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CITY OF OAKLAND

AGENDA REPORT

2009 JAN 15 PM 12:58

TO: Office of the City Administrator
ATTN: Dan Lindheim
FROM: Department of Information Technology and Police Department
DATE: January 27, 2009

RE: An Informational Report From The Department Of Information Technology And The Oakland Police Department On Implementation of the CompStat System in OPD, Including Immediate Next Steps with Timelines, and Site Visit Report on the December 2008 Visit to the Los Angeles Police Department (LAPD) to Observe Their CompStat Process

SUMMARY

The Oakland Police Department (OPD) is planning to implement the Los Angeles Police Department (LAPD) CompStat (COMpUter analysis of crime STATistics) process in an effort to reduce crime and increase accountability through more efficient and timely collection, analysis and access to criminal and performance data. The CompStat process is a crime fighting program which relies on sophisticated custom software, continuous process improvement, relentless follow-up investigations, and management accountability.

In last few months, there has been a series of discussions with LAPD CompStat Unit personnel about their design and deployment experience. After a recent review of the Los Angeles Police Department's CompStat process, staff determined that implementation of the process will greatly benefit the City of Oakland. Staff has identified short term and long term objectives with specific action items and dates for implementation of the process. Effective in January 2009, the current Crime Analysis personnel will be assigned to each Area Commander for 90 days. Next steps include; establish the goals, determine the business needs, develop the processes, identify the resources (human as well as computers), and identify sustainable funding sources. In order to fully implement an effective and sustainable CompStat process in Oakland, a significant commitment by the City is required.

FISCAL IMPACT

The current Integrated Public Safety System (IPSS) hardware and software applications running in OPD are capable of providing the crime statistics, crime maps, and various reports. However, new funding is needed for additional software and hardware to effectively implement a state-of-the-art CompStat process for true information-led policing in Oakland. The new applications and software will provide the added functionality that does not exist in the current public safety hardware and software infrastructure in Oakland. This new functionality will allow disparate databases integration, sophisticated link analysis, and web-based enterprise reporting and crime alerting. This solution could either be developed by in-house resources or outside consultants, by integrating various disparate data systems into a single Business Intelligence and Reporting system. The CompStat program has been used in several major cities resulting in a

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dramatic downturn in crime once it was implemented. CompStat allows staff to address crime trends in particular areas using mapping information. CompStat can provide a single platform that instantaneously sifts through large amounts of information to assist staff in producing data driven law enforcement strategies.

Table 1 details the initial set up cost to install the software and hardware necessary to fully implement the CompStat process:

Table 1

COST CATEGORY	ESTIMATED COST
HARDWARE (SERVERS, SAN STORAGE AND BACKUP SYSTEM)	\$125K
ANALYTICAL SOFTWARE (STATISTICAL ANALYSIS AND REAL-TIME REPORTING)	\$550K
INTEGRATION SOFTWARE (MIDDLEWARE AND FRAMEWORK APPLICATION)	\$150K
DATA WAREHOUSE (RELATIONAL DATABASE SOFTWARE)	\$75K
SECURITY AND NETWORK (INTRUSION PREVENTION AND AUDITING SOFTWARE)	\$75K
INTEGRATION SERVICES (12 MONTHS OF BUSINESS PROCESS MAPPING, DEVELOPMENT, AND INTEGRATION TESTING)	\$350K
TOTAL	\$1.325M

In addition to the one time initial cost of \$1.325 million for hardware and software and in order to meaningfully implement CompStat, OPD will need to develop a new CompStat Unit, provide crime analysts to each Area Commander, provide a crime analyst to each criminal investigative unit, and increase the number of analysts in the Crime Analysis Unit.

The CompStat unit will require three (3) new full time positions, and DIT will require one (1) full time Systems Analyst to operate and support the application. Table 2a and 2b detail the necessary staff increase costs:

Table 2a CompStat Unit – new positions

POSITION	# OF FTEs	ANNUAL COST 08/09	O & M ANNUAL	O & M START UP
ADMINISTRATIVE ANALYST II- AREA COMMAND	THREE (3) AT \$108,816	\$326,448	\$9,000	\$21,800

Table 2b DIT – new position

POSITION	# OF FTEs	ANNUAL COST 08/09	O & M ANNUAL	O & M START UP
SYSTEMS ANALYST III TO SUPPORT SOFTWARE	ONE (1) AT \$170,00	\$170,000	\$6,000	\$7,200

Bishop Rock is a new data integration and analysis application, currently under development and testing, that is being designed to custom fit Oakland’s crime analysis needs. The system is being designed to prepare crime trend and link analysis reports as well as analytical measuring of officer performance.

The addition of one Systems Analyst will provide the necessary technical support to the desired crime analysis application. Although Bishop Rock is being developed and tested currently, there is no agreement to purchase Bishop Rock. This software is being evaluated now, and a decision will be made regarding Bishop Rock by January 29, 2009. If Bishop Rock is not selected, another application will be evaluated.

The Crime Analysis Section will require two (2) new full time positions. The following table (Table 3) details the necessary staff increase costs:

Table 3 Crime Analysis Section - new positions

POSITION	# OF FTEs	ANNUAL COST 08/09	O & M ANNUAL	O & M START UP
ADMINISTRATIVE ANALYST II – CRIME ANALYSIS UNIT	TWO (2) AT \$108,816	\$217,632	\$6,000	\$14,000

The Criminal Investigation Division (CID) and the Youth and Family Services Division (YFSD) require analysts assigned specifically to crimes such as murder, assault, robbery, sex crimes, parolee and probationer tracking, burglary, domestic violence, narcotics, auto theft, and identity theft (Table 4).

Table 4 Investigative Crime Analyst – new positions

POSITION	# OF FTEs	ANNUAL COST 08/09	O & M ANNUAL	O & M START UP
ADMINISTRATIVE ANALYST II – INVESTIGATIONS	NINE (9) AT \$108,816	\$979,344	\$27,000	\$63,000

These resources are crucial to the success of the CompStat process in Oakland. The technology without the proper resources will be of little assistance. The Oakland Police Department does not have the capacity to fully replicate the LAPD CompStat process because CompStat requires people, process and technology that are not available within its current assets.

Additional technology requirements include the ability to provide current and reliable crime related data to field personnel. Each officer and civilian staff member must have access to crime data in their field location, as they need it. Laptop computers should be assigned to staff to provide this much needed capability (Table 5).

Table 5 Laptop Computer Costs

COST CATEGORY	ESTIMATED COST
HARDWARE (\$2500.00 PER LAPTOP X 200)	\$500K
SOFTWARE LICENSING (\$3000.00 PER LAPTOP X 200)	\$600K
WIRELESS ACCESS (\$600.00 PER YEAR PER LAPTOP FOR TWO YEARS X 200)	\$240K
MAINTENANCE COSTS (200 LAPTOPS FOR ONE YEAR)	\$500K
TOTAL	\$1.840M

Table 6 Total Cost

	TABLE 1	TABLE 2a	TABLE 2b	TABLE 3	TABLE 4	TABLE 5	TOTAL COSTS
START UP COSTS	\$1.325M	\$21,800	\$7,200	\$14,000	\$63,000	\$1.840M	\$3.271M
ON GOING COSTS	--	\$335,448	\$176,000	\$223,632	\$1.006M	--	\$1.741M
GRAND TOTAL							\$5.012M

BACKGROUND

OPD Crimestop (OPD’s current version of CompStat) meetings occur every two weeks. A Crimestop meeting is a presentation by an Area Commander (or other division commander) including various crime and performance related data. Area Commanders normally “showcase” a problem solving project. There is little support available from the Crime Analysis Unit. At the current staffing level, Crime Analysis is only able to provide basic statistical information or data

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to OPD command staff and other City personnel. Actual analysis of crime patterns and trends will require additional personnel.

The Crime View Web system provides data that the Area Commander presents in the form of maps, graphs, and statistics. The Crime View Web system does not analyze data; it extracts data on a daily basis from the Law Enforcement Records Management System (LRMS) and Computer Aided Dispatch (CAD) databases, and displays the information with the Geographical Information System (GIS) application. Crimestop meetings do not intellectually evaluate crime reduction efforts or academically account for crime reduction/response methodologies. Crimestop is merely a presentation of facts, figures, and one Area Commander's response to previously identified crime data and trends.

Staff recognizes that OPD requires a program change to include a new process supported by a sophisticated data repository system to bring efficiency and speedy access ("near real time") to criminal data for use as a time-effective crime fighting tool. A data repository will provide the City of Oakland with critical management decision-making capability, and significantly improved operational capabilities. It will ensure a timely, seamless flow of accurate information, and it will allow OPD to achieve faster data processing, eliminate redundant data entry, and enhance decision support and long-term planning.

Site Visit to LAPD

In December 2008, several members of OPD's Executive and Crime Analysis staff and a City of Oakland Information Technology member visited the Los Angeles Police Department to evaluate the CompStat process. Staff met with LAPD Chief of Police William Bratton and the LAPD CompStat program manager. LAPD employs 24 analysts solely dedicated to CompStat support and an additional 120 crime analysts to examine crime data. OPD staff was briefed on the CompStat process, LAPD's approach and commitment to real time crime analysis and reviewed reports produced for the weekly CompStat meeting (Operation Profiles). They attended a four hour CompStat meeting and saw how it worked to improve commander accountability.

LAPD, under Chief Bratton's direction, undertook a serious and prolonged effort to adequately fund and staff their efforts to implement CompStat and provide meaningful crime analysis and a decision support system (DSS) that provides "real time" information to the people who need it, when they need it. Crime analysts are provided to each of their 19 area commanders to prepare daily crime intelligence briefings. These briefings help the commanders understand what happened during the preceding 24 hours. These briefings include discussions about crime patterns, trends, link analysis and results specific to previous operational decisions regarding deployment and strategies to respond to identified crime trends and patterns.

In addition to each area commander's crime analyst, each criminal investigative unit also has an analyst who helps investigators and the District Attorney's Office identify suspects, trends, patterns, and links between suspects, crimes, locations, victims and other important known identifiers. LAPD's program includes a strong reliance on crime analysts in each investigative

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unit. A very high value is placed on the agency's ability to develop crime intelligence specific to robberies, shootings, murders, gangs, sexual assaults, burglaries and more. This intelligence is then shared with investigators, district attorneys, the area commanders, other analysts, patrol officers, and other law enforcement agencies.

The result is a narrow focus on serious crime through rapid police deployment and response to emerging trends and patterns.

KEY ISSUES AND IMPACTS

Currently, OPD is unable to perform critical crime and data analysis tasks and therefore is missing opportunities to prevent and reduce crime. In 2000 the OPD Crime Analysis Unit (CAU) was staffed with 13 members, including sworn officers and crime analysts. Today, the CAU has three full time analysts and two data entry clerks. Mandated budget cuts have resulted in OPD's current condition regarding its incapacity to conduct meaningful crime and data analysis.

Full implementation of CompStat will promote more efficient public safety services to the Oakland community, deter criminal activity, enhance emergency services, enhance risk management, expand crime prevention, promote better information throughout the region and facilitate economic growth.

Without additional staff and new technology, Oakland will not have the necessary capacity to effectively fight crime or provide basic crime data services to the community.

PROJECT DESCRIPTION

The addition of 14 Administrative Analyst II positions and one Systems Analyst III will allow for the development of the new CompStat unit, increase capacity in the Crime Analysis Section, add new capabilities in CID and YFSD to provide real time data, analyze the information to link cases, and identify common methods of criminals. It will provide the Chief of Police and Executive Command staff with information they can use to more effectively deploy police resources and hold Area Commanders accountable for their decisions and methods of responding to crime trends. The new analysts would be assigned to prepare operation profiles for the weekly CompStat meetings in conjunction with the Crime Analysis Section staff and complete analysis of the following items:

- Crime related to other crimes
- Calls for service
- Crime related to liquor outlets, prostitution locations, certain types of businesses such as check cashing stores, other special types of locations, or street lighting
- Crime related to schools
- Crime related to PSO, NSC, or City Attorney projects
- Crime related to type of victim
- Crime related to repeat victimization

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- Maps showing whether or not various crimes are moving geographically
 - The most frequent locations for auto thefts, robberies, auto burglaries, assaults, and/or other crimes
 - Maps of any of the above details compared with calls for service, arrests, or field contacts
 - Examine the frequent problem of repeat victimization by identifying repeat victims, locations, crimes and crime combinations
 - Resume producing the valuable “major players” books that identify drug dealers, gang members, or other significant persons that officers can consult when making stops
 - Identify and prepare performance measurement analysis to effectively evaluate crime reduction efforts
 - Identify area specific crime trends to help commanders understand how deployment impacts crime trends in their areas

The data integration and analysis applications will also enable Oakland to:

- Integrate data from disparate information systems without redundant manual entry of data. This data will be updated on a regular basis.
- Allow advanced analysis using artificial intelligence-based searches. Assist in monitoring, collaboration and notification to assist on-going investigations.
- Manage the criminal intelligence information with visualization tools for developing networks, statistical displays and GIS-mapping displays.

This program will develop, design and deploy a centralized and consolidated criminal data repository system in Oakland. Currently, there are dozens of various sizes of databases being used in Oakland, hosting critical information. These databases need to be cleaned, standardized, connected and consolidated into a one normalized data repository.

It will also further assist Oakland in sharing information across jurisdictional boundaries to provide sophisticated analytical tools to solve crimes quickly. This project will assist in collaborating on complex investigation cases, and automate notices to bring together different entities on the same page.

Although OPD does not currently have the resources to fully implement a CompStat process similar to LAPD, staff is moving forward to make the following program changes to better assist Area Commanders and move OPD toward a more meaningful CompStat process.

- Loan crime analysts (90 days) from the Crime Analysis Unit to the Bureau of Field Operations to work closely with the Area Commanders and assess how analysts can support them by focusing on crime within each area and preparing daily crime intelligence briefings. This represents the first step toward improving capacity to develop and share information.

- The Area Analysts will collaborate with Area Commanders and investigative units to prepare recommendations regarding program changes to support the CompStat process within existing resources (90 day assessment period).
- Complete assessment of Bishop Rock software and determine a preferred course of action.
- Develop weekly area operation profiles, similar to those of LAPD.
- Develop a bi-weekly CompStat process, using existing resources, that focuses on high risk crime profiles (significant changes in serious crimes) identified in the operation profile report and include input from investigative resources, area analysts, and focused scrutiny by executive team members.

The goal to complete these action items is January 29, 2009.

However, significant challenges exist. OPD currently has only three crime analysts. These analysts perform various duties to support the entire department, the entire City, and respond to requests for information from numerous people and entities, both within and outside the City. The ability to complete their normal duties will be severely compromised during their 90 day loan to the Bureau of Field Operations.

Additional challenges include migrating the current Hummingbird reporting server to the Crystal reporting server, upgrading the Crimeview Web application, funding comprehensive data recovery, storage, and analytical capability, and adding significant crime analysis and CompStat process resources.

Crime analysis and CompStat are distinct and separate functions. OPD needs both crime analysis capabilities and CompStat to effectively prevent crime, respond to emerging crime trends, and conduct comprehensive and thorough follow up investigations. Without a reasonable capacity to provide real time and accurate crime data and analysis, the CompStat process will not achieve its goals. Future reports to Council will provide a comprehensive plan to increase OPD's capacity to perform crime analysis and fully implement the CompStat process. Any such plan must be supported with funding for new positions. OPD does not have the resources to achieve its crime analysis goals and if additional resources are not identified OPD will not successfully implement CompStat or ever have a sufficient capacity for effective crime analysis.

SUSTAINABLE OPPORTUNITIES

Economic: Increased capacity to analyze crime and hold commanders accountable for deployment and response will result in a more efficient use of resources, focused efforts on crime trends and patterns, and increased public satisfaction regarding efforts to improve public safety in Oakland. This increase in satisfaction by the public could result in an increase in local commerce and new and sustained residency.

Environmental: No environmental opportunities have been identified.

Social Equity: Implementation of this system will enhance the Department's ability to more effectively deploy resources and prevent crime; thereby reducing crime and increasing public safety. It will improve the quality of life of residents and merchants.

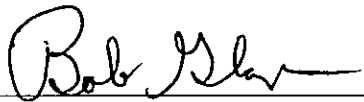
DISABILITY AND SENIOR CITIZEN ACCESS

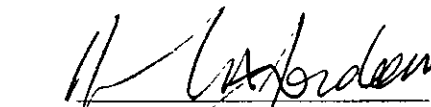
There are no ADA or senior citizen access issues contained in this report.

RECOMMENDATION / ACTION OF THE COUNCIL

Staff recommends acceptance of this report.

Respectfully submitted,


Bob Glaze
Director of DIT and CTO

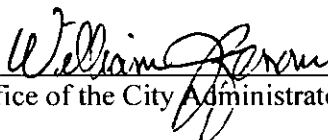

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