

Findings of the Houston Forensic Science Center Crime Scene Unit Officer Involved Shooting Audit

Conducted June 27-June 29, 2016

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Introduction

The past decade has seen several challenges for forensic science in the City of Houston. One of the outcomes of this increased scrutiny was the formation of the Houston Forensic Science Center (HFSC), a local government corporation created in 2014, to provide independent forensic services to law enforcement agencies, primarily the Houston Police Department (HPD). The city's crime lab had been under the HPD prior to the formation of the HFSC. The Crime Scene Unit (CSU) is staffed primarily by HPD Officers and Sergeants. CSU investigates, processes, documents, and collects evidence in serious crimes - mainly homicides and officer-involved shootings.

Recently, the District Attorney's Office and HPD's Homicide Division expressed concerns about HFSC's timely delivery of services and the quality of those services.

In response to this, Dr. Daniel Garner, Houston Forensic Science Center President and CEO invited a team of auditors to Houston to conduct an audit of the Crime Scene Investigation Unit. The audit was conducted June 27 - 29, 2016. The team consisted of Karen Green, Matthew Noedel and Barry Fisher. A short biography for each auditor can be found in the Appendix.

The project consisted of a three day on-site visit by the auditors. We were asked to perform the following work:

- Review officer-involved shooting scenes processed by the HFSC Crime Scene Unit (CSU) during the preceding two-month period, to include documentation and reports.
- Review CSU Standard Operating Procedures (SOPs) in general, and specifically those used in officer-involved shooting scenes.
- Provide written recommendations for improving crime scene processing specifically those used in officer shooting scenes.

The audit team spent much of their time interviewing staff including the President and CEO, the COO, Director, Lieutenant, two Sergeants and several CSU classified officers. Several case files from various members of the CSU were reviewed. In context with officer involved shootings we considered the operation of the unit and cooperative efforts between the HFSC, HPD, CSU responders and homicide detectives. As we were only able to speak with some of the members of the HFSC CSU in the three days on-site, there may be additional considerations not developed for the purposes of this report. We would welcome input from outside agencies that may shed some light on the issues at hand.

Background of the Crime Scene Unit

- The CSU is divided into three shifts and operates 24 hours a day.
- The Vehicle Examination Bay (VEB) has traditionally staffed 2 CSI and operates during normal business hours.
- There were 42 Officer Involved Shooting (OIS) Scenes in 2015.
 - There have been 28 OIS scenes in 2016.
- When the CSU became an official part of the HFSC on April 3, 2014 it was staffed as follows:
 - 1 Lieutenant
 - 4 Sergeants
 - 1 Civilian
 - 22 Officers (2 of these officers were assigned to the Vehicle Examination Bay and 5 were new and training.)
 - The original Lieutenant retired in the summer of 2014. His replacement, also a commissioned Lieutenant, started in September of 2014 and then returned to HPD in September of 2015. The current civilian director has been in place since December 2015.
- The unit is currently staffed as follows:
 - 1 Civilian Director
 - 4 Sergeants
 - 16 Officers (Officers are currently sharing responsibility at the VEB)
 - 4 Civilian CSI
 - 1 Civilian Admin (VEB)
 - The HFSC is actively working to fill 3 open positions with either commissioned or civilian employees.
- Originally located on the 10th floor of the HPD building at 1200 Travis, the CSU moved to 1301 Fannin in June of 2015. Due to difficulties resulting from the 24 hour schedule, the CSU anticipates moving back to 1200 Travis near the end of July 2016.
- With accreditation in mind, the CSU has been working on process improvement and has been creating and fine tuning standard operating procedures, training programs and reporting guidelines.

Processing the Crime Scene

The National Commission of Forensic Science in conjunction with National Institute of Standards and Technology and the Department of Justice has been tasked with offering suggestions to enhance and improve the reliability of forensic science. One recommendation from this Commission was to require prosecutorial offices to use only accredited agencies by the year 2020. This recommendation is driving agencies to seek accreditation sooner rather than later. The HFSC has adopted the “sooner rather than later” approach to assure that the service provided is current with this industry standard. Current CSU’s must understand that this new criteria is going to happen to all in Forensic Science, not just the HFSC, and as such accept the more stringent requirements. The HFSC management, as well as external agencies must in turn recognize that these new requirements are much different than the past practices successfully used by the CSU.

Crime scene processing is a daunting task and people will make mistakes. That which looks obvious while sitting in an air-conditioned office is anything but obvious when working into the late hours of a scene. When reviewing another person’s work without the pressures of time, rain, heat, fatigue, media presence, and emotion it is very easy to be critical. With that in mind, and through a combination of interviews and case file review, the audit team made the following observations.

There appears to be an over-reliance on photographs.

- In many instances, there were elements of the report that were not specifically supported by the written notes (as exemplified by one case with a 35 page report yet only 4 pages of notes). A photograph of bullet strikes through a windshield does little to help reconstruction in the future. A point of view image, while potentially helpful as a demonstrative is unlikely to be valid to document any bullet path examination.
- It is apparent that the reason for this is the limit of time and resources on the scene. The mechanical action of accessing a camera, taking a picture, dropping the camera, picking up the notes, writing the data, setting the notes down to use a ruler, protractor or tape measure, take a measurement, write it down and repeat is vastly time consuming. Having a secondary responder who can follow the directions of the primary (the primary responder is the main note taker who will write the report) would allow for the primary to keep a better written record of sketches and measurements.
- At least two members of the CSU should respond to scenes. Documentation of a crime scene is an immense task. The current level of written notes typically recorded by the CSU will not stand up to future scrutiny. Staffing levels in the CSU should allow for multiple people on each major scene. If additional full time responders cannot be obtained initially, the potential for trained lab staff to assist on scene does exist.

CSU responders with insufficient experience are being asked to work complex scenes beyond their skill level.

- Crime scene investigation is a difficult job that cannot be mastered through training alone. Each scene is unique, there are no checklists to cover every possibility, and critical thinking is essential. Developing those critical thinking skills comes only with time and experience that new responders do not possess (through no fault of their own). New or inexperienced CSU responders cannot

and should not be expected to process an OIS event in the middle of the night with little or no mentorship.

At a minimum an experienced responder should be available for call-out at all times. An incentive such as stand-by pay for on-call status may help encourage experienced responders to accept extra assignments.

There are available resources that are not being used.

- The HFSC currently has two FARO Focus 3d X330 scanners. Use of the FARO to capture millions of measurements in the scene should be implemented in OIS situations. Although the use of the FARO system does not replace focused searching and written documentation it is an invaluable tool that needs to be utilized.
- At least four current members of the CSU have completed FARO training. The skills are perishable and hands-on time with the scanners is critical. They need to be supported in their efforts as they make this technology a regular part of scene response. While it may appear initially to increase time on scene, the end product will provide extensive data that would not be captured with hand measurements and photographs. Education for outside agencies regarding the FARO and resulting products/exhibits may be beneficial.

Decisions were made to NOT collect/process due to scene circumstances

- The purpose of the response by the CSU to a crime scene is to document the entire scene regardless of how the documentation may or may not be used in the future. To that end, it is not simply enough to appease the homicide Detective who feels that he has an iron clad case and can stop processing when he feels he has “enough”. We never know what will be introduced during a trial and in OIS situations, there may very well be a civil litigation process years down the road.
- One file included a decision to not collect/process vehicles because the subject person was deceased. Although one subject may be deceased, there may be others involved that are not apparent during the early stages of the investigation. Such oversight plays directly into the hands of conspiracy theorists, opposition and civil attorneys. While at a scene, it is not possible to know what an opposition approach will be. It is always best to process the scene fully as there is only one chance to do so.
- The decision to not process/not collect should not be dictated by perceived scene circumstances. Each event should be processed with the same criteria of thoroughness and completeness. Further, the CSU must be free to process the scene without bias or extraneous information. It is critical that the evidence speak for itself. If the involved officer is there telling colleagues “what happened” it can be very difficult to see beyond those words. Writing that something makes sense “because that is what the officer said happened” is not supported or irrefutable proof. It is in the best interest of all involved that the CSU thoroughly document each scene so that conclusions are supported with solid evidence.
- Management of the CSU as well as HPD detectives must recognize and accommodate this approach. This requires additional time and resources, but will assure a consistent high level “product” from each scene, simple or complex.

Data in the notes/charting police firearms must be used to find evidence

- The count of cartridges remaining in of an officer's (or any subject) firearm is important to record. While this data appears to be collected, it should be used to facilitate how many items of evidence one is trying to locate while on scene.
- Using this count in conjunction with the scene search provides a platform to support the examiner in their efforts. For example, if an officer is known to start with 15 + 1 in their firearm and turns in 8 +1, then by all accounts one should be trying to locate 7 fired cartridge cases and 7 fired bullets.
- Attempts should always be made to account for and collect each fired cartridge case and resulting projectiles. The written notes should be used to document both the count and the attempts to locate each component. If the scene search does not locate all components, the notes should reflect where and how the examiner searched for these pieces including any potential pieces left in a person.

There appears to be too many people in the scene

- The recent shooting event over Memorial Day weekend highlighted the need for scene control. Non-essential personnel on scene not only jeopardizes evidence, it creates difficulty with scene photographs and video. It can also be a distraction to the CSU responder. Crime scene investigation requires concentration and a methodical approach to processing. When that method is interrupted and the responder is pulled in multiple directions due to requests from multiple people, evidence and documentation can be compromised.
- The HPD protocol for OIS events (as taken from their website) dictates the following:
 - All OIS scenes occurring within the jurisdictional limits of HPD are independently investigated by multiple divisions and agencies. The following list represents the typical entities that will respond directly to the scene and perform duties associated with the investigation. 1. HPD Homicide Division 2. Houston Forensic Science Center Crime Scene Units 3. HPD Internal Affairs Division 4. Harris County District Attorney's Office - Civil Rights Attorney 5. Harris County District Attorney's Office – Investigators 6. Legal Counsel for the officer involved 7. Media Relations Unit 8. Medical Examiner's Office 9. Officer Safety Unit.

While there is certainly a need for all appropriate entities to be represented on scene, there is a difference between who is "on scene" and who is "in the scene" and under the tape. In reality, only a select handful of individuals (representing each agency) truly need to walk through a scene. Crime scene logs should record each individual who entered the scene and their purpose for doing so.

- Given the magnitude of the recent shooting event, it would be beneficial to conduct a "post mortem" of the scene. An in-depth assessment of the scene would highlight what went right, what went wrong, who played what role and how the process could be improved in the future. It would be a good opportunity

for the involved agencies to work together outside of an active scene and communicate effectively.

There is an overstatement of evidence.

- In one instance, the scene responder associated the proximity of fired cartridge cases with them having all originated from the same gun. Unless a microscopic exam was conducted on scene, the source of such pieces should not be speculated upon. Finding “generic” ways to describe “reconstruction” observations reduces potential interpretation errors down the road. Additional training on consistent and accurate report writing would be beneficial. Implementation of full technical review by another expert (as required by ISO standards) will assist in catching some of these over-statements.

There is a need for collaboration on scene and between agencies.

- As the CSU grows and develops they will move towards a more thorough scene approach, to include crime scene reconstruction. In order to perform successful crime scene reconstruction the analyst must have access to documents such as autopsy reports, witness statements, medical records, 911 calls, and police reports. Currently the CSU is unable to obtain this information on a routine basis. In the absence of documents such as autopsy reports, the analyst cannot accurately assess a bullet count, much less perform even a basic bloodstain pattern analysis. At no time should any scene conclusions be built on speculation or second hand information. Relationships with outside agencies must be developed so that critical information can be obtained and shared.
 - The review team experienced this difficulty firsthand when we requested case files for our review. As a part of the review we expected that case photos would be provided with the files. This is a routine process for audits around the country. The photos were not made available to us due to security issues. Aside from the issue that we were unable to fully review work done at the scene it seems unreasonable that HFSC does not have easy and routine access to photos taken by members of the CSU.
- The CSU is not comprised of “garbage collectors” available for any menial task. The CSU must be given some freedom and authority to process a crime scene commensurate with their training and vision of crime scene analysis. A strong working relationship must be developed between HPD investigators and members of the CSU. Each unit should complement the other and play to individual strengths for the greatest benefit to the scene.

In light of recent quality issues the HFSC has taken several steps towards improvement (this audit being one example). The director of the CSU has been attending all OIS events. The firearms examiners are beginning to work more closely with the CSU with the intention of attending future scenes. Five CSU personnel as well as six laboratory firearms examiners attended a one week shooting scene reconstruction course the week of June 13, 2016. Structured training courses in shooting scene reconstruction are essential for all CSU personnel. Further, those firearms analysts that attended the shooting scene reconstruction class should use and strengthen their new skills before they are lost due to inactivity. Starting to incorporate the recently trained firearm

examiners in controlled events (such as processing a car at the VEB for bullet path analysis) would assist in retaining new knowledge.

Recommendations/Conclusions

During the course of the audit the team considered other approaches beyond the technical and operations issues that we were tasked to examine. Issues with chain of command, morale and communication were noted. These issues clearly create barriers to overall success and would benefit from future consideration.

The ideal crime scene unit would operate under the following parameters:

- A fully staffed team to allow for timely response to all requested investigations.
- At least 2 responders at every scene with no pressure to clear scene any faster than the evidence dictates.
- Each responder would gain sufficient experience and training before being expected to respond to a scene in a primary responder capacity.
- Each of the three shifts would have a balance of experienced and newer members.
- Each responder would be fully trained in bloodstain pattern and trajectory analysis. This training would occur early in their career with consideration for future advanced classes.
- Team members would have access to other specialized training and conference participation (IAI, ACSR, IABPA).
- Each responder would have a working knowledge of all sections of the crime laboratory and routinely interact with analysts in the lab.
- The CSU would be involved in the prioritization of evidence submitted to the lab.
- The CSU would receive results of police, autopsy and laboratory reports and incorporate them as necessary into follow-up crime scene files and reports.

The current situation in the CSU is far from the ideal model outlined above. The fault does not lie with one agency in particular but is rather a combination of factors. While the last two years have been challenging, it is our belief that the situation is not irreparable. Solutions must be developed and implemented to bridge the apparent communication gap between agencies.

Our interaction with members of the CSU indicated they are a group of dedicated and hard working professionals who take pride in their work. Although they will benefit from more training and experience, they take their job seriously. They are eager to receive that training and gain the experience that will improve job performance. It is in the best interest of the CSU to remain in an environment that values quality over quantity. At no time should timeliness of a report take precedence over the quality of the work produced. No pressure should be placed on a member of the CSU to release a product before the appropriate reviews have taken place. The HFSC values an accurate and quality product and should support the CSU as they strive towards excellence.

The investigation of a crime scene cannot be completed by one group alone. The most successful agencies understand the importance of working together. It is not the responsibility of a single person to know everything, but rather to know what resources are available and utilize them when necessary. The HFSC, HPD, DA's office and the ME's office all play a vital role in Harris County. They should exist to assist one another to reach the end goal: an accurate, well documented and well supported conclusion to an investigation.

Respectfully Submitted;

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APPENDIX

Karen Green

Karen Green has been a Forensic Scientist for 21 years. After graduating from Washington State University with a Bachelor of Science in Biology she began her career as a DNA analyst and crime scene investigator with the Texas Department of Public Safety. She returned to Washington in 1998 where she continued her forensic career with the Washington State Patrol. After several years working in the lab she was chosen in 2004 to join the newly formed crime scene response team and spent three years juggling the dual responsibility of DNA lab work and crime scene investigation. In 2007 she was promoted to Coordinator and Forensic Technical Lead of the Washington State Patrol Statewide Crime Scene Response Team.

As head of the crime scene response team Karen coordinated and provided analysis on some of the most complex cases in Washington State history. She became a certified ISO assessor for ASLCD/LAB in 2008. In 2010 Karen was invited to work as a consultant with ICITAP (International Criminal Investigation Training Assistance Program), a branch of the United States Department of Justice. Karen has traveled to Colombia, Paraguay, Sri Lanka and Mexico providing assistance and training in the areas of DNA analysis and Crime Scene Investigation.

Since 2011 Karen has worked for herself as President of Green Forensics, Inc. She holds professional affiliations with the American Academy of Forensic Sciences, International Association of Identification, International Association of Bloodstain Pattern Analyst and the Association for Crime Scene Reconstruction (ACSR). She currently holds the position of Chairman of the Board for ACSR following terms of board member, president-elect and President (2015). She was recently one of sixteen people nationwide to be appointed to the newly formed Organization of Scientific Area Committees (OSAC) subcommittee on crime scene investigation.

Barry Fisher

Fisher, received his Bachelor of Science degree in chemistry from the City College of New York. He holds a Master of Science degree in chemistry from Purdue University and an M.B.A. degree from California State University, Northridge.

He served as the Crime Laboratory Director for the Los Angeles County Sheriff's Department, a position he held from 1987 until his retirement in 2009. He began his career in criminalistics with the Sheriff's crime lab in 1969 and worked in a wide variety of assignments, including crime scene investigations.

His current interests concern the interrelationship between forensic science and the law along with public policy issues concerning the timely delivery of quality forensic support services to the criminal justice system.

Fisher is a member of several professional organizations. He is a Distinguished Fellow and past-president of the American Academy of Forensic Sciences. He served as president of the International Association of Forensic Sciences, president of the American Society of Crime Laboratory Directors and a past- chairman of the American Society of Crime Laboratory Directors/Laboratory Accreditation Board.

Fisher has served on several editorial boards: the Journal of Forensic Sciences, the Journal of Forensic Identification, Forensic Science Policy and Management and the McGraw-Hill Encyclopedia of Science and Technology. Fisher is a life member of the International Association of Chiefs of Police. He served on the Commonwealth of Virginia Forensic Science Board.

His textbook, *Techniques of Crime Scene Investigation*, enjoys wide popularity. He has co-authored two other books: *Forensics Demystified* and *Introduction to Criminalistics: The Foundation of Forensic Science*.

Since retiring, Fisher has consulted for the United Nations Office on Drugs and Crime, the United States Department of Justice, International Criminal Investigative Training Program (ICITAP) and Analytic Services Inc., a not-for-profit institute that provides studies and analyses to aid decision-makers in national security, homeland security, and public safety.

Matthew Noedel

Matthew Noedel holds Bachelor of Science Degrees in Microbiology and Forensic Science with a minor in Chemistry. He first entered the forensic profession in 1987 as a toxicologist in Sacramento, CA where he routinely examined both production pre-employment drug screening samples and conducted specific criminal forensic evaluations. In 1990, Mr. Noedel was hired by the Washington State Patrol (WSP) Crime Laboratory as a civilian employee in the Chemistry and Trace Evidence disciplines.

In 1995, Mr. Noedel transferred from the Chemistry and Trace Evidence disciplines to the Firearm Examination Unit at the WSP Crime Laboratory. Concurrently, during his 15-year tenure at the WSP Crime Laboratory, Mr. Noedel worked as a member of the crime scene response team, duties which included crime scene processing, evidence collection, scene reconstruction and training of new crime scene response members. These experiences vastly increased his interest and abilities in the reconstruction of shooting crime scenes.

In 2005, Mr. Noedel left the WSP Crime Laboratory system and began Noedel Scientific, a private forensic consulting company involved with case analysis and training in crime scene reconstruction and processing. Mr. Noedel frequently provides courses at local, national and international training conferences and besides publishing in those forensic journals, has authored the chapter on "Shooting Scene Processing and Reconstruction" in the book "Practical Crime Scene Analysis and Reconstruction" by Gardner and Bevel. Mr. Noedel is a past president of the Northwest Association of Forensic Scientists and the Association for Crime Scene Reconstruction. In addition, Mr. Noedel is a distinguished member of the Association of Firearm and Tool Mark Examiners and is certified in Firearms, Tool Marks, and Gunshot residues from that organization and holds the certification from the IAI in Crime Scene Reconstruction.