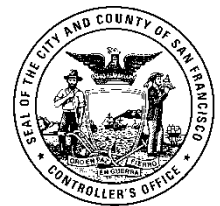


# City and County of San Francisco

Office of the Controller – City Services Auditor

## **SAN FRANCISCO POLICE DEPARTMENT:**

### **Cost Estimates for Achieving Operational Effectiveness in Crime Lab Operations**



*June 15, 2010*

**CONTROLLER'S OFFICE  
CITY SERVICES AUDITOR**

The City Services Auditor was created within the Controller's Office through an amendment to the City Charter that was approved by voters in November 2003. Under Appendix F to the City Charter, the City Services Auditor has broad authority for:

- Reporting on the level and effectiveness of San Francisco's public services and benchmarking the city to other public agencies and jurisdictions.
- Conducting financial and performance audits of city departments, contractors, and functions to assess efficiency and effectiveness of processes and services.
- Operating a whistleblower hotline and website and investigating reports of waste, fraud, and abuse of city resources.
- Ensuring the financial integrity and improving the overall performance and efficiency of city government.

Authors: Corina Monzón, Project Manager  
Catherine McGuire, Project Manager  
Peg Stevenson, Director



# City and County of San Francisco

## Office of the Controller - City Services Auditor

**San Francisco Police Department:  
Cost Estimates for Achieving Operational Effectiveness in Crime Lab Operations**

**June 15, 2010**

### **Purpose of the Report**

This report provides an overview of current criminalistics laboratory operations and estimates the cost of performing this work with a city operated laboratory as compared to the cost of contracting for these services.

### **Highlights**

- The San Francisco Police Department Criminalistics Laboratory is a public laboratory which provides services primarily to the San Francisco Police Department. Services provided by laboratory staff include:
  - ✓ Biology/DNA
  - ✓ Firearms/Toolmarks
  - ✓ Trace Evidence (gunshot residue only)
  - ✓ Breath Alcohol
  - ✓ Questioned Documents
- Since March 2010, Controlled Substances testing has been successfully outsourced to other public laboratories.
- As of March 2010, the laboratory is staffed with 21 employees, primarily civilians in the criminalist job classifications.
- The laboratory budget in Fiscal Year 2009-10 totaled \$5.1 million. Staff costs are 80 percent of the total budget.
- The laboratory is located Building 606 at the former Naval Shipyard in Hunters Point and must relocate by 2015.
- The lease, construction, and equipment costs of a new facility to house the criminalistics functions are between \$15 and \$21 million over five-years.
- The total costs for the City to maintain its own full service criminalistics laboratory inclusive of all facility, staffing and information systems costs necessary for operational effectiveness is between \$46 and \$53 million.
- The five-year projected cost for the City to contract for the majority of the caseload to other laboratories is \$31 million.

### **Recommendations**

- The City should immediately contract for ongoing narcotics testing services and backlogged cases in DNA.
- The SFPD should document and specify the policies and procedures to ensure management control and quality of service under a contracting approach.
- No new facility plan should be pursued at this time. Basic capital and equipment investments to support the continued use of Building 606 for approximately a three year period should go forward.
- During FY10-11, the City will gain experience in contracting for forensic services. In FY11-12 a permanent business decision on this subject can be made pending the closure of Building 606.
- Overall, the City should work, if operationally feasible, to avoid the cost of a significantly increased or new general fund rent or debt expense by contracting for laboratory services in the long term and not replacing the Crime Lab facility.

*Copies of the full report may be obtained at:*

*Controller's Office • City Hall, Room 316 • 1 Dr. Carlton B. Goodlett Place • San Francisco, CA 94102 • 415.554.7500  
or on the Internet at <http://www.sfgov.org/controller>*

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**CITY AND COUNTY OF SAN FRANCISCO**  
**OFFICE OF THE CONTROLLER**

---

**Ben Rosenfield**  
**Controller**

**Monique Zmuda**  
**Deputy Controller**

June 15, 2010

The Honorable Gavin Newsom  
Mayor, City and County of San Francisco  
Room 200, City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102

The Honorable Members, Board of Supervisors  
Room 244, City Hall  
1 Dr. Carlton B. Goodlett Place  
San Francisco, CA 94102

Dear Mayor Newsom, Ladies, and Gentlemen:

The Controller's Office presents a report on the San Francisco Police Department Criminalistics Laboratory. The report provides an overview of current criminalistics laboratory operations and estimates the cost of performing this work with city employees as compared to the cost of contracting for these services.


We concluded that the five-year projected cost for the City to maintain an operationally effective criminalistics laboratory is \$46 million or \$53 million depending on the financing structure for the facility improvements. The five-year projected cost for the City to outsource the majority of the caseload to other laboratories is \$31 million. The \$15 to \$21 million cost differential between an in-house scenario and an outsource scenario is almost all entirely attributable to the cost of a relocating the laboratory to a functionally appropriate facility.

Over the next Fiscal Year the City should contract for services starting with narcotics testing and backlogged cases in DNA, then gathering information on contracting for firearms testing. This phased approach to contracting will provide the City with experience and information to understand the operational implications of contracting, and time to develop a wide range of new policies and procedures to ensure management control and quality of service. Those policies and procedures include everything from developing secure handling and transfer of evidence, management and costs of priority requests and court testimony by outside contractors.

The City can operate and learn from this hybrid model until the start of Fiscal Year 2011-12. At that point the City is compelled to make a decision about budgeting for the \$15 to \$21 million estimated for the lease, construction and equipments costs of relocating the criminalistics laboratory out of the Hunters Point Naval Shipyard to allow for planned development to proceed.

We appreciate the assistance and cooperation that SFPD staff and staff in other City departments provided to us.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ben Rosenfield". The signature is stylized with a large, sweeping "B" and "R".

Ben Rosenfield

cc: The Honorable Members of the San Francisco Police Commission  
Jeff Adachi, Public Defender  
George Gascón, Chief of Police  
Kamala Harris, District Attorney  
James J. McBride, Presiding Judge  
Budget Analyst  
Civil Grand Jury  
Public Library

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

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ASCLD/LAB	American Society of Crime Laboratory Directors/Laboratory Accreditation Board
CODIS	Combined DNA Index System
COP	Certificates of Participation
CSI	Crime Scene Investigation
DOJ	Department of Justice
FMS	Forensic Management System
GSR	Gun Shot Residue
ID	Identification
NFSTC	National Forensic Science Testing Center
NIBIN	National Integrated Ballistic Information Network
QD	Questioned Documents
SFPD	San Francisco Police Department

## CHAPTER 1 – Criminalistics Laboratory Overview

### Summary

This Chapter provides an overview of the current operation of San Francisco Police Department Criminalistics Laboratory (laboratory). Included in this section are caseloads by type of service, staffing and budget, facility description and accreditation and audit findings.

### Services and Caseload

The San Francisco Police Department Criminalistics Laboratory is a public laboratory which provides services primarily to the San Francisco Police Department. The laboratory also provides services at no charge to other local, state and federal agencies.<sup>1</sup>

Services provided by laboratory staff include: Biology (including DNA), Firearms/Toolmarks, Trace Evidence (gunshot residue only), and Questioned Documents analysis. Since March 2010, Controlled Substances testing has been outsourced to other public laboratories.

Exhibit 1 below shows the estimated annual caseload by type of service.

<b>EXHIBIT 1</b>	
<b>Estimated Annual Caseload by Service Type</b>	
<b>Service</b>	<b>Current Estimated Annual Caseload</b>
Controlled Substances	4,000
Biological (including DNA)	455
Firearms/Toolmarks	800
Trace Evidence – GSR*	75
Breath Alcohol	60
Questioned Documents	20
*GSR (Gun Shot Residue) only. Impression, hair, glass, paint and fire debris analysis is not provided.	

Source: SFPD Forensic Services Division

*The estimated number of controlled substances tests is significantly lower than in past years.*

Due to a change in policy the estimated number of controlled substances tests used in this analysis is significantly lower than in past years. Previously, the controlled substances caseload was 10,000 annually; however this is expected to drop to 4,000 due primarily to the implementation of 'presumptive testing' by the SFPD in March 2010.

<sup>1</sup> The laboratory processes approximately 100 cases per year at the request of other agencies such as: San Francisco State University, University of California, San Francisco, Bay Area Rapid Transit Police, California Highway Patrol, United States Park Police, United States Attorney's Office, Bureau of Alcohol Tobacco and Firearms and Explosives, and United States Postal Service.

Under the presumptive testing program, the District Attorney uses evidence tested by officers at the police district stations as a basis for filing charges at arraignment. The evidence is laboratory tested for the preliminary hearings. This program is used across the nation and will decrease the number of cases requiring laboratory tests since many cases are dismissed prior to the preliminary hearings.

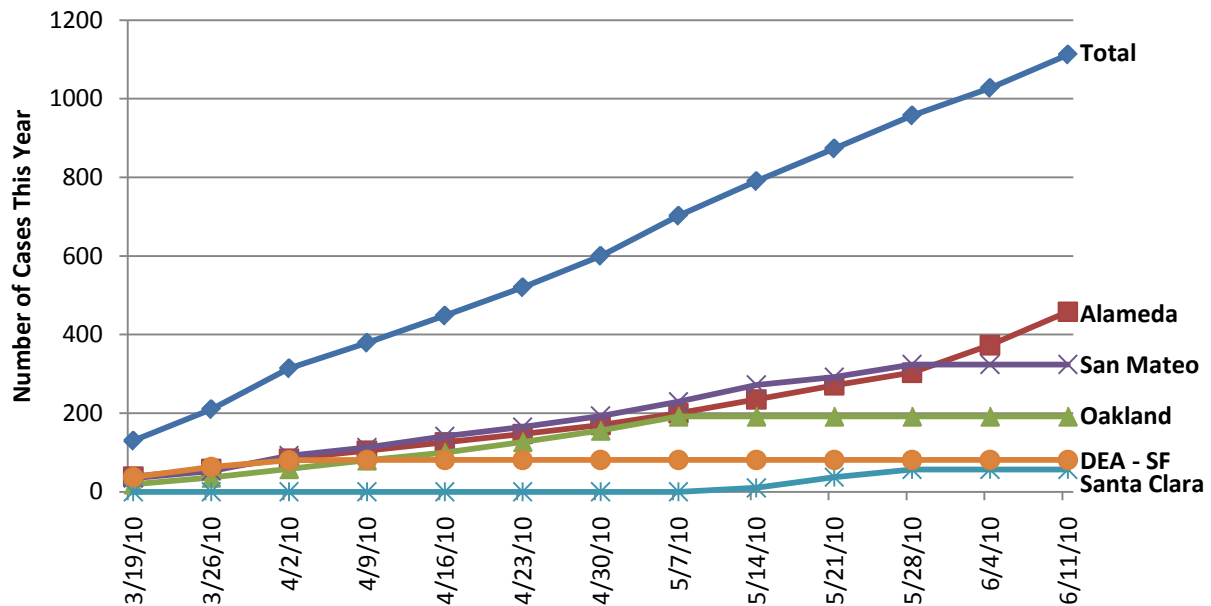
*In March 2010 the SFPD began sending controlled substances to be tested in other public laboratories.*

Beginning on March 12, 2010, the SFPD began sending controlled substances to be tested in public laboratories in Alameda, San Francisco, San Mateo, and Oakland. Soon thereafter the SFPD also began sending narcotics for testing in Santa Clara. As of June 1, 2010 the Alameda laboratory has assumed responsibility for all SFPD narcotics testing.

Exhibit 2 shows the weekly number of cases sent to the laboratories for testing. As of June 11, 2010 a total of 1,112 cases had been sent to outside laboratories for testing.

In Fiscal Year 2011, the SFPD will select a laboratory through the City's contracting process to continue outsourcing controlled substances testing.

**EXHIBIT 2** Weekly Number of Controlled Substances Cases Sent to Outside Labs



Source: SFPD Property Control Unit

**Staffing**

As of March 2010, the laboratory is staffed with 21 employees, primarily civilians in the criminalist job classifications. The assignment of staff by unit is shown in Exhibit 3.

Prior to the closure of the Controlled Substances Section in March 2010, there were three employees conducting testing of seized drugs – one supervising criminalist (Class 8262) and two criminalists (Class 8260). One of the criminalists has been reassigned to the Firearms section and the other criminalist and the supervisor are working in the Breath Alcohol program. The supervisor had previously split her time between Controlled Substances and Breath Alcohol.

<b>Exhibit 3</b>			
<b>Section</b>	<b>Position</b>	<b>Classification/Rank</b>	<b>Current Number of Employees</b>
<b>Administration</b>	Crime Lab Mgr	Lieutenant <sup>1</sup>	1
	Quality Assurance Mgr	8263 Crime Lab Mgr <sup>2</sup>	1
	Administrative Support	1424 Clerk Typist	1
	<b>subtotal</b>		<b>3</b>
<b>Controlled Substances<sup>3</sup></b>			0
<b>subtotal</b>			<b>0</b>
<b>Biology/DNA</b>	Supervisor	8262 Criminalist III	2
	Criminalist II	8260 Criminalist II	4
	Criminalist I	8259 Criminalist I	2
	<b>subtotal</b>		<b>8</b>
<b>Firearms/Toolmarks</b>	Supervisor	8262 Criminalist III	1
	Firearms Examiners	Officer and Inspector	2
	Criminalist II	8260 Criminalist II	4
	<b>subtotal</b>		<b>7</b>
<b>Trace Evidence - Gun Shot Residue Only</b>	Criminalist II	8260 Criminalist II	1
	<b>subtotal</b>		<b>1</b>
<b>Breath Alcohol</b>	Supervisor	8262 Criminalist III	1
	Criminalist II	8260 Criminalist II	1
	<b>subtotal</b>		<b>2</b>
<b>Total</b>			<b>21</b>
<sup>1</sup> Position previously held by a civilian manager (Class 0933) but in March 2010 the person was assigned to Crime Scene Investigations. <sup>2</sup> This person also handles Questioned Documents analysis as time permits. <sup>3</sup> Effective March 2010 the three staff from this unit were reassigned.			

Source: SFPD Forensic Services Division

**Budget** The laboratory budget in Fiscal Year 2009-10 totaled \$5.1 million. Salaries and fringe comprise 80 percent of the total budget. Exhibit 4 provides a summary by expense category.

<b>EXHIBIT 4 SFPD Criminalistic Laboratory Budget, FY 2009-10</b>	
<b>Expense Category</b>	<b>FY09-10 Estimated Budget<sup>1</sup></b>
Salaries	3,139,822
Fringe <sup>2</sup>	941,947
Non Personnel Services (equipment maintenance, instrument calibration, limited testing outsourcing)	240,000
Materials and Supplies (testing kits, laboratory supplies, chemicals/reagents, ammunition, uniforms)	330,000
Rent	160,000
Building Expenses and Utilities (Power, Water, Propane)	280,000
<b>Total</b>	<b>\$5,091,769</b>
<sup>1</sup> Budget is estimated because the Criminalistic Laboratory is budgeted together with all other Forensic Services as a Division of the SFPD.	
<sup>2</sup> Fringe is based on an estimate of the average fringe rate for civilian and sworn personnel in FY10.	

Source: SFPD Fiscal Division

**Facility** The laboratory is located at Building 606 at the former Naval Shipyard in Hunters Point. The laboratory relocated to its current facility in 1999 from the Hall of Justice because the 5,200 square feet at the Hall could no longer accommodate the laboratory's growing operations including increased DNA testing.

*The City must relocate the laboratory by 2015 to allow planned development to proceed.*

Building 606 provides 13,500 square feet of laboratory and office space. The relocation of the laboratory to the Hunters Point Naval Shipyard separated the Forensic Services Division as Crime Scene Investigation (CSI) and the Identification Section (ID) remained at the Hall of Justice.

The relocation to the former Naval Shipyard was considered temporary because the area is undergoing redevelopment. According to the San Francisco Redevelopment Agency, the SFPD must relocate the laboratory by 2015 to allow planned development to proceed.

Given the temporary nature of the Hunters Point Shipyard and other functional problems with the facility, the Capital Planning Committee had originally proposed the inclusion of a new Forensic Sciences Center for Forensic Services and the Office of the Chief Medical Examiner in the 2010 Earthquake Safety and Emergency Response Bond. The new facility, proposed for 1600 Owens Street, would

have had 94,209 square feet and cost \$240 million to acquire, design and build. Forensic Services would have occupied 50,737 square feet.

The Board of Supervisors deleted the Forensic Sciences Center from the bond which was eventually placed on the June ballot. In response to this action and also in light of recent findings in an audit by California Department of Justice, the Department of Public Works has developed alternative facility scenarios for the laboratory. Costs for those scenarios are addressed in detail later in this report.

## **Forensic Services**

The laboratory is one of three units within the SFPD's Forensic Services Division. The other units are Crime Scene Investigations (CSI) and the Identification Section (ID).

CSI provides on-location evidence documentation, retrieval and analysis including photography. CSI also includes video analysis, computer forensics, and forensic sketches.

The ID Section processes, maintains and disseminates records such as fingerprints and photos for criminal offenders and other civil purposes. The ID Section also verifies offender identification prior to court proceedings.

## **Accreditation and Audit Findings**

Laboratory accreditation allows San Francisco to participate in national crime databases and satisfies requirements to be eligible for federal funding.<sup>2</sup> The laboratory first gained accreditation in 2005 from the American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB).<sup>3</sup> In addition the Biology Section is certified by the National Forensic Science Testing Center (NFSTC).

San Francisco is in the process of renewing its ASCLD/LAB accreditation. The laboratory is currently running on a six-month extension of its five year accreditation, which ran out in February 2010.

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<sup>2</sup> Needs Assessment and Planning Report, Crime Lab Design, 2007 page 8

<sup>3</sup> ASCLD/LAB is a not for profit corporation that has offered voluntary accreditation to public and private crime laboratories in the United States and around the world since 1982.

ASCLD/LAB conducted an inspection during the period of November 17-20, 2009 and found the laboratory to have met standards against a defined set of criteria in all but 11 criteria out of a possible 132. The inspection findings were specific to the areas of policies and procedures, budget, training, information systems, equipment and facility. Exhibit 5 below shows the total count of ASCLD/LAB finding by criteria type.

In addition to the accreditation inspection, the California Department of Justice (DOJ) audited the Controlled Substances, Biology/DNA and Firearm sections of laboratory. The audits were initiated by the SFPD, and took place in March, April and May of this year. The audit findings overall show a criminalistics laboratory that is understaffed to meet caseload standards and a facility that requires significant infrastructure improvements and equipment and information systems upgrades to meet operational needs.<sup>4</sup>

<b>EXHIBIT 5</b>		<b>Criminalistics Laboratory ASCLD/LAB Inspection Results</b>		
<b>Criteria Type</b>	<b>Total Applicable Criteria</b>	<b>Total Yes</b>	<b>Total No</b>	<b>Criteria Met (%)</b>
Essential	73	67	6	92%
Important	43	41	2	95%
Desirable	16	13	3	81%
<b>Total</b>	<b>132</b>	<b>121</b>	<b>11</b>	<b>n/a</b>

Source: ASCLD/LAB Inspection Report, San Francisco Police Department Criminalistics Laboratory

<sup>4</sup> California Department of Justice Biology/DNA Section Audit Results: <http://www.sf-police.org/Modules/ShowDocument.aspx?documentid=24591>

## CHAPTER 2 – Future Criminalistics Laboratory Operating Scenarios

**Summary**

We analyzed the cost of performing criminalistics work with city employees as compared to the cost of contracting for these services. In summary, the five-year projected cost for the City to maintain an operationally effective criminalistic laboratory is \$46 million or \$53 million depending on the financing structure for the facility improvements. The five-year projected cost for the City to outsource the majority of the caseload to other laboratories is \$31 million.

<b>Exhibit 6 Total Five-Year Cost for In-House and Outsource Operating Scenarios</b>			
<b>Total Over 5 Years</b>			
<b>Type of Service</b>	<b>In-house</b>	<b>Outsource</b>	<b>Difference</b>
Administration			
Personnel	2,953,764	1,093,273	
Supplies	3,500,000	380,000	
<i>Administration Total</i>	<i>6,453,764</i>	<i>1,473,273</i>	<i>4,980,491</i>
Controlled Substances			
Personnel	3,671,549	695,868	
Contract	0	2,766,750	
<i>Controlled Substances Total</i>	<i>3,671,549</i>	<i>3,462,618</i>	<i>208,931</i>
Biology/DNA			
Personnel	6,984,211	1,918,421	
Contract	0	13,840,560	
<i>Biology/DNA Total</i>	<i>6,984,211</i>	<i>15,758,981</i>	<i>(8,774,770)</i>
Firearms/Toolmarks			
Personnel	6,659,654	1,378,436	
Contract	0	5,973,260	
<i>Firearms/Toolmarks Total</i>	<i>6,659,654</i>	<i>7,351,696</i>	<i>(692,042)</i>
Biology/DNA Backlog Elimination - Contract Only	1,857,673	1,857,673	0
Other Projects (DNA Admin, FMS)	6,527,884	0	6,527,884
<b>Subtotal</b>	<b>\$32,154,735</b>	<b>\$29,904,240</b>	<b>\$2,250,495</b>
(Lease option) Facility			
Lease	4,169,675	460,000	
One-time Construction Costs	10,221,140	310,000	
Equipment	6,242,252	825,262	
<b>Lease Option Subtotal</b>	<b>\$20,633,067</b>	<b>\$1,595,262</b>	<b>\$19,037,805</b>
<b>Total if Lease</b>	<b>\$52,787,802</b>	<b>\$31,499,502</b>	<b>\$21,288,300</b>
(COP option) Facility			
Lease or Financing of Purchase	3,770,000	460,000	
Construction Costs	4,209,944	310,000	
Equipment	6,243,625	825,262	
<b>COP Option Subtotal</b>	<b>\$14,223,569</b>	<b>\$1,595,262</b>	<b>\$12,628,307</b>
<b>Total if COP</b>	<b>\$46,378,304</b>	<b>\$31,499,502</b>	<b>\$14,878,802</b>

Source: SFPD, DPW, and Controller's Office estimates and analysis.

The \$15 to \$21 million cost differential between an in-house scenario and an outsource scenario is almost all entirely attributable to the cost of relocating the laboratory to a functionally appropriate facility. The City's construction, purchase or lease of a building for this purpose would be entirely a cost of the general fund, or would be a general fund debt if it were to be financed. See Exhibit 6 for the total five-year cost for the in-house and outsource scenarios. Attachment A provides the year by year detail.

These estimates assume that the City would also address the staffing, information systems, equipment and facility findings from the ASCLD/LAB accreditation inspection and audits by the California Department of Justice.

Moreover the estimates under both in-house and outsource scenarios also include the cost of eliminating the existing backlogs in DNA with a mass testing effort that is a one-time expense.

The resulting change to staffing levels is summarized in Exhibit 7. Under an in-house scenario, the laboratory would need an additional 15 staff members. Of the 15, nine are additional criminalists to handle casework in Controlled Substances, DNA and Firearms, five are information technology staff necessary to build and maintain a forensic case management system and one is an additional position in Administration.

Exhibit 7 shows that even under an outsource scenario the laboratory would require five staff members to provide oversight and program management.

<b>Exhibit 7</b>				
<b>Section</b>	<b>Position</b>	<b>Current Number of Employees</b>	<b>In-house Scenario</b>	<b>Outsource Scenario</b>
<b>Administration</b>	Crime Lab Mgr	1	1	0
	Quality Assurance Mgr	1	1	0
	Administrative Support	1	2	0
	Criminalist II	0	0	1
	<b>subtotal</b>	<b>3</b>	<b>4</b>	<b>1</b>
<b>Controlled Substances</b>	Supervisor	0	1	1
	Criminalist II	0	4	0
	<b>subtotal</b>	<b>0</b>	<b>5</b>	<b>1</b>
<b>Biology/DNA</b>	Supervisor	2	2	2
	Criminalist II	4	6	0
	Criminalist I	2	2	0
	<b>subtotal</b>	<b>8</b>	<b>10</b>	<b>2</b>
<b>Firearms</b>	Supervisor	1	1	1
	Firearms Examiners	2	2	0
	Criminalist II	4	5	0
	<b>subtotal</b>	<b>7</b>	<b>8</b>	<b>1</b>
<b>Trace Evidence - Gun Shot Residue Only</b>	Criminalist II	1	1	0
	<b>subtotal</b>	<b>1</b>	<b>1</b>	<b>0</b>
<b>Breath Alcohol</b>	Supervisor	1	0	0
	Criminalist II	1	0	0
	<b>subtotal</b>	<b>2</b>	<b>0<sup>1</sup></b>	<b>0<sup>2</sup></b>
<b>Other Projects</b>		0	8	0
	<b>subtotal</b>	<b>0</b>	<b>8</b>	<b>0</b>
<b>Total</b>		<b>21</b>	<b>36</b>	<b>5</b>

<sup>1</sup>Breath Alcohol program would be managed by the staff in Controlled Substance.  
<sup>2</sup>Breath Alcohol program would be managed by the criminalist in Controlled Substances.

The detail regarding the positions under an in-house and outsource scenario are discussed next for each type of criminalistic laboratory service.

## Controlled Substances

Narcotics testing involves weighing, analyzing and identifying pills, powders, liquids, plant substances and other suspect material for the presence of controlled or illicit substances.<sup>5</sup>

We estimate that if this testing were performed in-house that the Controlled Substances Section would require one supervisor and four criminalists. The staff would also assume responsibility for the Breath Alcohol program.

This estimate is based on an annual caseload of approximately 4,000 cases per year. As discussed above, the estimated annual caseload is based on the implementation of presumptive testing by the SFPD which is expected to lower the number of annual tests from the historic average of 10,000 cases per year.<sup>6</sup>

The in-house staff estimate is also in accordance with workload benchmarks identified in the California Crime Laboratory Review Task Force report. The report, titled *An Examination of Forensic Science in California November 2009* found 1,053 to be the average number of cases completed per criminalist per year.<sup>7</sup> The DOJ audit of the Controlled Substances Section cited this benchmark to recommend increase staffing for the laboratory. Our estimate assumes compliance with the DOJ audit finding.

Under an outsource scenario, the number of staff would drop to one criminalist who would be responsible for program monitoring and the management of the Breath Alcohol program. The contract cost estimate assumes an average of \$155 per case for testing, report preparation, courier time and trial testimony. In general a contract would stipulate a standard turnaround time agreed to by the District Attorney's Office. Expedited turnaround times for some cases would marginally increase the estimated costs.

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<sup>5</sup> Needs Assessment and Planning Report, Crime Lab Design, 2007 page 10

<sup>6</sup> If the presumptive testing program was challenged and ruled by the courts to be insufficient then the annual caseload would increase.

<sup>7</sup> *An Examination of Forensic Science in California November 2009* of the California Crime Laboratory Review Task Force ([http://ag.ca.gov/publications/crime\\_labs\\_report.pdf](http://ag.ca.gov/publications/crime_labs_report.pdf))

**Biology Section  
(including DNA)**

The Biology section examines for the presence of biological fluids and materials such as blood, semen, saliva, hair root or other biological material. DNA testing is used to identify the source of the biological material. Results meeting specific standards are entered into the Combined DNA Index System (CODIS), which allows the comparison of DNA profiles to link crimes to each other and to convicted offenders.

We estimate that in order to maintain an in-house program that does not accumulate backlogs the Biology Section would require two additional criminalists resulting in a total of two supervisors and eight criminalists.

This estimate is based on an annual caseload of approximately 455 cases per year. The annual caseload estimate was derived from actual case requests by type of crime and numbers of tests performed for each type of crime.<sup>8</sup>

The workload estimate per criminalist is based on benchmarks identified in the California Crime Laboratory Review Task Force report. The report found 56 to be the average number of cases completed per criminalist per year.

The outsourcing scenario includes two criminalists to provide program monitoring and upload DNA profiles to CODIS. Private laboratories, such as Serological Research Institute, Forensic Analytical and Bode, cannot upload profiles to CODIS. City criminalists must be qualified in all instrumentation and kits used for testing at the outside laboratory in order to review each case and perform the upload.

The outsource cost estimate represents an average of cost estimates from three possible contractors, applied to the estimated annual caseload of 455 cases per year by type of crime and average numbers of items/samples tested per case. After making these calculations, the resulting average cost per case is approximately \$6,100.

The outsource estimate also assumes that 10 percent of cases require in-person court testimony on two occasions and includes flight, hotel, per diem, and time testifying.

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<sup>8</sup> Type of crime includes homicides, sex crimes, burglaries and robberies.

Similar to the Controlled Substances contract estimate, cases where expedited service is required would marginally increase the costs.

## **Firearms/Toolmarks**

The Firearms/Toolmarks Analysis Section performs tests on firearms suspected of use in the commission of a crime. Tests include comparing bullets and cartridges to weapons, determining operability, restoring damaged/removed serial numbers, and distance determination. Searches are conducted using the National Integrated Ballistic Information Network (NIBIN) database and existing ammunition and weapon references.<sup>9</sup>

We estimate that in order to maintain an in-house program that does not accumulate backlogs that the Firearms Section would require one additional criminalist resulting in a total of one supervisor and seven criminalists.

This estimate is based on an annual caseload of approximately 800 cases per year comprised of 445 operability tests and 355 comparison tests. These figures are based on the average number of tests requested of the laboratory in the years 2005-2009. The workload is based on 100 cases per criminalist per year which is consistent with previous laboratory completion rates.

The outsourcing scenario includes one criminalist to provide program monitoring and to review and enter cases, into NIBIN since a private contractor is not allowed to perform this work.

The contract cost estimate was derived by the average of cost estimates from two laboratories, applied to approximately 800 cases per year. The resulting average cost per case is approximately \$1,600.

Outsource costs also include court testimony time but not costs for expedited service.

Based on conversations with outside laboratories, it is unclear whether any single local laboratory has the capacity to accept all of the firearms casework required by the SFPD.

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<sup>9</sup> Needs Assessment and Planning Report, Crime Lab Design, 2007 page 14

### **Trace Evidence Section**

The Trace Evidence Section involves the microscopic examination and analysis of gun shot residue (GSR), paint, glass, fire debris and impression evidence.

Currently, the laboratory solely provides GSR analysis, however the laboratory is accredited for footwear impression analysis as well. When needed fire debris analysis is performed by the Bureau of Alcohol Tobacco and Firearms and Explosives.

Under the in-house scenario we assume the same level of staffing as is currently provided. The outsource estimate does not include GSR contracting needs since caseloads are manageable and retaining this function would not require substantial new facility and equipment costs.

### **Breath Alcohol Section**

The Breath Alcohol Section coordinates many activities to determine alcohol concentration. Responsibilities include, as required by the state mandated breath alcohol program, the calibration, repair, and maintenance of breath instruments, certifying the accuracy of the breath testing machines, training and certifying the operators of breath analyzers, and the preparation of simulator solutions. Breath analysis is commonly performed for Driving Under the Influence cases.<sup>10</sup>

Under both the in-house and outsource scenario this function would be handled by Controlled Substances staff who are retained for other types of work. Caseloads are manageable and facility and equipment costs are not significant.

### **Questioned Documents**

Questioned Documents (QD) examines and compares handwritten, printed, typed or electronically altered media to identify or exclude possible offenders of the questioned documents.

In addition, examination and comparison of the equipment and substance involved in the activity of document alteration is also performed. QD provides court testimony regarding analyses to Superior Court, Federal Court, and City Agencies.<sup>11</sup>

This function is currently performed by the Quality Assurance Manager. The in-house scenario assumes this same staffing arrangement. The outsource estimate does not include questioned documents analysis.

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<sup>10</sup> Needs Assessment and Planning Report, Crime Lab Design, 2007 page 8

<sup>11</sup> Needs Assessment and Planning Report, Crime Lab Design, 2007 page 11

**Biology/DNA Backlog Elimination**

There is currently a backlog of cases in the Biology/DNA Section of the laboratory of approximately 400 cases. We estimate that it will cost approximately \$1.9 million to eliminate the backlog. See Exhibit 6. SFPD has begun this process, starting with the highest priority cases.

Cost estimates were made using the same methodology as in the outsource estimates for the annual caseload above - average of cost estimates from three possible contractors, applied to the estimated backlog by type of crime and average numbers of items/samples tested per case.

The costs are the same under the in-house and outsource scenarios.

**Other Projects (Including DNA and FMS)**

The in-house scenario also estimates \$6.5 million for other projects which includes three additional criminalists in DNA for CODIS administration and validation of equipment and process. The estimate also includes five information technology personnel to procure, develop and implement a forensic case management system.

**Facilities**

Building 606 at the former Naval Shipyard in Hunters Point, the facility currently housing the laboratory, does not have enough space for the operation and safety conditions do not meet standards. In addition, the existing building will no longer be available to the SFPD by 2015.

An immediate investment in the current facility is necessary to address the safety and security issues on an interim basis. Immediate needs include an emergency generator, a water filtration system, general facility repairs, and repaving of the access road. The total cost for improvements is approximately \$2.3 million.<sup>12</sup>

If the crime lab were to continue being operated by the SFPD, the lab would need to be relocated by 2015. Assuming two years for facility identification, design, and construction, the five year total cost (including the immediate construction costs) is between \$14.2 million and \$20.6 million.

The range of costs for construction depends on the method of financing. The higher estimate assumes that the City will be able to wrap \$1 million in tenant improvements into the

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<sup>12</sup> Since the City does not collect rent for the upkeep and maintenance of buildings it owns outright the space tends to deteriorate more quickly and the true cost of occupying space is not captured until major construction or relocation is required.

cost of a lease, the total annual payments of which would be approximately \$1.1 million. The remaining costs of location improvements of approximately \$8.5 million would be one-time general fund expenditures. Those one-time expenditures for location improvements would create an asset that has a useful life of about 20 years.

The lower-cost option over the five year term assumes the City would be able to lease-purchase a facility and finance it with Certificates of Participation, which function like municipal bonds, in order to finance \$9.5 million in construction costs.<sup>13</sup> The annual payment for such a financing option would be approximately \$830,000.

Some costs under both financing options remain the same. For example, the City will purchase an emergency generator in the first year for use at the current laboratory. Also, because the laboratory would be required to have continual operations during the move, much of the current equipment would need to be duplicated at a new facility. These costs of nearly \$7 million could be financed under the City's equipment purchase program, with annual payments estimated at \$1.9 million.

The cost per square-foot either to purchase or to lease is approximately the same. This cost is \$38 per square-foot for a space of 25,000 square feet, for a total of \$950,000 starting in year three. The annual lease costs for the current crime lab facility is \$460,000

Finally, included in year one, additional equipment would be required at the current facility for the additional staff that are discussed above. This cost was estimated at \$250,000.

## Recommendation

We offer the following recommendations:

1. The City should immediately contract for ongoing narcotics testing services and backlogged cases in DNA.
2. The SFPD should document and specify the policies and procedures to ensure management control and quality of service under a contracting approach.

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<sup>13</sup> Guidelines for Leases and Certificates of Participation, California Debt Advisory Commission, 1993 page 4.

3. No new facility plan should be pursued at this time. Basic capital and equipment investments to support the continued use of Building 606 for approximately a three year period should go forward.
4. During FY10-11, the City will gain experience in contracting for forensic services. In FY11-12 a permanent decision on this subject can be made pending the closure of Building 606.
5. Overall, the City should work, if operationally feasible, to avoid the cost of a significantly increased or new general fund rent or debt expense by contracting for laboratory services in the long term and not replacing the Crime Lab facility.

**APPENDIX A**  
**Five-Year Side by Side Comparison**  
**In-House vs. Outsourcing Crime Lab Functions**

	Year 1		Year 2		Year 3		Year 4		Year 5		Totals	
	In-house	Outsource	In-house	Outsource	In-house	Outsource	In-house	Outsource	In-house	Outsource	In-house	Outsource
Administration												
Personnel	556,355	319,520	573,046	184,948	590,237	190,496	607,944	196,211	626,182	202,097	2,953,764	1,093,273
Supplies	700,000	300,000	700,000	20,000	700,000	20,000	700,000	20,000	700,000	20,000	3,500,000	380,000
Controlled Substances (Contract Only)												
Personnel	691,553	131,070	712,300	135,002	733,669	139,052	755,679	143,224	778,349	147,520	3,671,549	695,868
Contract	n/a	542,500	n/a	542,500	n/a	542,500	n/a	569,625	n/a	569,625	0	2,766,750
DNA												
Personnel	1,315,508	788,824	1,354,973	270,004	1,395,622	278,104	1,437,491	286,447	1,480,616	295,041	6,984,211	1,918,421
Contract	n/a	1,504,409	n/a	3,008,817	n/a	3,008,817	n/a	3,159,258	n/a	3,159,258	0	13,840,560
Firearms												
Personnel	1,147,994	657,634	1,317,436	172,291	1,356,959	177,460	1,397,668	182,784	1,439,598	188,267	6,659,654	1,378,436
Contract	n/a	649,267	n/a	1,298,535	n/a	1,298,535	n/a	1,363,461	n/a	1,363,461	0	5,973,260
DNA Backlog Elimination - Contract Only	1,857,673	1,857,673	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1,857,673	1,857,673
Other Projects (DNA Admin, FMS)	1,444,817	n/a	1,488,162	n/a	1,532,806	n/a	1,578,791	n/a	483,308	n/a	6,527,884	0
<b>Subtotal</b>	<b>7,713,900</b>	<b>6,750,896</b>	<b>6,145,916</b>	<b>5,632,097</b>	<b>6,309,293</b>	<b>5,654,965</b>	<b>6,477,572</b>	<b>5,921,011</b>	<b>5,508,053</b>	<b>5,945,271</b>	<b>32,154,735</b>	<b>29,904,240</b>
(Lease option) Facility												
Lease	460,000	460,000	460,000	n/a	1,083,225	n/a	1,083,225	n/a	1,083,225	n/a	4,169,675	460,000
One-time Construction Costs	1,710,940	310,000	n/a	n/a	8,510,200	n/a	n/a	n/a	n/a	n/a	10,221,140	310,000
Equipment	415,102	165,102	165,031	165,031	1,887,229	165,169	1,888,470	164,970	1,886,421	164,991	6,242,252	825,262
<b>Subtotal</b>	<b>2,586,042</b>	<b>935,102</b>	<b>625,031</b>	<b>165,031</b>	<b>11,480,654</b>	<b>165,169</b>	<b>2,971,695</b>	<b>164,970</b>	<b>2,969,646</b>	<b>164,991</b>	<b>20,633,067</b>	<b>1,595,262</b>
<b>Total</b>	<b>10,299,942</b>	<b>7,685,998</b>	<b>6,770,947</b>	<b>5,797,128</b>	<b>17,789,947</b>	<b>5,820,134</b>	<b>9,449,268</b>	<b>6,085,981</b>	<b>8,477,699</b>	<b>6,110,261</b>	<b>52,787,802</b>	<b>31,499,503</b>
(COP option) Facility												
Lease or Financing of Purchase	460,000	460,000	460,000	n/a	950,000	n/a	950,000	n/a	950,000	n/a	3,770,000	460,000
Construction Costs	1,710,940	310,000	n/a	n/a	833,001	n/a	833,001	n/a	833,001	n/a	4,209,944	310,000
Equipment	415,102	165,102	165,031	165,031	1,887,972	165,169	1,887,030	164,970	1,888,491	164,991	6,243,625	825,262
<b>Subtotal</b>	<b>2,586,042</b>	<b>935,102</b>	<b>625,031</b>	<b>165,031</b>	<b>3,670,973</b>	<b>165,169</b>	<b>3,670,032</b>	<b>164,970</b>	<b>3,671,492</b>	<b>164,991</b>	<b>14,223,569</b>	<b>1,595,262</b>
<b>Total</b>	<b>10,299,942</b>	<b>7,685,998</b>	<b>6,770,947</b>	<b>5,797,128</b>	<b>9,980,266</b>	<b>5,820,134</b>	<b>10,147,604</b>	<b>6,085,981</b>	<b>9,179,545</b>	<b>6,110,261</b>	<b>46,378,304</b>	<b>31,499,503</b>

\* Notes on page 2.

**APPENDIX A**  
**Five-Year Side by Side Comparison**  
**In-House vs. Outsourcing Crime Lab Functions**

**Notes:**

1) Administration In-House costs include:

Salaries for the Crime Lab and Quality Assurance Directors, one clerk, one proposed administrative analyst, and 700K for supplies. Currently SFPD has approximately 600K budgeted for supplies in the crime lab.

Administration Outsource costs include:

Salaries for one Criminalist III to manage and for contract administration.

Assumed a reduced need for supplies in the Crime Lab, but \$20,000 as a placeholder for the small number of administrative supplies needed under an outsourced model.

2) Controlled Substances:

-In-house costs represent the personnel needed to address the estimated caseload, one Criminalist III and four Criminalist IIs.

-Personnel in Outsourcing model include program monitoring and the management of breath alcohol program.

3) Some years have standard increases where none is known. For salaries, each year is increased by 3%, for contracts there is a 5% increase in year 4.

4) DNA Personnel:

-In house model includes all eight current personnel and proposed two additional personnel.

-Outsourcing model includes two people to review and enter cases into CODIS, since a private contractor is unable to do this.

DNA Contract:

-Assumes 10% of cases go to court and need someone to testify on two occasions and includes flight, hotel, per diem, and time testifying.

-Outsource costs represent average of cost estimates from three possible contractors, applied to estimated types and numbers of tests conducted by SFPD Crime Lab in 2009.

-Outsource costs do not include a factor for cases in which SFPD would require a rush service.

5) Firearms Personnel:

-Outsourcing model includes a person to review and enter cases, since a private contractor is unable to do this.

-In house model includes all seven current personnel and one additional Criminalist II in Year Two to handle all casework without accumulating additional backlog. Included in Year Two because the current facility must be upgraded before additional personnel can be accommodated.

-In house model also includes the current Criminalist II conducting Gun-Shot Residue analysis.

Firearms Contract:

-Assumes current court demand of four court days per year per analyst and includes only hourly rate, since pricing is from local labs.

-Outsource costs represent estimates from two labs of the cost of different types of tests multiplied by the average number of tests requested of SFPD Crime Lab in the years 2005-2009.

-Outsource costs do not include a factor for cases in which SFPD would require a rush service.

6) Other Projects (DNA Admin and FMS):

-Includes three FTEs for validation work in the DNA lab, including one Criminalist III and two Criminalist IIs.

-Includes 7 IT personnel through year 4 to develop a Forensic Management System. Five of these positions would be new.

7) Facilities (Lease Option):

-Facility costs could also allow for co-location of Crime Scene Investigation, Photo Lab, and ID/Fingerprint Lab.

-One time construction costs include the interim improvements needed to the current facility in year one and the construction costs for a new facility in year three.

-Interim improvements include water filtration, repaving of route to Building 606, and general facility repairs.

-Lease costs include Building 606 in Years One and Two and a new facility in Year Three.

-Outsource costs include immediate repair needs at the current facility, including an emergency generator, water filtration, cabling, and general repairs.

Facilities (COP Option):

-Facility costs could also allow for co-location of Crime Scene Investigation, Photo Lab, and ID/Fingerprint Lab.

-One time construction costs include the interim improvements needed to the current facility in year one and COP financed construction costs over a 20-year term at 7% starting in Year Three.

-Interim improvements include water filtration, lab reconfigurations, facility repairs, and paving.

-Lease costs include Building 606 in Years One and Two and a new facility in Year Three.

-Outsource costs include immediate repair needs at the current facility, including an emergency generator, water filtration, cabling, and general repairs.

8) Equipment includes emergency generator (which can be moved with the facility move), first-year estimated cost of supplies for additional DNA, firearms, and administrative staff. Subsequent years' equipment costs are lease-finance debt service for lab equipment in new facility.