIFE
			03342	ASSAULT TO ROB CHAIN STORE WITH A KNIFE
			03352	ASSAULT TO ROB RESIDENCE WITH A KNIFE
			03362	ASSAULT TO ROB BANK WITH A KNIFE
			03372	ASSAULT TO ROB WITH A KNIFE
			03313	ASSAULT TO ROB ON THE STREET W/DEADLY WEAPON
			03323	ASSAULT TO ROB COMM. ESTABLISHMENT W/WEAPON
			03333	ASSAULT TO ROB SERVICE STATION W/DEADLY WEAPON
			03343	ASSAULT TO ROB CHAIN STORE WITH A DEADLY WEAPON
			03353	ASSAULT TO ROB RESIDENCE WITH A DEADLY WEAPON
			03363	ASSAULT TO ROB BANK WITH A DEADLY WEAPON
			03373	ASSAULT TO ROB WITH A DEADLY WEAPON
			03314	ASSAULT TO ROB ON THE STREET W/BODILY FORCE
			03324	ASSAULT TO ROB COMM. ESTABLISHMENT W/BODILY FORCE

Appendix J - Comparison of Incode Mapping for CompStat and UCR Part 1 Crime Reports

Part 1 Crime Type	Incodes Used in CompStat but not in UCR		Incodes Used in UCR but not CompStat	
	Incode	Incident Type	Incode	Incident Type
			03334	ASSAULT TO ROB SERVICE STATION WITH BODILY FORCE
			03344	ASSAULT TO ROB CHAIN STORE WITH BODILY FORCE
			03354	ASSAULT TO ROB RESIDENCE WITH BODILY FORCE
			03364	ASSAULT TO ROB BANK WITH BODILY FORCE
		None	03374	ASSAULT TO ROB WITH BODILY FORCE
Total		**0**		**28**
Aggravated Assault	04011A	Assault, Aggravated, W/ Machine Gun	04075	AGGRAVATED ASSAULT OF POLICE OFFICER, SNIPING
	04071C	Assault, Aggravated, On Police Officer, W/ Full Auto		
	04075A	Assault, Aggravated, On Police Officer, Sniping w/Gun		
	04075B	Assault, Aggr., On Police Officer, Sniping w/Semi Auto		
	04075C	Assault, Aggr., On Police Officer, Sniping w/Full Auto		
	04076	Assault or Attempted Murder Upon Gov't Officers		
	04136	Battery with Serious Injuries		
	04145	Assault to Commit Mayhem or Specific Sex Offenses		
	04147	Sexual Assault, Aggravated, of Child		
	12026	Firearm, Discharging At An Inhabited Dwelling		
	12030	Weapon, Deadly, Imitation or Laser Scope, Exhibiting		
	15015	Child, Inflicting Physical Pain, Mental Suffering, or Death		
	15040	Spouse, Cohabitee, Parent of Child in Common, Inflict Injury		
	15052	Child, Inflicting Injury Resulting in Traumatic Condition		
	27172	Resisting Peace Officer, causing Their Serious Injury or Death		
	27173	Weapon, Deadly, Exhibiting to Resist Arrest		
	27185	Fireworks, Throw at Person or Discharge in Crowd		
Total		**17**		**3**
Burglary		*None*		*None*
BTVF, Personal/Other Theft	05014	Burglary, Vehicle (Arrest made)	06381	EMBEZZLE FROM DEPENDENT OR ELDER ADULT BY CARETAKER
	05015	Burglary, Vehicle, Att. (Arrest made)		
	06385	Theft, Grand, Agricultural		
	06386	Theft, Grand, of Firearm		
	06395	Theft of Written Instrument		
	06396	Theft of Utility Services		
	06397	Trade Secrets, Theft or Unauthorized Copying		

Appendix J - Comparison of Incode Mapping for CompStat and UCR Part 1 Crime Reports

Part 1 Crime Type	Incodes Used in CompStat but not in UCR		Incodes Used in UCR but not CompStat	
	Incode	**Incident Type**	**Incode**	**Incident Type**
	06398	Theft of Telecommunication Services, incl. Clone Phone		
	26145	Theft, Lost Property, Grand		
	27020	Defrauding Of Vehicle Repairman		
	27090	Theft, Lost Property, Petty		
	71013	License Plate, Stolen		
Total	**12**		**1**	
Auto Theft			07052	EMBEZZLED VEHICLE
	07027	Auto, Grand Theft of	07100	TAMPERING WITH A VEHICLE
Total	**1**		**2**	
Arson	26038	Arson with Great Bodily Injury		*None*
	26039	Fire, Unlawfully Causing		
Total	**2**		**0**	

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Appendix K - Analysis of 1st, 2nd, and 3rd reports of CompStat Data

This appendix supports Finding 4's conclusion that due to the lack of timely transmission of reports into IRS, crimes and arrests for a given time period consistently increase between the first and the second report of a given extraction period. As a result of this lag comparison of crime data between the most current CompStat extraction period and the previous period exaggerates the decrease in crime and minimizes the increase in crime.

In CompStat profiles, crimes and arrests for a given time period are reported three times and consistently increase between the first and the second report of a given extraction period.

In a 28-Day Part 1 Crime CompStat profile, three time periods are displayed to permit comparisons between the most recent time period and two past periods. See Figure 1 below. In the first column (1) of the CompStat profile is the most current "extraction period" of the past 28 days—this is the "1st Report" of that data.

Figure 1. Excerpt from CompStat Profile dated January 1, 2011.

VIOLENT CRIMES	12/5/2010 TO 1/1/2011	11/7/2010 TO 12/4/2010	% Change	11/7/2010 TO 12/4/2010	10/10/2010 TO 11/6/2010	% Change
TOTAL VIOLENT	492	547	-10%	547	641	-15%

(1) Most recent extraction period: 12/5/2010 to 1/1/2011.This is the "1st Report" of data for this time period.

28 days after the extraction period in column (1) is first reported, it will be reported again in column (2)—this is the "2nd Report" of crimes and arrests for that period as shown below in Figure 2. For the 2nd Report of data for a time period, the CompStat Database will use the most current information about crime and arrests for that period. The "% Change" column (%Δ) shows the percentage change between column (1) and column (2).

Figure 2. Excerpt from CompStat Profile dated January 29, 2011. (29 days, or 1 extraction period, after report in Figure 1)

VIOLENT CRIMES	1/2/2011 TO 1/29/2011	12/5/2010 TO 1/1/2011	% Change	12/5/2010 TO 1/1/2011	11/7/2010 TO 12/4/2010	% Change
TOTAL VIOLENT	508	514	-1%	514	549	-6%

(1): 28 days later, a new time period—1/2/2011 to 1/29/2011—is in the 1st Report Column
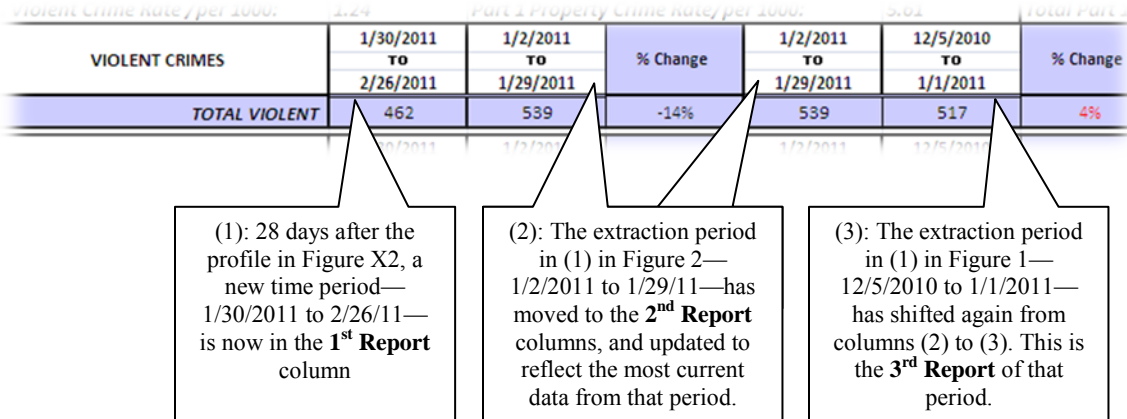
(2): The extraction period in (1) in Figure 1— 12/5/2010 to 1/1/2011— has moved to these columns, and updated to reflect the most current data from that period.

(%Δ): This column calculates the percentage change in crime between (1) and (2)

The 2nd Report is displayed twice to permit comparisons to the time period in column (1) and the last time period in column (3).

The time period originally in column (1) in Figure 3 will be present in column (3), 56 days after it was originally reported. See Figure X3. For the "3rd Report" of data for that time period, the CompStat database will again use the most current information about crime and arrests for that period.

Figure 3. **Excerpt from CompStat Profile dated July 23, 2011. (56 days, or 2 extraction periods, after report in Figure 1)**

VIOLENT CRIMES	1/30/2011 TO 2/26/2011	1/2/2011 TO 1/29/2011	% Change	1/2/2011 TO 1/29/2011	12/5/2010 TO 1/1/2011	% Change
TOTAL VIOLENT	462	539	-14%	539	517	4%

(1): 28 days after the profile in Figure X2, a new time period—1/30/2011 to 2/26/11—is now in the **1st Report** column

(2): The extraction period in (1) in Figure 2—1/2/2011 to 1/29/11—has moved to the **2nd Report** columns, and updated to reflect the most current data from that period.

(3): The extraction period in (1) in Figure 1—12/5/2010 to 1/1/2011—has shifted again from columns (2) to (3). This is the **3rd Report** of that period.
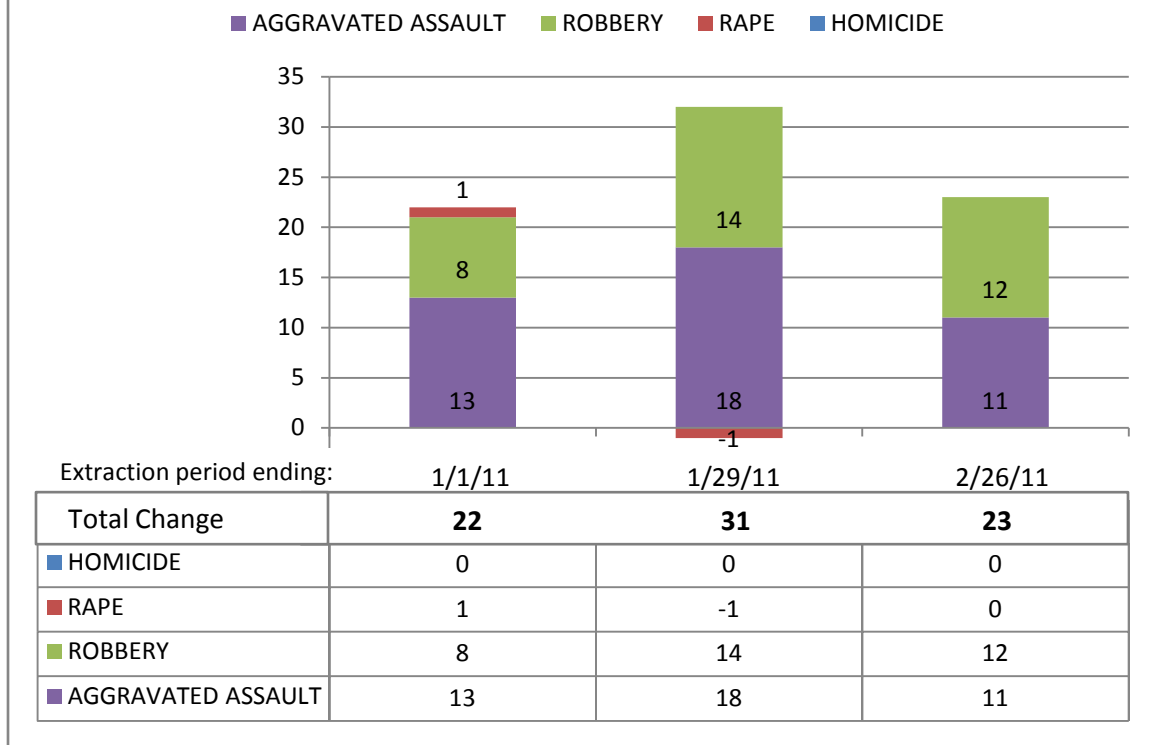
As the CompStat Database updates crime and arrest information between the 1st, 2nd, and 3rd Report of an extraction period, figures consistently rise for violent and property crime, as depicted in Figure 4. For instance, for the period of 12/5/10 to 1/1/11, the total violent crime reported in the 2nd Report (514 crimes) is an increase of 22 crimes, or 4.5 percent, over the 1st Report (492 crimes).

Figure 4. Total Part 1 Violent Crime for three 28 day extraction periods as presented in each report of that period.

		Reports for each extraction period:		
		1st Report in column (1)	2nd Report in column (2)	3rd Report in column (3)
	12/5/10 to 1/1/11	492	514	517
Extraction Periods:	1/2/11 to 1/29/11	508	539	539
	1/30/11 to 2/26/11	462	485	486

This increase in crime between the 1st Report and 2nd Report is consistently positive over time as illustrated below in Figure 5:

Figure 5. Changes in Total Part 1 Violent Crime Between 1st Report and 2nd Report of Extraction Period Broken Out by Crime Type

Legend: ■ AGGRAVATED ASSAULT ■ ROBBERY ■ RAPE ■ HOMICIDE

Extraction period ending:	1/1/11	1/29/11	2/26/11
Total Change	**22**	**31**	**23**
■ HOMICIDE	0	0	0
■ RAPE	1	-1	0
■ ROBBERY	8	14	12
■ AGGRAVATED ASSAULT	13	18	11

The increase in crimes between the 1ˢᵗ and 2ⁿᵈ report of an extraction period is largely due to crimes that occurred in the last three days of the extraction period and were not present in the CompStat DataStore at the time the CompStat profile containing the 1ˢᵗ Report was created.

In the case of the extraction period ending 1/1/2011, the 22 additional crimes added between the 1ˢᵗ and 2ⁿᵈ report primarily occurred in the last three days of the extraction period, but were not present in the CompStat DataStore when the profile containing the 1ˢᵗ Report of that period is created. See Figure 6 below.

Figure 6: Changes in Total Part 1 Violent Crime Between 1st Report and 2nd Report of 12/5/2010 to 1/1/2011 Extraction Period, Broken Out by Incident Description and Occur Date


	Occur Date	Incident Code	Incident Description
1	12/12/2010		RAPE
1	12/9/2010	03014	ROBBERY
2	12/15/2010	03014	ROBBERY
3	12/29/2010	03473	ROBBERY
4	12/30/2010	03074	ROBBERY
5	12/30/2010	03484	ROBBERY
6	1/1/2011	03014	ROBBERY
7	1/1/2011	03072	ROBBERY
8	1/1/2011	03072	ROBBERY
1	12/24/2010	04013	AGGRAVATED ASSAULT
2	12/27/2010	04012	AGGRAVATED ASSAULT
3	12/29/2010	04013	AGGRAVATED ASSAULT
4	12/29/2010	15040	AGGRAVATED ASSAULT
5	12/29/2010	15040	AGGRAVATED ASSAULT
6	12/30/2010	04136	AGGRAVATED ASSAULT
7	12/30/2010	15040	AGGRAVATED ASSAULT
8	12/31/2010	04013	AGGRAVATED ASSAULT
9	12/31/2010	04054	AGGRAVATED ASSAULT
10	12/31/2010	15040	AGGRAVATED ASSAULT
11	1/1/2011	04013	AGGRAVATED ASSAULT
12	1/1/2011	04014	AGGRAVATED ASSAULT
13	1/1/2011	15040	AGGRAVATED ASSAULT

This finding is consistent across all extraction periods that were analyzed in detail.

Because of the design of the CompStat profile, the consistent increase in crimes between the 1st and 2nd Report of a CompStat extraction period lead to inaccurate comparisons between extraction periods in the first percentage change column.

When the Total Part 1 Violent Crimes in Figure 7 are graphed, these totals for Part 1 Violent Crimes appear as such in Figure 7.

Figure 7. Total Part 1 Violent Crime for three 28-day extraction periods as presented in each report of that period.
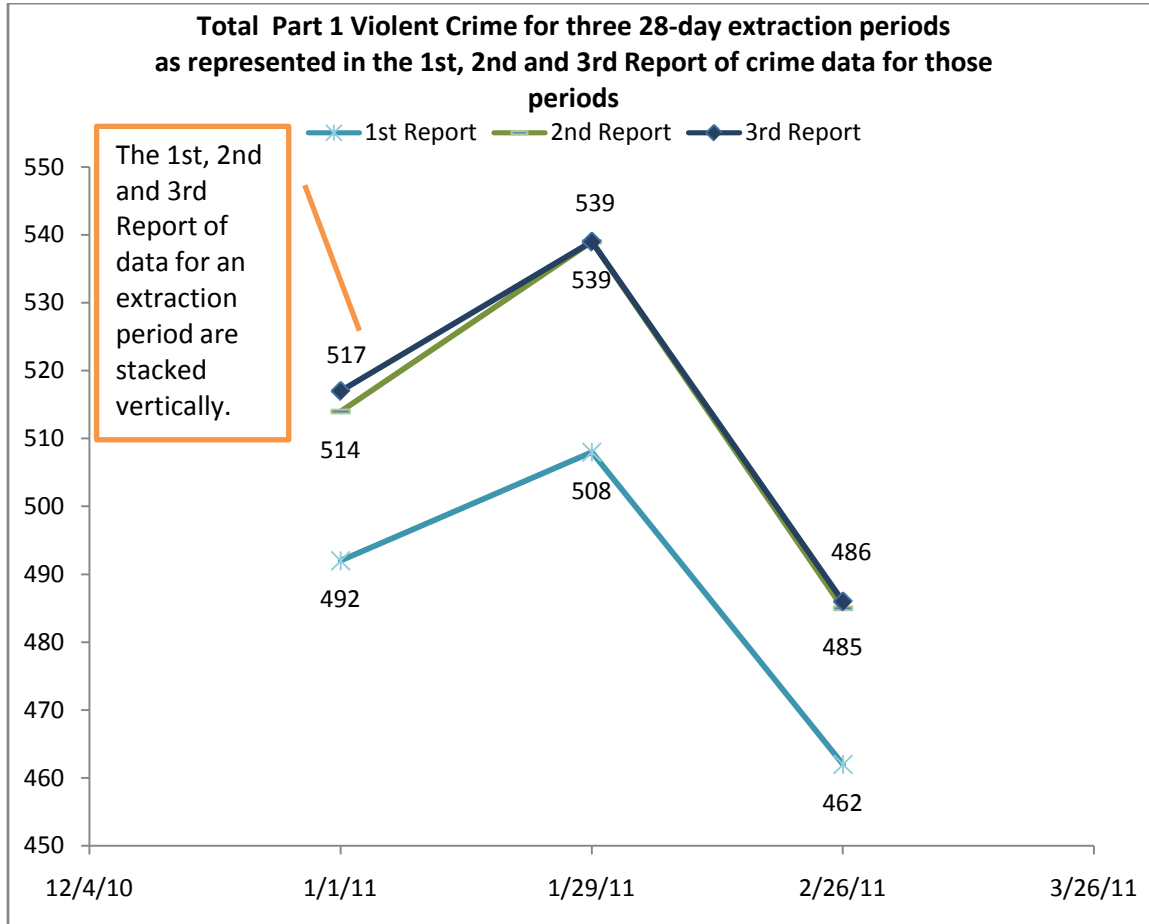
The trend in Figure 7 is clear for all three lines: violent crime rises from the period ending 1/1/2011 to the period ending 1/29/2011 and declines from the period ending 1/29/2011 to the period ending 2/26/2011.
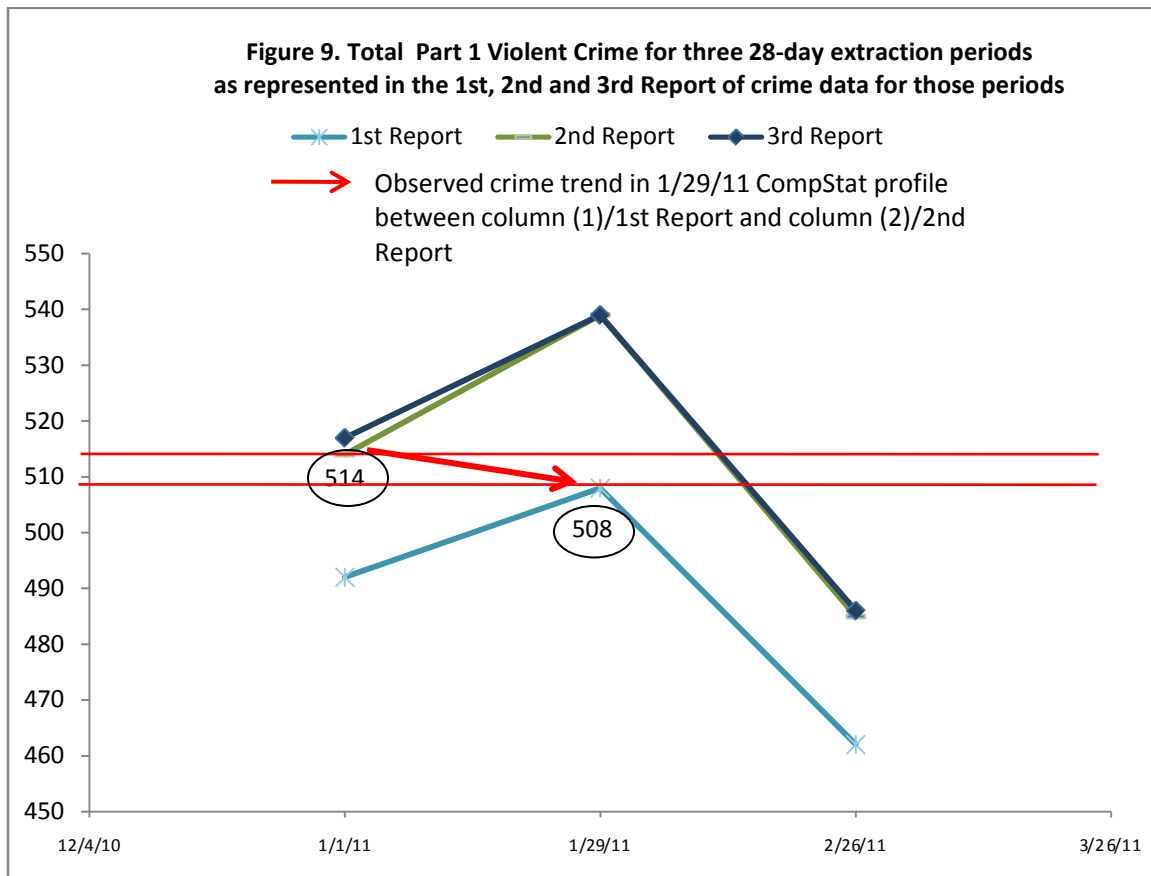
However, the first percentage change column in the CompStat profile (%Δ) will show an entirely different trend. For the period ending 1/29/2011, the CompStat profile will compare the 2nd report of 1/1/2011 data with the 1st Report of 1/29/2011 data:

Figure 8. Excerpt of CompStat profile for 1/29/11 and total violent crime as reported in three CompStat extraction periods.
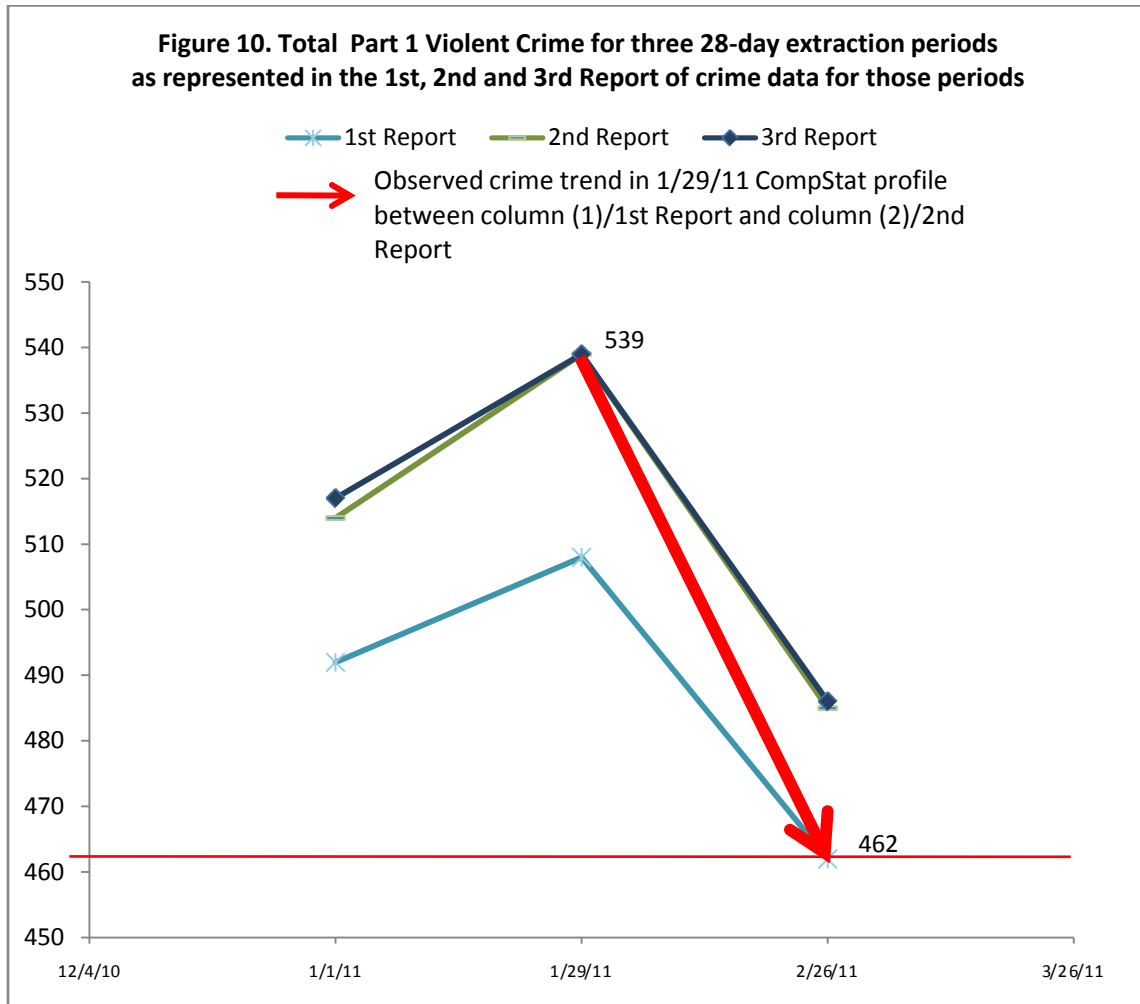
	(1)	(2)	(%Δ)			
VIOLENT CRIMES	1/2/2011 TO 1/29/2011	12/5/2010 TO 1/1/2011	% Change	12/5/2010 TO 1/1/2011	11/7/2010 TO 12/4/2010	% Change
TOTAL VIOLENT	508	514	-1%	514	549	-6%

	Reports for each extraction period:		
	1st Report in column (1)	**2nd Report in column (2)**	**3rd Report in column (3)**
12/5/10 to 1/1/11	492	514	517
Extraction Periods: 1/2/11 to 1/29/11	508	539	539
1/30/11 to 2/26/11	462	485	486

The CompStat profile for 1/29/2011 shows a decrease in violent crime from 514 to 508 for the past 28 day extraction period. Or, as displayed visually in Figure 9 below, there is a decrease in crime along the red arrow. This decrease in crime is highly misleading, given the complete picture:

Figure 9. Total Part 1 Violent Crime for three 28-day extraction periods as represented in the 1st, 2nd and 3rd Report of crime data for those periods

The decrease in crime between the extraction periods ending 2/26/2011 and 1/29/2011 is also exaggerated as a result of this phenomenon. See Figure 10.

Figure 10. Total Part 1 Violent Crime for three 28-day extraction periods as represented in the 1st, 2nd and 3rd Report of crime data for those periods
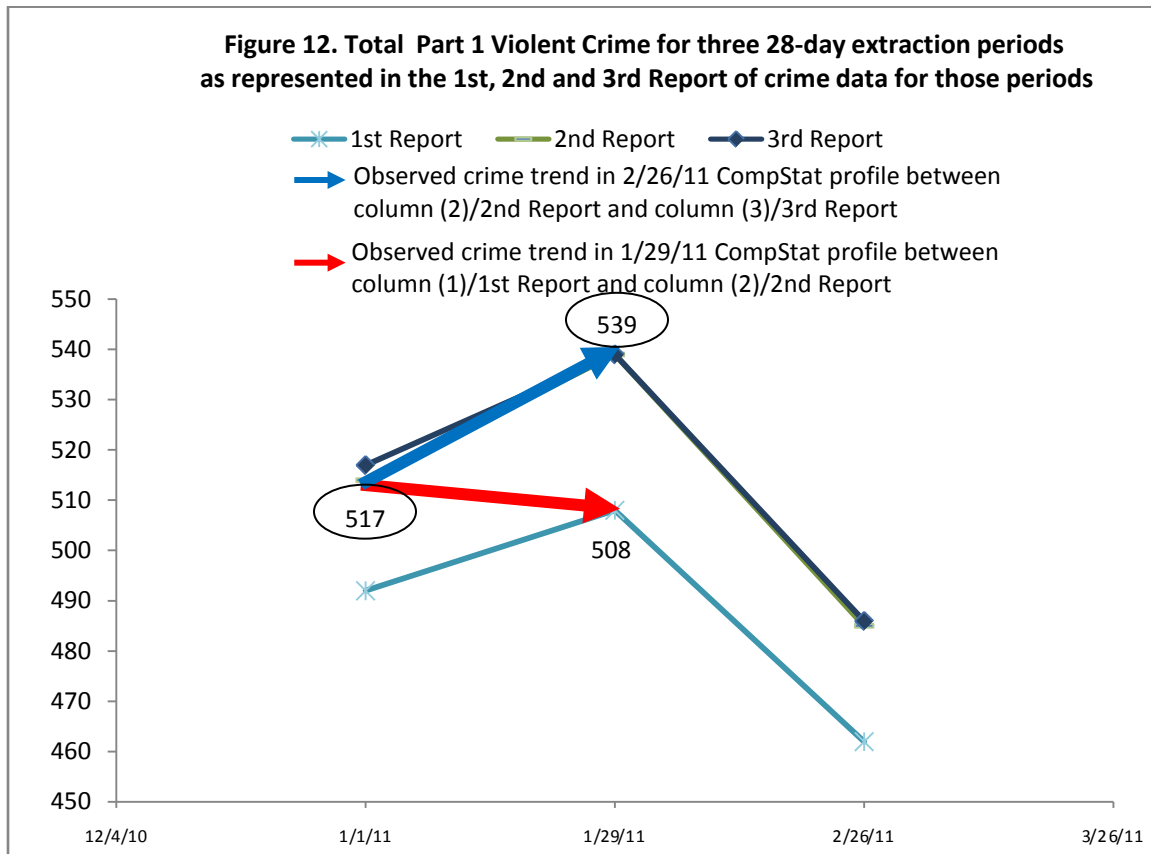
A more accurate reflection of the change in total Part 1 Violent crime over the time period is the comparison of 2nd Report and 3rd Report data for each extraction period. See Figure 11 and 12:

Figure 11. Excerpt of CompStat profile for 2/26/11 and total violent crime as reported in three CompStat extraction periods.

	(2)	(3)	(%Δ2)

VIOLENT CRIMES	1/30/2011 TO 2/26/2011	1/2/2011 TO 1/29/2011	% Change	1/2/2011 TO 1/29/2011	12/5/2010 TO 1/1/2011	% Change
TOTAL VIOLENT	462	539	-14%	539	517	4%

	Reports for each extraction period:		
	1st Report in column (1)	2nd Report in column (2)	3rd Report in column (3)
Extraction Periods: 12/5/10 to 1/1/11	492	514	**517**
1/2/11 to 1/29/11	508	**539**	539
1/30/11 to 2/26/11	462	485	486

Figure 12. Total Part 1 Violent Crime for three 28-day extraction periods as represented in the 1st, 2nd and 3rd Report of crime data for those periods

With the additional delay of one extraction period, crimes that were not yet present in the CompStat DataStore in the 1st report are now present in the underlying data, and the trend in CompStat data more precisely reflects an actual upward crime trend. Thus, the percentage change comparison between the 1st report of an extraction period to the previous, 2nd report of the previous extraction period exaggerates the decrease in crime and minimizes the increase in crimes. This phenomenon occurs because when the extraction is reported for the 2nd and 3rd time, the crime counts will inevitably increase.

The additional crime added between the 1st Report and the 2nd Report of an extraction period may be the consequence of Department practices and technological limitations in SFPD.

Sometimes, officers electronically sign their reports in IRS before printing but neglect to click the "transmit" button in IRS, which would cause the report to not be sent to the IRS Server and collected by the CompStat database. To counter this behavior, the Technology Division wrote a protocol in IRS so that after a signed report is untransmitted for three days, the IRS Server extracts it from the terminal. As a result, there are incident reports that do not reach the CompStat DataStore for three days.

For reports that are not signed (or unverified) in the IRS system are not transmitted and are deleted after threedays. Thus, if these reports are printed, approved, and sent to the Hall of Justice for entry into CABLE, they will not be accounted for by the CompStat DataStore for at least three to four days (data entry is currently behind by two to three days and there is a 24 hour lag to load reports from CABLE/CrimeMaps into the CompStat DataStore).

As a consequence of delays in incident reports reaching both the IRS Server and the CABLE/CrimeMaps server, CompStat profiles generated within three or four days of the end of an extraction period are highly likely to not count a significant portion of crimes and arrests.

Because supplemental reports created in IRS are not captured through IRS, but rather when they are manually entered into CABLE, supplemental reports typically take longer to reach the CompStat DataStore compared to initial incident reports. Because arrests are commonly entered in supplemental reports, delays are also likely to impact arrest numbers for most recent extraction period.