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Process and Outcome Evaluation of Forensic DNA Unit Efficiency Improvement Program

2009-DN-BX-K261

Background

A 2009 National Institute of Justice (NIJ) Forensic DNA Unit Efficiency Improvement (EIP) Program solicitation provided crime laboratories' DNA testing services with a funding opportunity to meet the increasingly numerous requests from the criminal justice community.[1,2] The purpose of the 2009 EIP was to encourage crime laboratories to implement novel ideas and processes that would provide a measurable, significant, and sustainable way to meet the needs of national DNA programs. This article focuses on the final outcomes of an award received by the Palm Beach County Sherriff's Office (PBSO).

The NIJ support of an approved and implemented plan involving interagency cooperation between three jurisdictional law enforcement agencies (LEAs) within Palm Beach County has resulted in the successful and efficient establishment of a centralized biological pre-screening laboratory (BPL) for DNA evidence prior to submission to the county's forensic laboratory for DNA testing.

[1] U.S. Department of Justice, Office of Justice Programs. 2009. Solicitation: Forensic DNA Unit Efficiency Improvement. Available at https://www.ncjrs.gov/pdffiles1/nij/sl000867.pdf.

[2] National Institute of Justice. 2013. Forensic DNA Unit Efficiency Improvement. Available at https://www.nij.gov/topics/forensics/lab-operations/capacity/Pages/funding-program.aspx.

Productive results include 1) improved cooperation and communication between the LEAs and the forensic laboratory; 2) the LEAs now have influence over how quickly evidence is tested and results received since they directly control their evidence collection, submission, and prescreening; and 3) a significant improvement on the timely forensic testing of crime scene biological evidence which provides timely investigative information. Following implementation of the EIP, 410 cases were submitted to the BPL during a two-year period. Pre-EIP data and post-EIP data were calculated from PBSO data to measure the BPL effect on case processing. Unless otherwise noted, pre-EIP data represents 2010 PBSO data (i.e., prior to BPL opening) and post-EIP data are from the most recent PBSO data collected during 2017. Other events occurred in the PBSO laboratory that may have also contributed these metrics limiting a direct comparison such as changes in staffing and implementation of several other efficiency efforts which may further affect numbers. Thus, the affect the BPL had may not be entirely evident when compared to pre-EIP data. Some of the metrics collected during this long-term evaluation of pre-EIP compared to post-EIP operation include[3]:

- Turnaround time (TAT) went from 153 to 111 days
- Analysts monthly caseload went from 47 to 43 samples
- PBSO backlog went from 679 to 83 cases
- Items of evidence screened by BPL went from 0 to 1,861
- No-suspect cases went from 96 to 179[4]
- CODIS entries for DNA profiles went from 1186 to 1291.

This EIP provides a model for other LEAs interested in constructing a pre-screening laboratory for their local DNA testing laboratory.

PBSO proposed to create a central Biological Processing Laboratory (BPL) in an existing space within a local police department to prescreen crime scene evidence for three county law enforcement agencies (LEAs). Screening crime scene evidence for biological material can be one of the most labor-intensive processes in a DNA laboratory and a fundamental factor in the relentless increase of caseload backlogs. If evidentiary samples submitted to the laboratory were prescreened before submission to the Forensic Biology Unit (FBU) for DNA processing, this could have a dramatic effect on reducing backlog and improving TAT.

PBSO proposed that prescreened evidence would include presumptive and confirmatory tests for blood and semen, microscopic analysis of hair, and items that had been swabbed for touch DNA evidence. All informative evidence would be submitted to the PBSO FBU and prioritized for DNA analysis during the first year, thereby streamlining the entire forensic biology analysis process.

The three goals of the BPL were to

1. Provide timely serological screening information to southern Palm Beach County LEAs including the Boynton Beach Police Department (BBPD), Delray Beach Police Department (DBPD), and the Boca Raton Police Services Department (BRPSD).
2. Submit prescreened evidence to the PBSO FBU such that the DNA process would begin upon evidence submission.
3. Create a model for other jurisdictions to increase the efficiency of the DNA evidence analysis process.

Purpose

The purpose of this review is to

1. Provide demonstrable measures of success with the PBSO BPL from 2009 through 2017.

[3] It is especially important to note that since the inception of the BPL in 2012, the FBU has undertaken and successfully completed a comprehensive, complex Lean Six Sigma project to diagnose, improve, and design specialized process systems to increase efficiency.

[4] This metric has no direct implications from the EIP project, rather it only provides data for a representative case type PBSO received during two time periods that span the EIP project.

2. Discuss the importance of understanding leadership roles in participating agencies in which there is a cooperative agreement partnership.
3. Share unexpected challenges during the implementation phase and laboratory testing practices.
4. Present a roadmap for other LEAs considering implementing a BPL in cooperation with a local DNA testing laboratory to accelerate DNA analysis to reduce case backlog.

NIJ's 2009 DNA Unit Efficiency Improvement Program (EIP) also funded a comprehensive evaluation of participating laboratories that was conducted by an external evaluator, RTI International (NIJ Contract No. GS10F-0097L Order No. 2009Q_039).[5] This evaluation documented the implementation of the laboratories' grant activities and included a process and outcome evaluation to determine the impact of the program. Data were collected through site visits; routinely scheduled telephonic and web meetings; performance metrics and data collection tools; and surveys of key laboratory personnel. The PBSO BPL was evaluated as part of this process; however, at the time of contract completion, the EIP project had not been fully implemented. The final evaluation report indicated that a follow-up evaluation would be of great benefit to further document strategies to assist other DNA laboratories in future EIP projects to facilitate the development and adoption of improved laboratory processes.[5] Ropero-Miller and Barrick published a final report for this 2009 EIP process and outcome evaluation which is available through NCJRS and its earlier findings are also integrated into this report.

The NIJ Forensic Technology Center of Excellence collaborated with the PBSO laboratory systems to perform a long-term process and outcome evaluation to further document this successfully implemented DNA EIP project. This evaluation will help NIJ better understand the long-term impact after PBSO implemented its BPL, which may be used as an example for the entire DNA forensic community.

2009 PBSO DNA Unit EIP Summary

The PBSO application included a detailed plan describing how FY2009 Forensic DNA Unit EIP funds were to be used to construct a centralized serological screening laboratory within a separate LEA to prescreen crime scene evidence before submission for DNA analysis. A significant portion of a Laboratory Analyst's time is spent processing and screening evidence before DNA analysis can be conducted, which directly affects casework TAT. Therefore, if evidence from non-PBSO LEAs is prescreened prior to submission to the PBSO DNA Unit, the DNA analysis process could begin immediately upon case assignment.

The NIJ 2009 EIP solicitation announcement was fortuitous, as in January 2009, the Palm Beach County Law Enforcement Planning Council—composed of all Palm Beach County Chiefs of Police—assembled a DNA/Law Enforcement Working Group to investigate options for decreasing DNA backlog and TAT[6]. One Working Group finding was that screening crime scene evidence for biological material is a critical step in the casework process and can be labor-intensive. If prescreened evidence were submitted to the FBU, it would have a marked effect on reducing backlog and TAT. The Working Group proposed the creation of a central BPL within the BRPSD to prescreen crime scene evidence for southern Palm Beach County LEAs prior to submission to the FBU for DNA analysis.

A 2006 Florida Department of Law Enforcement (FDLE) initiative[7] provided the proof of concept that intended to eliminate or lessen its DNA backlog and included assisting the Marion County Sheriff's Office in the construction of a preprocessing laboratory. This prescreening laboratory services all law enforcement agencies within Marion County and is technically supported by FDLE. The endeavor was extremely successful by many measures—including increased communication, faster screening results, and commitments that made the laboratory financially viable[4].

[5] Ropero-Miller, JD, Barrick, K. 2015. *2009 Evaluation of Forensic DNA Unit Efficiency Improvement Program.* National Criminal Justice Reference Service (NCJRS). National Institute of Justice Analytic Support Program. https://www.ncjrs.gov/pdffiles1/nij/grants/248830.pdf.

[6] Palm Beach County Criminal Justice Commission. 2018. *Law Enforcement Planning Council*. Available at http://discover.pbcgov.org/criminaljustice/Pages/Law-Enforcement-Planning-Council.aspx.

The PBSO BPL concept is the first of its kind whereby the prescreening laboratory is managed by a city police agency and acts as a prescreening laboratory for southern Palm Beach County city-based LEAs. The BPL is independent of the PBSO. Further, unlike the FDLE and PBSO, the BPL is a fee-for-services laboratory, which means that annual contractual commitments with other LEAs are necessary.

On September 23, 2009, the Office of Justice Programs approved PBSO's application and awarded the agency $519,544 and required a 25% grant match from BRPSD. The EIP award was promptly accepted by the Sheriff in October 2009; approved by the Palm Beach County Commissioners shortly thereafter at the October 15, 2009, meeting; and a PBSO procurement sub-object code was immediately designated.

The final NIJ grant report (**Appendix A**) was submitted in December 2012 due to unforeseen challenges throughout the project. **Figure 1** provides the expected and actual completion dates of all milestones.

The following is a summary of the four (4) components, milestones, and challenges of PBSO's EIP BPL initiative. The four components include location, services, BPL construction, and personnel.

Location

The BRPSD was selected as the site for the BPL as an 1800-square-foot space was available in the agency's training facility (6500 Building) in Boca Raton, Florida, and could easily accommodate the expansion of the laboratory in the future (**Figure 2**). PBSO and BRPSD laboratory, police, budget, grant, facilities, and legal staff attended an initial site visit to the BRPSD 6500 Building to evaluate the size, structure, security capabilities, and proximity to the agencies that would be served by the BPL. The 6500 Building has secure keycard access and the required infrastructure for the laboratory (e.g., hurricane-resistant walls and ceilings; access to plumbing; electrical wiring; and security, telecommunications, and information systems). Grant funding was used to renovate the existing infrastructure for

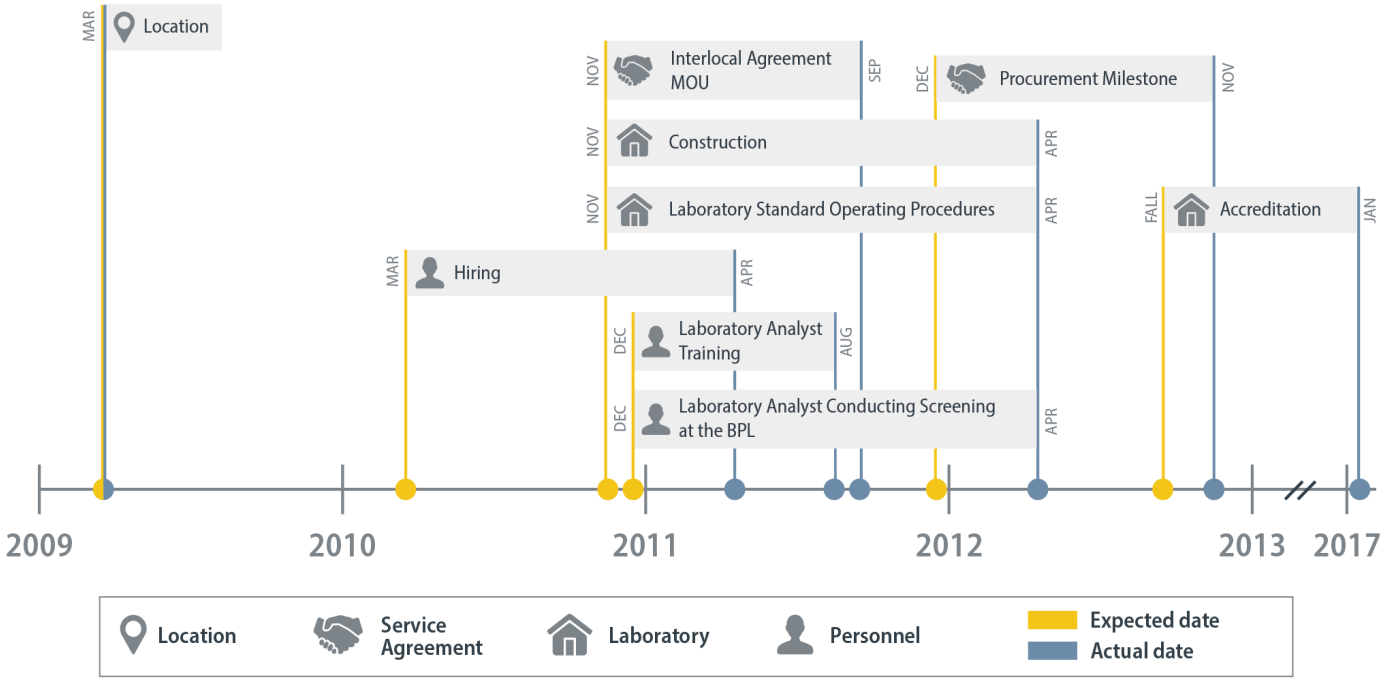

Figure 1. The timeline provides an overview of actual and expected completion dates for important components and milestones

completed simultaneously to construct a fully functional BPL. The valuable lessons learned from this process are detailed on page 14.

the BPL. PBSO and BRPSD teams spent weeks conducting site visits to carefully create a detailed implementation timeline.

- ***Proposed Date:*** March 2009. PBSO and BRPSD approved an agreement to use the BRPSD space upon submission of the grant request.
- ***Actual Completion:*** March 2009

Figure 2. Proposed section of the 6500 Building dedicated to and prior to construction of the BPL.

Service Agreement

Approximately 25% of all FBU cases are from the southern Palm Beach County region. The following three largest municipalities from this region collaborated with the PBSO on the EIP grant proposal as they would benefit from the decreased TAT of DNA evidence analysis from BPL services:

- BRPSD: The City of Boca Raton is 29.6 square miles in area with a population of 85,379. The city houses two 4-year universities—Florida Atlantic University and Lynn University—and Palm Beach Community College. The Boca Raton Community Hospital and many other medical facilities are within the city limits.
- BBPD: The City of Boynton Beach is 16.25 square miles in area and has a population of 66,714.
- DBPD: The City of Delray Beach is 16 square miles and has a population of 65,000 residents.

The BRPSD signed a letter of intent for assuming responsibility of the long-term administrative and financial support necessary to maintain the BPL needs after the initial grant support was completed. The letter of intent included the following details:

- Coordination of fee-for-services contractual obligations with BBPD and the DBPD with a memorandum of understanding (MOU) outlining the expectations that each agency will pay an annual fee, and not per-item or per-case costs. (See **Appendix B**, Interlocal Agreement.)
- BRPSD will purchase all laboratory screening supplies and laboratory office supplies.
- The Laboratory Analysts will be employees of the BRPSD and BRPSD will provide their salaries and benefits, which was originally part of the 25% grant match through the end of 2012.
- BPRSD will conduct supply ordering and distributing, as well as perform proficiency examinations.
- The PBSO Quality Assurance (QA) Manager and Technical Leader or designee will be responsible for annual BPL audits and will guide the laboratory to accreditation status to ensure that PBSO best practices are maintained.

Milestone: Interlocal Agreement MOU

PBSO anticipated that grant monies would be used immediately; however, there was a lack of understanding regarding the time it would take to complete the legal process for receiving the grant funding by the Boca Raton City Council and the time it would take for the associated police departments to complete the MOUs. Legal Department representation on the EIP committee would increase process efficiency in DNA testing.

- ***Proposed Date:*** November 2010
- ***Actual Completion:*** September 2011

Milestone: Procurement

There was a significant difference between BRPSD's and PBSO's procurement processes. Although PBSO and BRPSD held meetings prior to the draw-down of funds, there was a misunderstanding of the timing and methods of payment. All NIJ payments for services rendered were required to go through PBSO. As a result, BRPSD was delayed in procuring items during the first year of the grant. This may not be an issue if interagency agreements for a BPL do not include grant monies; however, all participating agencies should be

aware of partnership procurement policies. See **Appendix C** for original budget narrative.

- ***Proposed Milestone:*** December 2011
- ***Actual Completion:*** November 2012

BPL Build-out

The proposed construction milestone was 9-12 months from blueprint creation to certificate of occupancy. As shown in **Figure 3**, the 1,800-square-foot area meets the necessary space requirements. The BPL is a highly secure area of the BRPSD and access is granted only to preapproved individuals who must be escorted at all times. The major areas of the BPL laboratory include:

- Evidence Reception Area: Agencies submit evidence to the BPL, which barcodes and enters data into a Laboratory Information Management System (LIMS).
- Evidence Room: This room requires keycard access and has lockers in various sizes to store the evidence until it is processed to preserve the chain of custody and integrity of the evidence.
- Office Area: This area accommodates report writing areas for up to three Laboratory Analysts with enough room to review casefiles and to display testing results for law enforcement or judicial representatives.
- Laboratory Proper: This area has forensic work stations to accommodate the screening of large and small items. The area is also used to document evidence, take digital photos, screen the evidence for biological material, and conduct chemical presumptive and confirmatory tests. The hood, microscopes, centrifuges, vortexes, illuminator magnifier, and sink are in this area of the main laboratory.
- Screening Room: This area has secured key access and allows Analysts to screen evidence using an alternative light source (ALS) to locate stains, such as semen and saliva, especially on large bulky items. This room is also used to display evidence for investigators, prosecutors, and/or defense experts. Cabinets for equipment storage and evidence lockers were installed.
- Reagent Preparation Room: This area is used to prepare reagents and to store stock reagents and working solutions used during the screening process. This room requires a deionized water system, sink, and safety equipment. Cabinets also store the serological confirmatory cards including ABA HemaTrace and ABA P30. Cleaning supplies can also be stored in this room.

The only significant change made to the original blueprint (**Figure 3**) was based on team and architecture input to include one large office area to eliminate staff isolation and support collaboration.

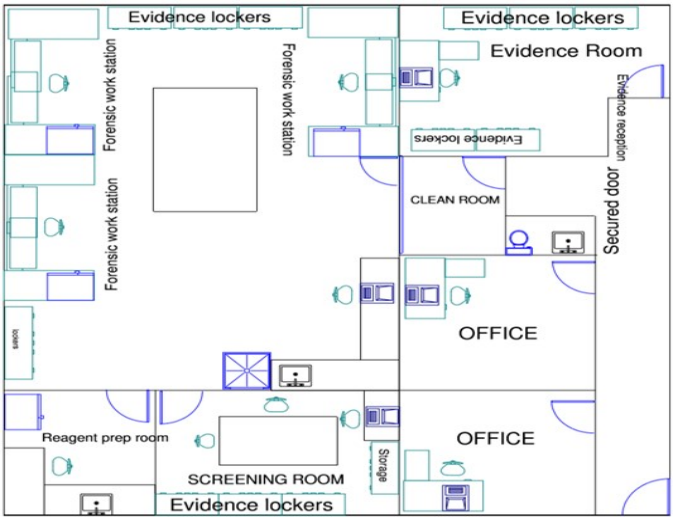

Figure 3. Diagrammatic of the area and types of space necessary for the BPL.

Milestone: Construction

- ***Proposed Date:*** November 2010. A basic timeline for the architectural design and development was originally 1 to 3 months with 9 to 12 months for renovations.
- ***Actual Completion:*** April 2012. As described, legal processes necessary to accept the grant funding by the Boca Raton City Council and to obtain the approval of the MOU by the police departments that will be using the BPL delayed the construction of the grant by 12 months. In retrospect, the delineation between the responsibilities of the PBSO and the BRPSD should have been researched more extensively to account for legal policy and procedure differences.

Milestone: Laboratory Standard Operating Procedures

After completing the training program (see Personnel Milestone section), the BPL Laboratory Analysts spent the

next three (3) months at the BRPSD shadowing the BRPSD Crime Scene Investigators, writing BPL-specific manuals, and developing an internal LIMS. The BRPSD already used a document control software system that was internal to the agency. A separate module of the BRPSD program was activated for the BPL cases to maintain chain of custody and perform evidence audits. Originally it was suggested by the BPL planning committee that there may be a benefit to LEAs if the BPL and the FBU used the same casework tracking software; however, since both are administratively restricted for use and the two laboratories are completely independent, the PBSO and BRPSD LIMS were not compatible. As it turned out, this was not an issue as BPL and PBSO each testify to their own results and testing, so the coordination of the LIMS is currently unnecessary. However, an effort was made to ensure that the programs tracked the same types of case metrics. As per ASCLD/LAB accreditation standards, the BPL will also track reagents and supplies, records for refrigerator and freezer temperatures, laboratory decontamination dates, instrument maintenance, laboratory manuals and forms, and other notes necessary using Microsoft Office programs (e.g., Excel). Another timely challenge was that the BRPSD process for approving all police department documents was more involved than originally anticipated. BRPSD's laboratory procedures differ from typical and customary police procedures, and the team developed a more streamlined process (e.g., *BPL QA Manager in addition to the Chief of Police may approve documents).*

- ***Proposed Date:*** November 2010
- ***Actual Completion:*** April 2012

Milestone: Accreditation

The plan for the BPL to prepare for an assessment, and ultimate accreditation status, was to begin the process of writing manuals with pertinent policies and procedures concurrent with the training of the Laboratory Analysts and construction of the laboratory. It was projected that by the time these goals were completed, a certificate of occupancy would be awarded and the testing of evidentiary items would begin in the new BPL. This testing would occur over approximately one year followed by an external GAP analysis then a full assessment by an accrediting body.

- ***Proposed Date:*** Once BPL was functional beginning in the Fall 2011, accreditation would be assessed within one year (Fall 2012).
- ***Actual Completion:*** January 2017. This delay is discussed in the Personnel Section of this report.

Personnel

A screening lab requires at least two scientists (one performing testing and issuing report and one to review analytical data and results) since it is a requirement all case reports be reviewed by a competent Laboratory Analyst. Preferably, the prescreening laboratory should have three trained staff to accommodate trouble-shooting issues, staff absences, preventing protocol drift, and maintenance of accreditation standards.

Milestone: Hiring

The PBSO and BRPSD partnership agreed that the Laboratory Analysts who would be performing presumptive and confirmatory testing and ultimately testifying to results in court must meet the same minimal background and educational requirements required by PBSO—a bachelor's degree in a basic natural science. PBSO submitted a job description for the Laboratory Analyst position to the Boca Raton Human Resources Department (see Appendix D). Concurrent with the BPL MOU legal requirement process, the BRPSD began the hiring process in November 2010. Two candidates were interviewed, selected, and background checks were run. FBU made arrangements to begin training.

- ***Projected Date:*** March 2010
- ***Actual Completion:*** April 2011. This 13-month delay was due to the focus on completing the laboratory build-out. In addition, the hiring process involved culling over 100 applications by the BRPSD HR department, completion of extensive background checks, and assuring the accessibility of a start date for both applicants.

Milestone: Laboratory Analyst Training

In April 2011, the PBSO DNA Technical Leader began training within the FBU facility. Training manuals, lectures, laboratory materials, scrubs, and safety equipment were provided by the PBSO FBU. Training modules included Evidence Handling, Evidence Documentation, Bar-Coding

and LIMS, Serological Examination Protocols, Court Testimony, Ethics and Integrity, and the Judicial System. A certificate of completion was awarded to both Laboratory Analysts upon receipt of a 100% score on a Laboratory Bench Practicum, a greater than 80% score for the written comprehensive examination, and successful completion of a mock trial. An example checklist may be found in **Appendix E**.

- ***Proposed Date:*** December 2010
- ***Actual Completion:*** August 2011

Milestone: Laboratory Analyst Conducting Screening at the BPL

In August 2011, the two Laboratory Analysts began conducting screening on southern Palm Beach County LEA crime scene evidence using the PBSO FBU facility until the BRPSD BPL was completed. The BPL provided its own microscopes and ALS and used BPL-specific documentation while working at this location.

In April 2012, the BPL was completed and the two trained Laboratory Analysts transferred to the new BPL.

- ***Proposed Date:*** December 2010
- ***Actual Completion:*** April 2012

Metrics Collected During 2009 Forensic Unit EIP Evaluation

PBSO used the FBU Performance Metrics Measurement System for data collection. Collection of similar metrics were planned for the BPL to routinely assess the improvement in efficiency based on this new prescreening process (e.g., measurements per Laboratory Analysts such as number of cases assigned, submissions signed out, items screened, stains tested, reports written, TAT, and time spent in court). The metrics are collected on a daily basis using a web-based statistics program.

PBSO defined and reported the following performance measures in the original EIP grant submission:

- **153 days:** The length of time it takes to handle, screen, or analyze a forensic DNA sample from submission to delivery of forensic DNA test results.
- **47 samples:** The average number of DNA samples analyzed per Laboratory Analyst/per month with 4.5 Analysts conducting DNA casework.
- **679 cases:** The anticipated number of forensic DNA cases in backlog at the time of application.

The FBU collected specific metrics on the BPL cases, including the number and type of cases submitted by the BPL, the number of cases submitted from each of the three agencies, the TAT for DNA analysis, the number of no-suspect cases, Combined DNA Index System (CODIS) hits, and case judicial results. Although these metrics were collected beginning in 2009, the BPL officially opened for casework testing in 2012 and did not become fully functioning until 2016. As a result, the performance metrics are discussed in three periods: 2010 to 2012, 2013 to 2015, and 2016 to 2017. The metrics of the last date range are considered the best measure of EIP efficiency as the PBSO BPL EIP project testing processes were fully implemented, staffed, accredited, and operational.

2010 to 2012: Grant Period

During the grant period (2010 to 2012), the BPL reported that 316 cases had been accepted for analysis since the grand opening in April 2012. Of these, 279 cases were assigned to the BPL Laboratory Analysts and 258 reports (82% of the cases) were completed. The average TAT for BPL cases was 25 days and in addition to eliminating 25 workdays for the FBU, results were obtained on average 102 days faster due to BPL case testing when compared with the FBU's turn-around time at that period. Approximately 80% of the BPL cases were submitted to the FBU for DNA testing and 57% were assigned. 64 reports had been completed by September 30, 2012, or nearly 45%. Although the BPL cases are prioritized at the FBU, over 200 FBU emergency cases disrupted the efficiency of batching cases. Regardless, the TAT for BPL cases at the FBU laboratory was 43 days. Therefore, the total number of days necessary to accept, test, and generate final reports for a BPL case at the end of the grant period was 68 days (25 days [BPL] + 43 days [FBU]). Importantly, 44 of the BPL cases generated 56 CODIS qualifying profiles and there was a 30% immediate hit rate for BPL case DNA profiles that were entered into CODIS. The grant officially closed in December of 2012.

2013 to 2015: Post-Grant

During the post-grant period (2013 through 2015) several challenges led to a re-organization of BPL services. Early in the implementation process, one Laboratory Analyst went on family medical leave for three months. The initial plan was to have three completely competent BPL staff to screen evidence so that if there was a staff member on vacation, involved in a large criminal case, or out on sick leave, there would still be two Laboratory Analysts to conduct casework. However, the third individual was assigned additional duties including managing the BRPSD Latent Print Unit and the Crime Scene Unit. As a result, this staff member was never trained in BPL procedures and could not review casework. The BPL requested help from the FBU during this time to assist with case reviews and a Senior Forensic Scientist (Sr. FS) was assigned. The BPL had implemented a screening protocol that was not part of the FBU's protocols, and as a result, the Sr. FS had to be trained before reviewing BPL cases. There were also technical issues associated with certain testing procedures that took months to resolve. In 2015, one of the trained Laboratory Analysts resigned. This left a considerable void in BPL staffing and it took time to advertise, interview, hire, and train a new Laboratory Analyst. BPL contracted a private vendor to train the new Laboratory Analyst and review BPL's policies and procedures to efficiently facilitate this process. PBSO BPL were dedicated to this process and went to great expense to overcome the difficulties encountered to continue to provide undisrupted services to its customer agencies and victims. In order to avoid a disruption in service, it is highly recommended that there are three competent Laboratory Analysts employed in a BPL to maintain quality checks, be aware of possible protocol drift issues, and to provide continued services when a Laboratory Analyst is out of the laboratory.

Another factor in addressing BPL casework is that when the BPL project was funded through the grant period, the FBU This is important jurisdictional support from their respective city commission and justification for the fee-for-service model in that the participating LEAs have had access to a prioritized screening program that has allowed for nearly immediate initial biological results of casework evidence.

prioritized the BPL screened cases for DNA analysis, resulting in a lower TAT for that timeframe when compared to subsequent years discussed below. The BPL cases were prioritized to incentivize the BRPSD to host the prescreening laboratory, but beginning in 2013, BPL cases were not given this prioritization.

2016 to 2017: Post-Grant

Because of initial interruptions with the BPL project, a more accurate reflection of the efficacy of the 2009 EIP initiative to prescreen crime scene evidence is represented in data collected from 2016 through 2017, shown below. In 2017, the PBSO DNA backlog was 83 cases, an 88% decrease from the pre-EIP metric of 679 cases.

BPL Metrics

The interagency cooperation has been successful in that 410 cases were submitted to the BPL in this two-year period and each LEA has used the BPL facility to prescreen evidence with the percent commensurate with jurisdictional populations: BRPSD (27%), BBPD (35%), and DBPD (38%), as shown in **Figure 4**.

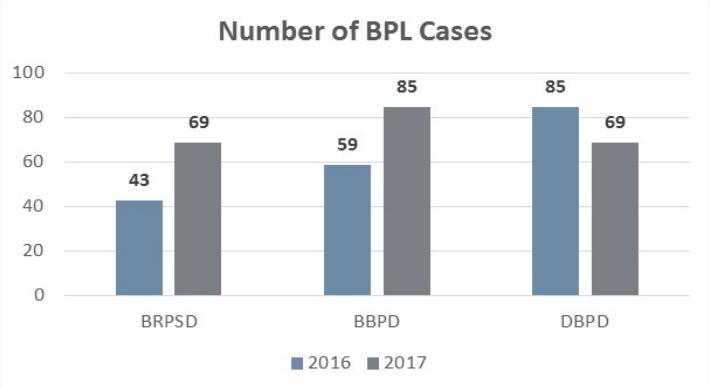

Figure 4. Number of cases submitted from each of the BPL LEA partners during calendar years 2016 and 2017.

The data in **Figure 5** presents the types of cases handled by BPL staff.

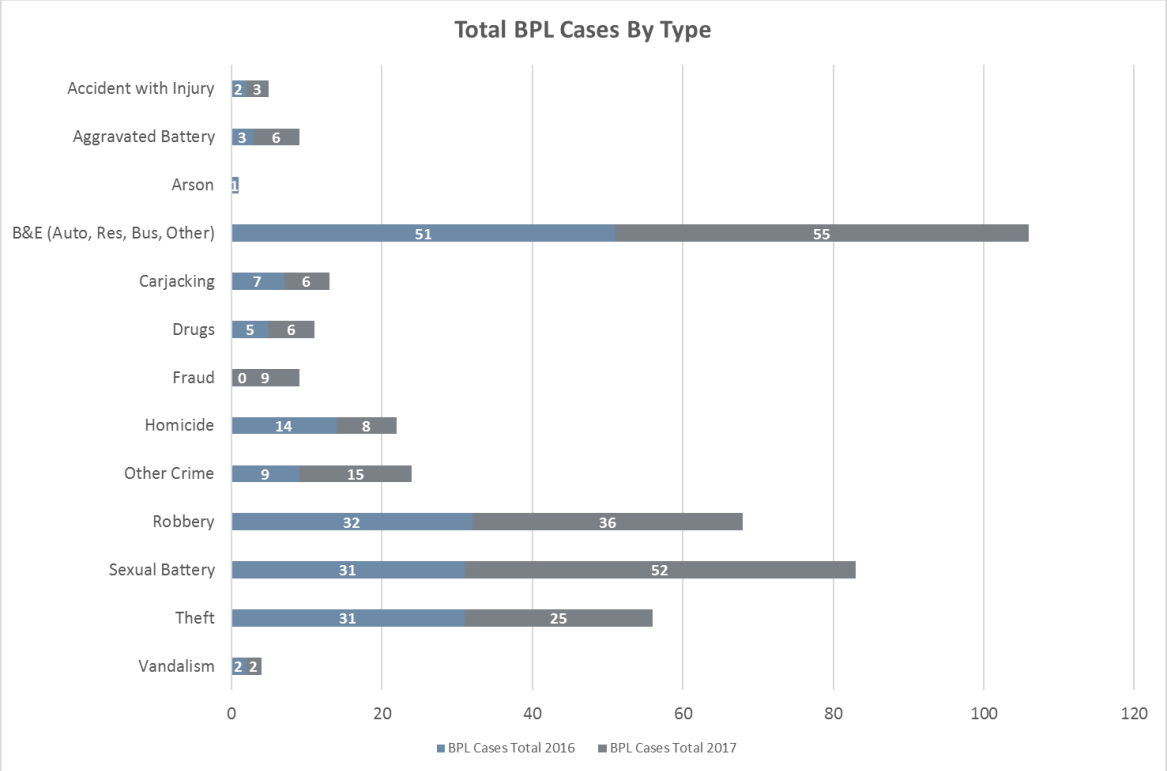

Figure 5. Number and types of cases tested by the BPL during calendar years 2016 and 2017.

Breaking and Entering (B&E) was the case type (25% of BPL cases) most often submitted to the BPL, and may be further broken down into vehicle, residential, businesses, or other structure cases. Breaking and Entering cases may yield evidence from Thefts (e.g., vehicle theft, shoplifting). Sexual Battery was the second most submitted case type (20% of BPL cases). Robbery cases are cases in which a weapon has been used and includes both strong and strong-armed robberies and home invasions. "Other" crime scene evidence is defined as evidence from cases that include the discharge of a weapon, carrying concealed weapons, or a suspicious incident.

During the 2016–2017 period, the two BPL Laboratory Analysts prescreened 1,861 items of evidence (**Figure 6**) while also attaining international accreditation status (ISO 17025), testifying at depositions and trial, maintaining continuing education requirements, and providing optimum forensic services to BPL partners.

Note that a sexual assault kit may contain many items to be tested but the kit is considered a single item. Approximately, 25% of all tests for all case types were conducted on whole items submitted to the laboratory whereas whole swabs for all case types were submitted in 75% of the cases (301 and 901, respectively).

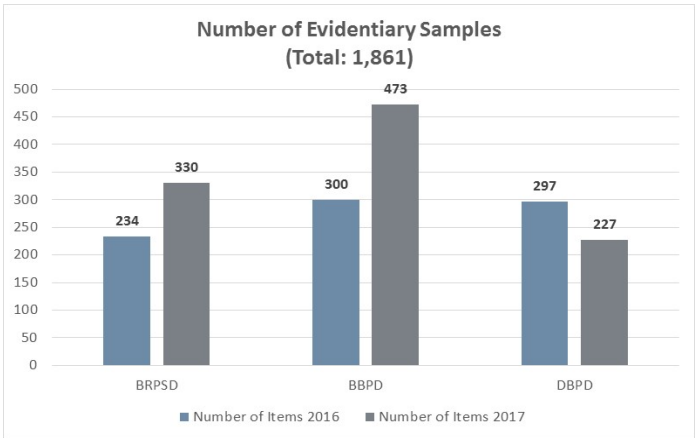

Figure 6. Number of BPL partner items tested by the BPL during calendar years 2016 and 2017.

One of the goals of the EIP BPL grant was to process and prescreen evidence in a timely manner to provide the police agencies information as soon as possible. The chart below

outlines averages of these metrics and the percent decrease (%).

Average Turnaround Times Evidentiary Samples (% Decrease)

Year	Request to Intake (days)	Intake to Assignment (days)	Intake to Review (days)
2016	14.26	2.12	14.08
2017	11.53 (19.1%)	2.07 (2.4%)	12.58 (10.6%)

- *Request to Intake* is the average number of days from the time a case is called in until it was submitted to the BPL. The BPL does not have any control over this metric as the LEAs submit the evidence. One potential reason for the significant decrease could be that LEAs are now more confident that a case will be processed in a timely fashion and know they may contribute to a longer TAT.
- *Intake to Assignment* is the number of days from case submission to case assignment to a BPL Analyst (approximately 2.1 days in both calendar years).
- *Intake to Review* is the number of days from the time the evidence arrived at the BPL until the case was reviewed, report written, and results reported (averaged 13 days over the two-year period). This is a remarkable TAT especially considering that that this time includes weekends and holidays, time for judicial responsibilities such as depositions and court testimony, and staff absences from the laboratory.

In addition to the prescreening process for violent casework, during this period the BPL prepared and submitted 104 property crime cases to the PBSO-contracted vendor for analysis. The PBSO DNA-Direct program was implemented in 2012 and in addition to prescreening cases that will eventually be submitted to the FBU, the BPL has also offered to catalogue and submit property crime evidence to the outside vendor. The following chart quantifies the items and cases that BPL sent to the vendor during 2016 and 2017.

Outsourced Property Crime

Year	Number of Cases	Number of Items
2016	104	180
2017	131	217

BPL outsourced 235 cases with 397 item samples, which significantly reduced the workload of the FBU. The sum of outsourced property crime cases and evidentiary samples (primarily violent crimes) and items (**Figure 6**) equates to the total BPL testing performed during this two-year period.

It is important to note that out of the hundreds of cases analyzed by the BPL Laboratory Analysts, only seven cases over the 2016–2017 period were not forwarded to the FBU. This indicates that nearly 98.3% of all cases submitted to the BPL were forwarded to the FBU, making the front-end screening process extremely beneficial because the majority of cases did have relevant evidence that could be prescreened.

A critical task completed by the BPL was accreditation of the laboratory. Accreditation for a new laboratory can be an intimidating experience. It is notable that the journey to accreditation usually occurs while the laboratory conducts casework analysis and the routine process is maintained daily. In 2014, the BPL designated a QA Manager_to be responsible for all activities associated with the laboratory's quality system. In March 2015, the PBSO QA Manager was invited to conduct a gap analysis of the BPL to identify administrative policies and procedures that could enhance communication, efficiency, and overall operations. The QA Manager submitted an assessment report to the BPL in April 2015 that indicated the first five years of operation were integral to the development of the BPL and recommended ways to stabilize the BPL, which were subsequently followed.

FBU Metrics

To determine the impact that the BPL project has had on the FBU, metrics were collected for the 2016–2017 period. A summary of the EIP project metrics is provided in the chart below. The number of cases submitted and the time-analysis metrics for several steps in the process are shown. It is important to note that there may be more than one report for a case for a variety of reasons, such as when additional evidence was analyzed. The FBU began tracking the *Initial DNA Report Out* to account for multiple reports per case. For example, in 2016 there were 17 BPL cases that required additional analysis beyond the first report.

There were very few cases for which it was determined that Y-STR analysis was needed based on BPL and FBU results. The *Request TAT* is calculated from the time a case is

requested until a report is completed and sent out. The *Evidence TAT* is the time from when a Laboratory Analyst takes out the evidence for analysis until a report is completed and sent out. The *Workable TAT* is the time from when all of the evidence is available for testing until a report is completed and sent out to the requesting agency. Note that over the two-year period for BPL submissions, over 2,200 tests were run on nearly 1,000 stains from over 100 items. This chart provides the BPL screened cases submitted to the FBU for DNA analysis.

Average Reports and Turnaround Times in Days

Year	Total BPL Reports Out	Initial DNA Reports Out	Y STR Reports	Request TAT	Evidence TAT	Workable TAT
2016	89	72	3	123	11	119*
2017	128	110	4	115	13	111*

*It is especially important to note that since the inception of the BPL in 2012, the FBU has undertaken and successfully completed a comprehensive, complex Lean Six Sigma project to diagnose, improve, and design specialized process systems to increase efficiency.

The FBU Lean Six Sigma (LSS) process, funded through Florida Crime Laboratory Subsidy funds, was conducted to address the case acceptance workflow—the process by which cases are requested and assigned for testing. Following the implementation of the LSS process, the BPL TAT has decreased by 15 days—that is, cases are assigned more quickly. It should also be noted that the evidence is submitted by BPL five days faster (on average) than pre-LSS. More recently, the FBU readdressed the prioritization of the assignment of BPL cases for DNA analysis during their Evidence Request Process LSS Project. The FBU now prioritizes BPL cases based on the screening start date assigned by the BPL. This system "rewards" these prescreened cases by advancing their assignment for DNA analysis. This LSS project began March 2017 and was implemented by October 2017.

CODIS

CODIS hits are reported as "Investigations Aided." A CODIS association is a common name for a "hit." Offender hits (i.e., the identity of a potential suspect is generated) and forensic hits (i.e., DNA profiles are obtained from two or more crime scenes are linked but the source of these profiles remains unknown) are both considered CODIS associations. There were 2,243 DNA profiles entered into the CODIS from the FBU and BPL during the 2016–2017 period (**Figure 7**) which resulted in 814 CODIS associations and 624 Investigations Aided. Nearly 13% of these profiles were from BPL cases. During this same period, approximately 16% of all CODIS hits were linked to BPL DNA profiles and included investigations aided and CODIS associations.[8] The procedure used for counting hits gives credit to those laboratories involved in analyzing and entering the relevant DNA records into CODIS. The system's hits are tracked as either an offender hit (where the identity of a potential suspect is generated) or as a forensic hit (where the DNA profiles obtained from two or more crime scenes are linked but the source of these profiles remains unknown). These hits are counted at the state and national levels. CODIS was established by Congress to assist in providing investigative leads for law enforcement in cases where no suspect has yet been identified; therefore, a CODIS hit provides new investigative information on these cases. BPL hits were equally divided between violent crime and property crime cases.

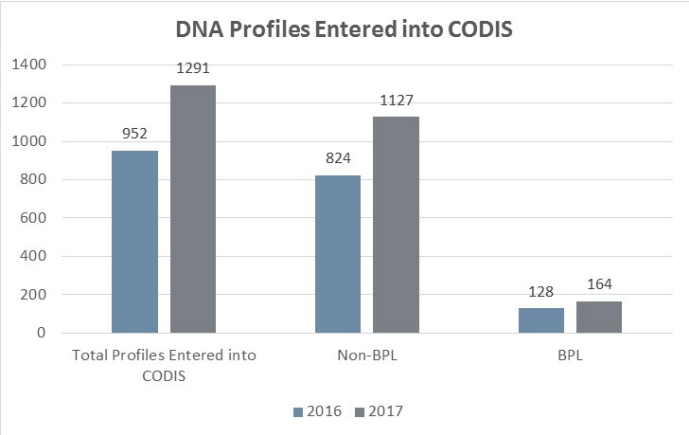

Figure 7. Number of DNA profiles Entered into CODIS by the PBSO during calendar years 2016 and 2017.

It is important to note that because of BPL prescreening a significant number of evidentiary items, the FBU was able to increase their caseload from other Palm Beach County LEAs.

[8] See https://www.fbi.gov/services/laboratory/biometric-analysis/codis/codis-and-ndis-fact-sheet.

CODIS hits may also have been delayed due to the FBU backlog.

There are several projects within the PBSO FBU that were undertaken post-2009 EIP grant to improve case TAT, all of which were funded through CEBR program grants including:

- the purchase and validation of several 3500 Genetic Analyzers and other instruments;
- hiring four grant-funded entry-level Forensic Scientists whose primary responsibility is to screen sexual assault evidentiary material in preparation for DNA analysis as a result of Senate Bill 636 (State Citations 943.326);
- mentoring several interns and providing assistance with their research projects; participating in several grant collaborations;
- completing the purchase, validation, and training of the DNA probabilistic software program STRmix which has been accepted in the local 15th judicial circuit;
- outsourcing the validation for direct amplification of PowerPlex Y23 and PowerPlex Fusion;
- providing design information for a new laboratory to be built in the near future; and many other administrative and technical duties.

These objectives have had a significant impact on the efficiency of the FBU and have been funded by NIJ grants 2013-DN-BX-0047, 2014-DN-BX-0019, 2015-DN-BX-0094, 2016-DN-BX-0070, and 2017-DN-BX-0095.

Lessons Learned

The BPL officially opened for casework testing on April 12, 2012, with a ribbon cutting ceremony attended by county and city dignitaries and LEA representatives at the 6500 Building in Boca Raton; it was highlighted in the local newspaper as shown in **Figure 8**.[9] **Figure 10** summarizes Lessons Learned throughout each step of the EIP planning, implementation, and operation of a BPL-LEA.

Forensics Lab Opens in Boca Raton

BOCA RATON — On April 12, County Commissioner Steven L. Abrams attended the grand opening of the Biology Screening Laboratory at the Boca Raton Police Services Department.

Specialists at this lab facility will pre-screen crime scene evidence to identify and collect biological stains for submission to the Forensic Biology Unit (FBU) of the Palm Beach County Sheriff's Office Crime Laboratory for prioritized DNA analysis. The new lab will provide quicker turn-around time in processing evidence for the Boca Raton, Boynton Beach and Delray Beach police departments.

In 2009, the Board of County Commissioners approved more than $500,000 in grant funding in a joint project with the Boca Raton Police Services Department Forensic Laboratory. Boca Raton provided a 25 percent funding match and two laboratory analyst positions. No county funds were required.

(l-r) Boca Raton Police Chief Dan Alexander, Boynton Beach Police Chief Matt Immler, Delray Beach Assistant Police Chief Joe Milenkovic, Palm Beach County Sherriff's Office Crime Lab Director Cecelia Crouse, Boca Raton Vice Mayor Susan Haynie, and Commissioner Steven L. Abrams.

Figure 8. Local newspaper coverage of the BPL grand opening.

The BPL improved timely forensic testing of biological evidence from crime scenes; increased communication; decreased the time it takes to inform local LEAs of results; and provides a model for other LEAs interested in implementing prescreening facility for their local DNA testing laboratory. Some of the challenges occurred because of the necessity for a grantee-subgrantee relationship. If a grant will not be providing funding for the construction of a prescreening laboratory, these issues need not be considered. There are several take-away lessons from the 2009 EIP grant experience that are described in the next sections and summarized in **Figures 9** and **10**.

[9] http://articles.sun-sentinel.com/2012-04-12/news/fl-boca-dna-lab-20120412_1_cecelia-crouse-crime-lab-dna-evidence

Benefits of a BPL-LEA DNA Efficiency Improvement Program
➤ Imparts a significant improvement on the timely forensic testing of biological evidence from crime scenes.
➤ Increases communication with local law enforcement with mutually beneficial collaboration.
➤ Provides demonstrable decrease in the time it takes to inform local LEAs of results.
➤ Provides a model for other LEAs interested in constructing a pre-screening laboratory for their local DNA testing laboratory.

Figure 9. DNA Efficiency Improvement Program Benefits.

Considerations of a BPL-LEA	
Legal	➤ Engage legal counsel early to outline necessary legal procedures and timeline. ➤ Bring all stakeholders for the EIP "to the table" early to discuss expectations, legal, and operational responsibilities and create a realistic timeline. ➤ Establish a comprehensive MOU by which all parties understand their roles and responsibilities.
Procurement	➤ All involved parties should meet early in the process to discuss internal procedures and policies. ➤ A thorough understanding of possible delays in the procurement process due to internal thresholds and city regulations is necessary to planning efforts.
Staff	➤ A minimum of three trained and competent Laboratory Analysts capable of conducting testing on casework should be employed in a BPL for data reviewing. ➤ An experienced analyst should serve in a supervisory role to ensure testing continuity. ➤ An improperly staffed unit can lead to issues downstream.
Prioritization	➤ Improper case prioritization may affect overall turnaround times. ➤ A policy to test all prescreened evidence should be agreed on by all involved parties prior to being put in place.
Communication	➤ Constant communication is the key to a successful BPL. ➤ The BPL and the local DNA Unit should discuss any protocol changes prior to implementation.

Figure 10. Considerations of a BPL-LEA.

Legal Considerations:

The legal aspects of implementing a project of this size and scope could have been more thoroughly examined before the grant was submitted such that the timeline for completion was more realistic. To ensure that evidence screening efforts would be coordinated between agencies, an MOU outlining the expectations was required of each agency. In addition to those stipulations listed in the MOU—in retrospect—it would have been advantageous that the MOU include the level of guidance that PBSO would provide, including QA, manual setup, management meetings, and internal audits, which were the legal tasks that took nearly 12 months to complete, and delayed the hiring of BPL staff and awarding the construction contract (see Appendix A for project timeline). All stakeholders should have a clear understanding of roles and responsibilities before committing to establish a prescreening laboratory. The tasks associated with the legal procedures should be completed by the LEAs' legal department attorneys.

Procurement:

Prior to submitting the original grant proposal in 2009, the principals involved met to discuss the most expeditious way to conduct the procurement process as it relates to a grantee-subgrantee relationship. Each of the entities presented their internal procedures and policies and the differences were discussed. Because of these early meetings, a procedural framework was proposed and accepted. Once the monies were approved there were

several factors, that when combined, complicated the procurement process; not only were PBSO's and BRPSD's procurement rules different, but the grantee-subgrantee relationship added an additional layer of complexity to the process. As an example, BRPSD's policy of using purchasing cards to purchase grant supplies led to issues of delayed reimbursement, as billing for the purchasing cards lagged up to two months after the date of purchase. BRPSD faced internal procurement delays because the dollar amount of several purchases crossed thresholds that required approval of city management and elected officials per city regulations, despite having been approved upon grant acceptance.

Staff:

The original proposal stated that three individuals would be trained as competent Laboratory Analysts capable of conducting testing on casework. One of these Analysts should be more experienced and serve in a supervisory role in the laboratory to ensure testing continuity. Only two Laboratory Analysts completed the training, which left the laboratory without an individual who was able to consult on casework procedures and possible issues and to help with casework review when the second Analyst was on medical leave.

Prioritization:

Initially the plan for the grant was to prioritize BPL casework evidence during its first year and then revise the testing assignment procedure to align with the casework of a non-BPL agency. In retrospect, this process did not benefit BPL and the overall TATs were affected. This EIP project outcome indicates that a policy to test all prescreened evidence be agreed upon by the laboratories and LEA partners.

Communication:

The key implication for a successful BPL is constant communication between the laboratory and law enforcement. The BPL should be an independent laboratory that prescreens crime scene evidence and submits informative evidence to the local DNA laboratory. The BPL Laboratory Analysts submit reports and testify in court to the results which requires the FBU staff to spend more time on testing other agencies' evidence. It is vital that the BPL and the local DNA Unit discuss any changes in protocols, especially if a new protocol is advantageous to both testing centers.

Conclusion

In 2009, the PBSO FBU was obligated to respond to the concerns of Palm Beach County LEAs regarding improving the efficiency of the DNA process, that is, to have a more reasonable TAT for conducting DNA analysis on casework evidence. The Law Enforcement Planning Council, PBSO FBU, and the BRPSD BPL consortium understood the need to partner and improve the laboratory's efficiency rates. Because of this partnership, there is now an independent, fully functional, accredited laboratory that tests crime scene evidence and submits prescreened evidence to the PBSO FBU for immediate DNA analysis. At the time of publication of this report, the BPL still maintains two full-time Laboratory Analysts and leadership is investigating the possibility of hiring an additional Laboratory Analyst(s) and incorporating rapid DNA analysis into the screening workflow.

The advantages of the BPL initiative include a marked increase in communication between the participating agencies that now know within days if prescreened crime scene evidence may provide investigative leads and a decrease in serological and DNA testing TAT and backlogged cases. Furthermore, PBSO metrics collected during this long-term DNA EIP evaluation spanning 2010 to 2017 demonstrate a 27% decrease in turnaround time (153 to 111 days); 9% decrease in Laboratory Analysts monthly caseload (47 to 43 samples); 88% decrease in DNA backlog (679 to 83 cases); and a 9% increase in CODIS entries for DNA profiles (1186 to 1291 case entries). Importantly, the BPL may serve as a template for improving DNA case management efficiency for other law enforcement regions within a jurisdiction and throughout the country. The initiative has ultimately been successful on many levels and LEAs would benefit from establishing a local BPL.

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- Amy B. McGuckian, Technical Leader
- Dustin Yeatman, Crime Laboratory Director

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- Jonathan McGrath
- Heather Waltke
- Ted Robinson
- Hannah Barcus (contractor)

Boca Raton Police Services Department:

- Capt. Jane Scott, Investigative Services Bureau
- Crystal Conway, Laboratory Analyst, BPL

Other State LEAs:

- David Coffman, Chief of Forensic Services, Florida Department of Law Enforcement
- Lt. William Sowder, District Commander, Marion County Sheriff's Office

Appendices

Appendix A: BPSO Originally Proposed DNA EIP Timeline

2009 Forensic DNA Efficiency Grant

DATE	Award Action Items	Renovations	Laboratory Analyst
2009			
October			Submit Laboratory Analyst Job Announcement
November	Approval to accept award by the PBC Commissioners	Hire Architect	Conduct Interviews
December		↓	Eligibility List Selection and Background Checks
2010		↓	↓
January	Submit NIJ report	↓	↓
February		Blue Print Approval:	↓
March		Begin Renovations	Hire Lab Analysts, Begin Training at PBSO laboratory
April		Exterior door/Reinforce secure drop ceiling/ Move sprinklers HVAC, venting for hoods, tap into plumbing, add-move additional electrical panels/ telephone-IS lines Fire/Security Alarms Card Access System installed	↓
May			↓
June			**Conduct Competence Examinations**
July	Submit NIJ report		Begin Southern PBC evidence Screening at PBSO
August			↓
September			↓
October		Final Permit Review and Approval	↓
November		BPL READY FOR OCCUPANCY	Trained BPL Laboratory Analysts move to the BRPD BPL facility
December			Conduct screening on southern Palm Beach County Agency cases: transfer screened items to the PBSO FBU for DNA analysis
2011			↓
January	Submit NIJ report		↓
February			↓
March	***Submit NIJ Final Report***		↓

Appendix B: Interlocal Agreement

R10-092

INTER-LOCAL AGREEMENT

THIS AGREEMENT, made and entered into the date provided hereafter by and between the City of Boca Raton, Florida, a municipal corporation organized and existing under the laws of the State of Florida (hereinafter "BOCA RATON"), the City of Delray Beach, Florida, a municipal corporation organized and existing under the laws of the State of Florida (hereinafter "DELRAY BEACH"), and the City of Boynton Beach, Florida, a municipal corporation organized and existing under the laws of the State of Florida (hereinafter "BOYNTON BEACH"), and collectively referred to as the "Parties".

WITNESSETH:

WHEREAS, the Parties to this agreement are authorized pursuant to the Florida Interlocal Cooperation Act of 1969 as set forth in Section 163.01, et seq., Florida Statutes (hereinafter the "Act") to make efficient use of their respective powers, resources, authority and capabilities by enabling them to cooperate on the basis of mutual advantage and thereby provide the facilities and efforts identified herein in the manner that will best utilize existing resources, powers and authority available to each of them; and

WHEREAS, it is the purpose of the Act to provide a means by which BOCA RATON, DELRAY BEACH and BOYNTON BEACH may exercise their respective powers, privileges and authority which they may separately, but which pursuant to this Interlocal Agreement and the Act they may exercise collectively; and

WHEREAS, BOCA RATON has entered into an Interlocal Agreement with the Sheriff's Office of Palm Beach County ("PBSO") relating to the construction and operation of a Biology Processing Laboratory ("BPL") to be located at 6500 Congress Avenue in Boca Raton, Florida; and

WHEREAS, the BPL will provide certain services related to prescreening of DNA sample evidence; and

WHEREAS, pursuant to the Interlocal Agreement with PBSO, all DNA sample evidence prescreened in the BPL will be given certain priority by the PBSO Forensic Biology Unit ("FBU") in the event DNA analysis is warranted,

WHEREAS, the Parties desire to pre-screen their respective DNA sample evidence in the BPL in that the Parties determined that such common use will better utilize municipal personnel and capital resources, increase the efficiency and effectiveness of prescreening DNA sample evidence, and provide for shared costs of personnel/operating expenses; and

WHEREAS, the Parties desire to enter into this Agreement to establish basic parameters for the implementation, operation, and maintenance and future

expansion of the BPL; and

WHEREAS, entering into this Interlocal Agreement is in the best interests of the citizens of the Parties; and

NOW THEREFORE, in consideration of the premises, mutual covenants, provisions and representations contained herein, constituting good and valuable consideration, the Parties hereto agree as follows:

Section 1. STATEMENT OF PURPOSE

The purpose of this Interlocal Agreement is to establish an agreement between BOCA RATON, DELRAY BEACH, and BOYNTON BEACH in regard to the operation of the Biology Processing Laboratory, located in the City of Boca Raton, which shall provide for pre-screening of DNA sample evidence for the parties.

Section 2. DEFINITIONS

2.1 "Pre-screening" shall mean the process by which evidence is evaluated by an analyst to determine if there is usable and recoverable DNA in the sample.

2.2 "Touch DNA evidence" shall mean DNA evidence that is left behind from skin cells when a person touches or comes in contact with an item.

Section 3. ADMINISTRATION AND SERVICES

3.1. BOCA RATON will own, manage and operate the BPL and will provide pre-screening of DNA sample evidence for DELRAY BEACH and BOYNTON BEACH, processing of DNA sample evidence for the confirmation of blood and semen, determining through microscopic analysis of hair if DNA analysis should be attempted, and swabbing items for touch DNA evidence.

3.2. BOCA RATON shall be the sole operator of the BPL. The operations shall include processing evidence for the confirmation of blood and semen, determining through microscopic analysis of hair if DNA analysis should be attempted, and swabbing evidence for touch DNA evidence.

3.3. Following pre-screening at the BPL, all DNA sample evidence will be submitted to the PBSO Forensic Biological Unit for further DNA analysis. Pursuant to the Interlocal Agreement between BOCA RATON and PBSO, all evidence pre-screened at the BPL will be given priority for PBSO DNA analyst assignment, as provided in such Interlocal, a copy of which is

attached hereto as Attachment "A".

Section 4. IMPLEMENTATION OF BPL

4.1. BOCA RATON has entered into an interlocal agreement with PBSO relating to the construction and operation of the BPL, under which PBSO shall apply for a grant from the United States Department of Justice, National Institute of Justice ("NIJ"), and under which BOCA RATON shall be the sub-grantee of PBSO.

4.2. In the event the agreement between BOCA RATON and PBSO is terminated or in the event the BPL is not constructed, this Interlocal Agreement shall immediately terminate and BOCA RATON shall have no further obligation to DELRAY BEACH or BOYNTON BEACH.

4.3. DELRAY BEACH and BOYNTON BEACH agree and understand that this agreement is non-exclusive, and that BOCA RATON may enter into additional agreements or amend this Interlocal Agreement to allow other governmental agencies to utilize the BPL. In the event BOCA RATON contracts with other governmental agencies, there shall be a corresponding and proportional decrease in the amount of the user fee and costs provided by DELRAY BEACH and BOYNTON BEACH, as set out in paragraph 5.5 of this Agreement.

Section 5. BPL CENTER FOR OPERATIONS

5.1. The BPL shall be located at 6500 Congress Avenue, Boca Raton, Florida in the City of Boca Raton 6500 Building.

5.2. The Parties agree that the BPL operation, equipment, personnel and records will be maintained at the BPL.

5.3. DELRAY BEACH and BOYNTON BEACH agree to annually appropriate and pay to BOCA RATON a fee, in an amount equal to a proportional share of the costs to operate the BPL, as set forth in Section 5.4 of this Agreement. DELRAY BEACH and BOYNTON BEACH agree to make an annual payment to BOCA RATON for each of their proportional share of the fee within 60 days of receipt of BOCA RATON's invoice showing the proportional share due, as detailed.

5.4. The fee shall be determined by BOCA RATON, in its sole discretion, through an annual calculation of the personnel costs, the cost of equipment and supplies, the cost of maintenance, the cost of utilities, and any other cost which is reasonably related to the operation of the BPL.

5.5. The annual cost for all operational expenditures, as defined in 5.4, shall be paid proportionately as follows:

BOCA RATON	- 34	PERCENT
DELRAY BEACH	- 33	PERCENT
BOYNTON BEACH	- 33	PERCENT

5.6. The amount of each proportional fee to be paid by DELRAY BEACH and BOYNTON BEACH for the first year of operation of the BPL shall be $59,360.

5.7. Following the initial year of this Interlocal Agreement, the fee shall be adjusted annually to reflect the proportional shares of the actual costs as defined in paragraph 5.4 of this Agreement, but in no event shall the fee be increased more than 10% per year.

5.8 DELRAY BEACH and/or BOYNTON BEACH'S right to receive services at the BPL shall be immediately suspended if either fails to timely transmit to BOCA RATON its proportional payment as required under this Agreement. The suspension of the right to receive services at the BPL shall continue through the date the full payment is received by BOCA RATON. If a payment is not received by BOCA RATON within 60 days of the date of the non-paying party's receipt of the invoice from BOCA RATON, then BOCA RATON shall send to the non-paying party a notice of default. The non-paying party shall thereafter also pay a 10% penalty on the past due arrearages. If such past due arrearages plus the 10% penalty are not paid in full within 30days of the date of notice of default, then BOCA RATON, in its sole discretion, shall have authority to terminate this Agreement in regard to the non-paying party.

Section 6. PERSONNEL AND OPERATIONS

6.l BOCA RATON shall employ two Forensic Analysts trained by PBSO FBU. personnel to work at the BPL.

6.2 BOCA RATON shall be solely responsible for the hiring, supervision and evaluation and all aspects of employment for all personnel associated with the BPL.

6.3 BOCA RATON shall be solely responsible for the maintenance and repair of the BPL facility.

6.4 BOCA RATON shall be solely responsible for the operation of the BPL.

Section 7. RECORDS

7.1 BOCA RATON shall be responsible for maintaining records of DNA sample evidence submitted by DELRAY BEACH and BOYNTON BEACH for the purpose of prescreening analysis in accordance with the PBSO Forensic Biology Laboratory standards.

Section 8. DURATION AND TERMINATION

8.1. This Interlocal Agreement shall become effective upon being executed on behalf of each party and filed with the City Clerks of BOCA RATON, DELRAY BEACH and BOYNTON BEACH. This Interlocal Agreement shall remain in effect for five years and may be extended for additional five year terms upon written approval of the Parties.

8.2. DELRAY BEACH and BOYNTON BEACH agree that they shall not have any right to terminate this Interlocal Agreement and shall not terminate this Agreement for the period of two (2) years beginning from the date on which the BPL begins prescreening evidence. Thereafter, any party may terminate its participation in this Interlocal Agreement for any reason upon one hundred eighty (180) days written notice to the other Parties. Upon termination, the terminating Party shall have no rights or privileges under this Agreement.

8.3. In the event BOCA RATON should terminate operation of the BPL, BOCA RATON shall refund to DELRAY BEACH and BOYNTON BEACH the portion of their paid annual fees, on a prorated basis, that were for the time period between the date on which the BPL ceases operations and the end of the annual period for which the fees were paid.

Section 9. DISPUTE RESOLUTION

9.1 Any dispute as to the terms of this Interlocal Agreement shall be resolved, pursuant to the dispute resolution process contained in Florida Statute, Section 163.

9.2 This Agreement shall be governed by the laws of the State of Florida. Any and all legal action necessary to enforce the Agreement will be held in Palm Beach County.

9.3 By entering into this Agreement, the parties expressly waive any right either party may have to a trial by jury of any claim related to this Agreement.

Section 11. LIABILITIES AND INDEMNITY

11.1. Each PARTY to this Agreement shall be liable for its own actions and negligence and, to the extent permitted by law, BOCA RATON shall be responsible to DELRAY BEACH and BOYNTON BEACH for any actions,

claims or damages arising out of BOCA RATON'S negligence in connection with this Agreement, and DELRAY BEACH and BOYNTON BEACH shall each be individually responsible to BOCA RATON or to the other for any actions, claims or damages arising out of DELRAY BEACH and BOYNTON BEACH'S negligence in connection with the Agreement. The foregoing shall not constitute a waiver of sovereign immunity beyond the limits set forth in Florida Statute, Section 768.28, or of any defense available to the PARTIES.

Section 12. AMENDMENTS

12.1. Amendments to this Interlocal Agreement shall be made by unanimous consent of all the PARTIES in writing. In the event one or more additional persons request to be a Party to this Agreement, the PARTIES agree that an Amendment to this Agreement shall be required.

Section 13. EXECUTION OF AGREEMENT.

13.1 This Agreement shall be executed on behalf of each Party by its authorized representative pursuant to an appropriate resolution of the respective local governmental unit. Each Party to this Agreement shall be bound to the terms of this Agreement as of the date it is signed by that Party.

Section 14. SEVERABILITY

14.1. The invalidity, illegality, or unenforceability of any provision of this Agreement, or the occurrence of any event rendering any portion or provision of this Agreement void or voidable, shall in no way affect the validity or enforceability of any other portion or provision of the Agreement. Any void or voidable provision shall be deemed severed from the Agreement and the balance of the Agreement shall be construed and enforced as if the Agreement did not contain the particular portion or provision held to be void. The parties further agree to reform the Agreement to replace any stricken provision with a valid provision that comes as close as possible to the intent of the stricken provision. The provisions of this section shall not prevent the entire Agreement from being held void should a provision which is of the essence of the Agreement be determined to be void by a court of competent jurisdiction.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the last date all signatures below are affixed.

CITY OF BOCA RATON

Attest: Denise Carroll
Susan S. Sayfie
City Clerk

Date: 9/1/2010

By: Susan Whelchel
Name: Susan Whelchel
Title: Mayor

Approved as to Form and Legal Sufficiency:

By: Linda D. Ragsdale
City Attorney

ATTEST:

By: Donald D. Nubin City Clerk

Date: 7/29/10

CITY OF DELRAY BEACH

By: D Petrson SMD

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: [signature]
ASJR City Attorney

ATTEST:

By: Grace M. Prasnito

Date: 9-14-10

CITY OF BOYNTON BEACH

By: [signature]

KURT BRESSNER
CITY MANAGER
BOYNTON BEACH, FL

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: [signature]
City Attorney

Appendix C: PBSO EIP Budget Narrative

FY 2009 Forensic DNA Unit Efficiency Improvement
Palm Beach County Sheriff's Office **Budget Detail Worksheet**

Purpose: The Budget Detail Worksheet may be used as a guide to assist you in the preparation of the budget and budget narrative. You may submit the budget and budget narrative using this form or in the format of your choice (plain sheets, your own form, or a variation of this form). However, all required information (including the budget narrative) must be provided. Any category of expense not applicable to your budget may be deleted.

A. Personnel--List each position by title and name of employee, if available. Show the annual salary rate and the percentage of time to be devoted to the project. Compensation paid for employees engaged in grant activities must be consistent with that paid for similar work within the applicant organization.

Name/Position	**Computation**			**Cost**
Laboratory Analyst - BRPSD	$47,254.00 100%	Local Match		$47,254
Laboratory Analyst - BRPSD	$47,254.00 100%	Local Match		$47,254
Hired by BRPSD				
			TOTAL	**$94,508.00**

B. Fringe Benefits--Fringe benefits should be based on actual known costs or an established formula. Fringe benefits are for the personnel listed category (A) and only for the percentage of time devoted to the project. Fringe benefits on overtime hours are limited to FICA, Workman's Compensation, and Unemployment Compensation.

Employer's FICA	$47,254.00	2	6.20%	Local Match	$5,859
Retirement	$47,254.00	2	10.61%	Local Match	$10,026
SS Medicare	$47,254.00	2	1.45%	Local Match	$1,370
Health Insurance	$47,254.00	2	12.44%	Local Match	$11,760
				TOTAL	**$29,016**

Total Personnel & Fringe Benefits **Local Match** **$123,524**

C. Travel-- Itemize travel expenses of project personnel by purpose (e.g., staff to training, field interviews, advisory group meetings, etc. Show the basis of computation (e.g., six people 3-day training at $X airfare, $X lodging, $X subsistence). In training projects travel and meals for trainees should be listed separately. Show the number of trainees and unit cost involved. Identify the location of travel, if known. Indicate source of Travel Policies applied, Applicant or Federal Travel Regulations.

Not Applicable

D. Equipment-- List non-expendable items that are to be purchased. (Note: Organization's own capitalization policy for classification of equipment should be used. Expendable items should be included in the "Supplies" category. Applicants should analyze the cost benefits of purchasing versus leasing equipment, especially high cost items and those subject to rapid technical advances. Rented or leased equipment costs should be listed in the "Contractual" category. Explain how the equipment is necessary for the success of the project. Attach a narrative describing the procurement method to be used.

Items listed BRPSD will be purchased by the Boca Raton Police Services Department using local match funds. All purchases shall be made using BRPSD procurement methods and must satisfy documentation required by NIJ for reimbursement.

Item	Computation			Cost
Computers Dell GX620 - BRPSD	$2,200	4	Local Match	$8,800.00
Autoclave Tuttnauer EZ10	$1,500	1		$1,500.00
Deioinized Water Filtration System	$2,260	1		$2,260.00
Eppendorf Centrifuges - BRPSD	$2,500	2	Local Match	$5,000.00
Lab carts	$223	2		$446.00
Lamps Ilumination Magnifer/base	$1,200	1		$1,200.00
Lateral Black file Cabinet	$369	1		$369.00
Microscopes - BRPSD	$4,000	3	Local Match	$12,000.00
Purair 20 Fume Hood - BRPSD	$5,700	1	Local Match	$5,700.00
Refrigerator (small)	$100	2		$200.00
Balance-Scale	$435	1		$435.00
Cabinets for sink area - BRPSD	$2,758	1	Local Match	$2,758.00

Chemical resistant screening Tables-modular - BRPSD	$1,800	3	Local Match		$5,400.00
Digital Camera	$599	1			$599.00
Document Scanner w/CD capabilities - BRPSD	$8,000	1	Local Match		$8,000.00
Microscope workstations - BRPSD	$2,000	2	Local Match		$4,000.00
NIST Traceable Weight Sets for Scale (1 mg - 500 g)	$2,600	1			$2,600.00
OmniPrint, Alternative Light Source	$9,000	1			$9,000.00
Refrigerator/Freezer (large)	$903	1			$903.00
Storage cabinet	$900	1			$900.00
Vortex Genie	$249	2			$498.00
			Local	**$49,658 TOTAL**	**$72,568.00**
			Federal	**$22,910**	

E.-Supplies--List items by type (office supplies, postage, training materials, copying paper, and other expendable items such as books, hand held tape recorders) and show the basis for computation. Generally, supplies include any materials that are expendable or consumed during the course of the project.

"All supply prices are approximate and there may be discounts based on quantity. In addition, items might be purchased at a less expensive cost than identified through the cited vendor. Although extensive, this list is based on the initiation of a new laboratory and may contain supplies that may not be needed due to substitution of a comparable supply or an item may not be listed that would be beneficial to maintaining the efficiency of the laboratory. Regardless, supplies will be purchased within the requested Supply Budget."

Supply Items	**Computation**		**Cost**
Printers	$500.00	3	$1,500.00
Literature references	$60.00	3	$180.00
Amber Bottles 250ml	$25	1	$25.00
Bloodstain cards and pouches	$70	1	$70.00
Clear Autoclavable plastic jars	$57	1	$57.00
Coverslips for slides	$10	2	$20.00
Dual Range Digital Thermometer	$35	4	$140.00
Ever Safe Thermometer (long thin type)	$100	1	$100.00
Face Mask Shields Plastic	$38	1	$38.00
Facemasks case 500	$152	1	$152.00
Filter paper 9.0cm (100 sheets in pack)	$20	1	$20.00
Fire diamond NFR Labels-Safety	$13	1	$13.00

Fisher brand Scoopulas	$14	1	$14.00
Frosted microslides 2 holes	$30	1	$30.00
Gloves (Small, Medium Large) Best-N-Dex	$250	1	$250.00
Kimwipes(task wipers) 280 sheets in box	$155	1	$155.00
Microtubes	$15	1	$15.00
Parafilm Roll	$28	1	$28.00
Pippette by Eppendorf 20-200ul	$230	3	$690.00
Pippette stand	$103	3	$309.00
Pippette tips 1-200ul size	$90	1	$90.00
Plastic 16oz Bottle labeled Ethyl Alcohol	$30	1	$30.00
Plastic 16oz Bottle labeled Methyl Alcohol	$30	1	$30.00
Plastic 5ml transfer pippettes	$85	1	$85.00
Slide trays for drying microslides	$6	3	$18.00
Sterile swabs	$150	1	$150.00
Straight Forceps	$30	1	$30.00
Wypalls L30 paper towels	$50	1	$50.00
10% Fresh-Mix Bleach decontamination Starter Kit	$119	1	$119.00
3% Hydrogen Peroxide	$23	1	$23.00
5 Slider Mailer	$80	1	$80.00
ABA cards-Hematrace/P30	$107	4	$428.00
Alcohol Pre pads	$63	1	$63.00
Amber Bottles w/ Stopper lid (30ml)	$50	1	$50.00
AP Spot Test	$28	1	$28.00
Bench Coats	$30	1	$30.00
Butcher paper roll	$26	2	$52.00
Christmas Tree Stain	$42	2	$84.00
Clear Glass Bottle w/ Stopper Lid	$50	1	$50.00
Coin envelopes-all sizes	$30	1	$30.00
Colored Labeling Tape	$15	1	$15.00
Conical tubes 50ml	$108	1	$108.00
Digital Timers	$22	2	$44.00
Disposable lab Coats (S/M/L)	$280	3	$840.00

Ethyl Alcohol	$158	1	$158.00
First Aid kit	$100	1	$100.00
Fisher Surface Protector	$65	1	$65.00
Frosted Microslides (no holes)	$30	1	$30.00
Funnels 100ml	$22	1	$22.00
Garbage Cans	$45	5	$225.00
Graduated cyclinders 25ml	$60	1	$60.00
Hairnets Buoffant caps 100pk	$55	1	$55.00
HypeWipes	$79	1	$79.00
Kastle Meyer Reagent	$30	1	$30.00
Lens paper	$15	1	$15.00
Luminol 6/pk (MedTech Forensics)	$35.00	2	$70.00
Methanol	$158	1	$158.00
Multi-Use Labels ½" x 1 ¾ "	$10	1	$10.00
Pippette by Eppendorf 2-20ul range	$230	3	$690.00
Pippette tips 1-20ul size	$90	1	$90.00
Plastic 16oz bottle labeled DI	$30	1	$30.00
Plastic 16oz Universal Bottle	$18	1	$18.00
Review/ Date/ Case number stamps	$22	10	$220.00
Roll of autoclavable tape	$6	4	$24.00
Scalpels	$25	1	$25.00
Scissors –sharp pointed	$15	2	$30.00
Semen Standard	$60	1	$60.00
Softside Detergent	$43	1	$43.00
Spray bottles	$15	3	$45.00
Synthetic Permount	$20	2	$40.00
Tacky Mats for Lab entrance	$190	1	$190.00
Test Tube Racks (all sizes)	$35	8	$280.00
Tyvex Serology Envelopes	$48	1	$48.00
Weigh paper	$24	1	$24.00
White tags Clip-n-Tag	$12	1	$12.00
Z-rack Garment for hanging items for ALS	$25	3	$75.00

Office Supplies	$100.00	12	months	$1,200.00
			TOTAL	**$10,554.00**

F. Construction-- As a rule, construction costs are not allowable. In some cases, minor repairs or renovations may be allowable. Consult with the program office before budgeting funds in this category.

Not Applicable

Purpose	**Description of Work**	**Cost**
		$0.00
	TOTAL	**$0.00**

G. Consultants/Contracts-- Indicate whether applicant's formal, written Procurement Policy or the Federal Acquisitions

Consultant Fee: For each consultant enter the name, if known, service to be provided, hourly or daily fee (8-hour day), and estimated time on the project. Consultant fees in excess of $450 per day require additional justification and prior approval from OJP.

Name of Consultant	**Service Provided**	**Computation**			**Cost**
Not Applicable		$0.00	1		$0.00
				Subtotal	$0

Consultant Expenses: List all expenses to be paid from the grant to the individual consultant in addition to their fees (i.e., travel, meals, lodging, etc.)

Item	**Location**	**Computation**			**Cost**
Not Applicable		$0.00	1		$0.00
				Subtotal	$0

Contracts: Provide a description of the product or services to be procured by contract and an estimate of the cost. Applicants are encouraged to promote free and open competition in awarding contracts. A separate justification must be provided for sole source contracts in excess of $100,000.

The Boca Raton Police Services Department will renovate 1800 square feet of space to provide the Boca Raton Police Services Department with a Biology Processing Laboratory. An architect will be contracted to provide a complete set of blue prints outlining the infrastructure and renovation needs for the laboratory. The preliminary plan is to include the build out of approximately 1,800 square feet of office/lab space located on the western portion of the 6500 N Congress Avenue Building. The current cost of building out or retrofitting space in the 6500 N Congress Avenue is approximately $250 per square foot. Initial estimates of the cost for build out of 1,800 square feet of office/laboratory space in the 6500 Building are approximately $450,000.

Description	Computation		Cost
	$250.00	1800 sq. ft.	$450,000.00
Moving existing plumbing from the building to facilitate the needs of the lab. This plumbing			
Building out the HVAC (air conditioning system) to include any future build-out possibilities			
Moving the fire sprinklers down to the existing 1,800 square foot. This may include adding			
Establishing an entrance/exit door on the western wall of the facility. This door will have to be			
The construction of a reinforced secure drop ceiling for the BPL laboratory.			
Any additional venting for fumes in the area.			
The moving of additional electrical power panels to the area.			
Telephone system			
Computer lines			
Fire/Burglar alarms			
Card access system			
Additional security locks for the storage of DNA evidence.			
Industrial Vinyl Flooring			
Painting			
Lighting Upgrades			
Building 3 offices within the area			
Architectural plans			
Construction Management		**CONSULTANTS/ CONTRACTS TOTAL**	**$450,000.00**
Eye wash station for emergencies placed in the laboratory in compliance with Federal and State safety standards.			

H. Other Costs-- List items (e.g., rent, reproduction, telephone, janitorial or security services, and investigative or confidential funds) by major type and the basis of the computation. For example, provide the square footage and the cost per square foot rent, and provide a monthly rental cost and how many months to rent.

Description	Computation		Cost
Report Writing Station -Modular	$3,010	2	$6,020.00
Evidence Receiving Station-modular	$3,010	1	$3,010.00
Chairs for stations & microscope stations	$150	7	$1,050.00

JusticeTrax LIMS-plus Turn Key System	$26,000	1	$26,000.00

TOTAL $36,080.00

I. Indirect Cost--Indirect costs are allowed only if the applicant has Federally approved indirect cost rate. A copy of the rate approval, (a fully executed, negotiated agreement), must be attached. If the applicant does not have an approved rate, one can be requested by contacting the applicant's cognizant Federal agency, which will review all documentation and approve a rate for the applicant organization, or if the applicant's accounting system permits, costs may be allocated in the direct costs categories.

Description	Computation		Cost
Not Applicable	$0.00	1%	$0.00

TOTAL $0.00

Budget Summary--When you have completed the budget worksheet, transfer the totals for each category to the spaces below. Compute the total costs and the total project costs. Indicate the amount of Federal requested and the amount of non-Federal funds that will support the project.

Budget Category	Amount
A. Personnel	94,508
B. Fringe Benefits	29,016

C. Travel	0
D. Equipment	72,568
E. Supplies	10,554
F. Construction	0
G. Consultants/Contracts	450,000
H. Other	36,080
Total Direct Costs	692,726
I. Indirect Costs	0
TOTAL PROJECT COSTS	0
Federal Request	519,544
Non-Federal Amount	173,182

NOTE: If a Non-Federal amount is entered, make sure those items for which they will be used must be incorporated into your overall budget. Indicate clearly throughout you budget narrative and detail worksheet for which items these funds will be used.

Appendix D: Laboratory Analyst

PURPOSE OF CLASSIFICATION

The purpose of this job description is to maintain a quality-working environment, and to promote equal employment opportunities for all employees. This order shall apply to all employees assigned to the position of Laboratory Analyst in the Forensic Biology Unit (FBU) of the Forensic Sciences Division. The Laboratory Analyst provides assistance to all FBU staff members using the core values and beliefs implemented by the PBSO Department. The Laboratory Analyst in the FBU conducts serological analysis on casework evidence and spends at least 85% of their time performing duties that involve the collection, examination, preservation, documentation, preparation, or analysis of human tissues or fluids or physical evidence having potential biological, chemical, or radiological hazard or contamination, or use chemicals, processes, or materials that may have carcinogenic or health-damaging properties in the analysis of evidence. Approximately 15% of the analyst time is spent conducting administrative and testifying duties. This includes maintaining the integrity, honesty and respect afforded all citizens and fellow employees. The Laboratory Analyst works under the direction of the Forensic Biology Unit Manager or designee and shall assist in providing laboratory support and assistance.

ESSENTIAL FUNCTIONS

The following duties are normally performed by this position. These are not to be construed as exclusive or all-inclusive. Other duties may be required and assigned.

Provides direct support to the scientists in the Forensic Biology Unit as a Laboratory Analyst.

Adheres to all Best Laboratory Practices. This includes the use of Personal Protective Equipment when working with evidence.

Calibration and maintenance of laboratory equipment, and instruments.

Prepares Quality Assurance documentation and perform routine testing of equipment.

Preparation of reagents, kit separation, decontamination of laboratory and cleaning of glassware including autoclaving.

Preparation of Standard Collection and Evidence Kits.

Data entry, clerical, filing, inventory and ordering supplies and maintaining records.

Meets Unit metric goals and objectives in the scientific analysis of casework output

Assists analysts in general laboratory support such as stocking each bay and laboratory bench with reagents, removing expired reagents, quality assurance and quality control testing of reagents, kits, and supplies.

Preserves Crime Scene evidence such as Sexual Battery Evidence Kits and MEO bloods where appropriate.

Performs varied serological and DNA analyses on biological casework evidence submitted by Palm Beach County Sheriff's Office and local law enforcement officers upon completion of required education and training.

Performs visual as well as presumptive and confirmatory analytical tests where appropriate to identify biological stains such as blood and semen from casework evidence.

Provides Secondary Reviewer (SR) help to FBU staff when requested

Writes laboratory reports identifying the sample, stating the methods and procedures used.

Maintains all documentation associated with a case.

Reviews laboratory reports where only serological testing has been conducted.

Assists the FBU Manager in planning and documenting the annual budget.

The Laboratory Analyst may also be required to perform the duties of an Evidence Coordinator within the Forensic Biology Unit. These duties include: Documenting and reviewing all requests for analysis, and updating and maintaining all electronic case assignment logs. These logs include all the essential information necessary to determine the status of a case.

The FBU Unit Performance System (UPS) internal database is designed to track all FBU casework requests, analysts' status of case, number of samples tested, CODIS results, phone logs etc. This position must be capable of utilizing this software.

Testifies in Federal, State, and local courts as an Expert Witness. Must have successfully completed a training course in courtroom testimony. Presents technical testimony in laymen's terms and defends analytical methods and results. Presents findings during the administration of a deposition to prosecutors and defense attorneys.
Communicates and coordinates activities with units, vendors, employees, and outside agencies.

Maintains MSDS sheets and hazard codes for all chemicals and reagents

Monitors, orders, and tracks expenditures for the FBU general budget and grant funds.

Outsources cases to vendor labs.

Compiles various statistics for the FBU Manager.

Participates in presentations/trainings as requested by customer.

ADDITIONAL FUNCTIONS

Provides assistance or coverage to other employees as needed. Performs other related duties as required.

MINIMUM QUALIFICATIONS

Must possess a BA/BS from an accredited college or university. The individual must have at least 6 months experience working in a forensic science unit prior to fulfilling the duties of the Evidence Coordinator. The individual must possess BA/BS in the field of Biology, Chemistry, Molecular Genetics or relevant field prior to conducting laboratory bench functions involving casework.
They must have an understanding of the Scientific Method and Best Laboratory Practices.

Understanding of Quality Assurance and Quality Control procedures.

General computer knowledge

Must be aware of the FBI Quality Assurance Standards (QAS) for Forensic DNA Laboratories.

SPECIAL REQUIREMENTS

May require possession and maintenance of a valid Florida driver's license. Must successfully complete a background investigation including a polygraph or voice stress test. Mandatory pre-employment physical and drug screening tests required.

PERFORMANCE APTITUDES

Data Utilization: Requires the ability to coordinate, manage, and/or correlate data. Includes exercising judgment in determining time, place and/or sequence of operations, referencing data analyses to determine necessity for revision of organizational components, and in the formulation of operational strategy.

Human Interaction: Requires the ability to communicate clearly with immediate staff and supervisors. Includes the ability to take direction and make decisions on procedures and technical tasks.

Equipment, Machinery, Tools, and Materials Utilization: Requires the ability to operate and control the actions of equipment, machinery, tools and/or materials requiring complex and rapid adjustments.

Verbal Aptitude: Requires the ability to utilize conceptual data and information, as well as reference, descriptive, design, advisory, consulting and synthesis data and information as applicable.

Mathematical Aptitude: Requires the ability to perform addition, subtraction, multiplication and division; ability to calculate decimals and percentages; may need to utilize principles of and interpret statistics; ability to perform mathematical operations involving algebraic principles and formulas and geometric principles and calculations; and the ability to calculate volumes, weights, and measures.

Functional Reasoning: Requires the ability to apply principles of logical or conceptual thinking to determine a wide range of both intellectual and practical relationships, and to exercise judgment and make decisions to serve as guides and general directives for an entire organization.

Situational Reasoning: Requires the ability to exercise judgment, decisiveness and creativity in situations involving the direction, control and planning of an entire program or set of programs.

ADA COMPLIANCE

Physical Ability: Tasks require the ability to exert light physical effort in sedentary to light work, but which may involve some lifting, carrying, pushing and/or pulling of objects and materials of light weight (5-10 pounds) and occasionally may involve stooping, kneeling, crouching and crawling and lifting of heavier items (up to 20 pounds). Tasks may involve extended periods of time at a keyboard or work station.

Sensory Requirements: Some tasks require the ability to perceive and differentiate colors or shades of colors, sound, odor, and visual cues or signals. Tasks require the ability to communicate orally.

Environmental Factors: Performance of essential functions may require exposure to adverse environmental conditions, such as odors, fumes, temperature extremes, machinery, electric currents, traffic hazards, toxic agents, disease, pathogenic substances, repetitive wrist motion, or bright/dim lights.

The Palm Beach County Sheriff's Office is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act, the Sheriff's Office will provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer.

Appendix E: BPL Laboratory Analyst Checklist

Review Summary of [INSERT NAME], Laboratory Analyst, BPL Training Module Description (Updated: Meeting 6/5/15)	Training Complete	Not Done / Incomplete	No / Incomplete Documentation	Manual Change Needed
Required Reading Documentation and Reviews				
BPL Quality Assurance Manual	X			
BPL Methods Manual	X			
Required Literature (see Appendix List in Training Manual)	X			
Training Lectures and Demonstration				
Evidence Custodian	X			
Quality Assurance and Quality Control		X		
Blood Detection		X		
Identification of Semen		X		
Safety Training	X			
BBP Training	X			
FSM or Designee Review				
Training Notebook		X		
Checklist/Log			X	
Observation Notes		X		
Bench Practical Exam				
100% Accuracy for Test Samples	X			
≥85% Evidence Handling, Documentation, Report Writing		X		
Comprehensive Written Exam (>85%)				
Evidence Handling	X			
Blood Detection	X			
Identification of Semen	X			
Specific Areas of Training				
Luminol	N/A			
KM (Presumptive Blood Test)		X		X
Hb (Confirmatory Blood Test)		X		
ALS (Pre-presumptive Semen Test)	X			
AP (Presumptive Semen Test)		X		
Microscopic (Confirmatory Semen Test)		X		
P30 (Confirmatory Semen Test)		X		
Reviewing Casefiles				
Casefiles Reviewed	X			
Casefiles Reviewed by FSM/Designee (see Page 5 in Training Manual)			X	
PBSO Proficiency Results	X			