

January 09, 2017

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Re: Florida vs Matthew Danler

Mr. White:

1. At your request, I have reviewed the material provided in respect to this matter. Based upon your instructions of December 15, 2017, I understand that you wish me to address this event from the perspective of a trained police officer, given the work I have undertaken regarding the danger posed by turning motor vehicles and the threat perception resulting.
2. As a result, this report will address the following factors:
 - a) general police procedures in responding to 911-hangup calls;
 - b) turning characteristics of motor vehicles;
 - c) the impact of visually looming threats on human threat perception;
 - d) police use of force, including factors associated with threat perception, response, and performance during rapidly unfolding, dynamic encounters;
 - e) related firearms training issues; and
 - f) an evaluation of the video captured by Mr. Danler's body worn video camera.

Each of these points is addressed within this report. In addition, complimentary issues touching on these points are outlined and explained.

Opinions

3. The remainder of this report will provide the foundation for several opinions, expressed below:
 - a) Calls involving reports of suspicious circumstances, such as a "911 hang-up" are generally treated as a priority one call – attend immediately.
 - b) Given the information outlined in this report, including:
 - i. an analyses of Matthew Danler's body-worn video camera recording of the event;
 - ii. the evidence of tire marks in the front yard at the scene as photographed;
 - iii. the estimation of the distances associated with photos publically available on Google Earth Pro;
 - iv. the reported turning radius of the Chrysler 300 model driven by Mr. Scott;
 - v. testing the turning capacity of a variety of motor vehicles; and

- vi. the comments of Officer Heim and Ms. Beatrice Sheppard-Scott, the vehicle driven by Mr. Scott possessed a turning capacity sufficient to cause Mr. Danler genuine concern that his personal safety was threatened.
 - c) Given the research literature related to threat perception of oncoming dangerous objects, and with no experience or practice to the contrary, some police officers will shoot at oncoming motor vehicles.
 - d) Mr. Danler was faced with evaluating a threat he has likely never encountered before and one that is not covered during general police training – that of an on rushing motor vehicle being steered at him.
 - e) The vehicle driven by Mr. Scott possessed a turning capacity sufficient to cause Mr. Danler genuine concern that his personal safety was threatened.
 - f) Mr. Danler did not draw his duty pistol until after the vehicle had started its forward motion.
 - g) Mr. Danler was drawing his pistol as fast as he could.
 - h) The Chrysler had moved about four feet south from its starting position, toward the direction of Mr. Danler.
 - i) The Chrysler appeared to be two to three feet away from him at its closest point when Mr. Danler fired his first shot.
4. The information provided with respect to police training is based upon my experience as a police officer, including attending classes, courses, seminars and symposiums throughout North America as well as my experience as a law enforcement trainer engaged in similar processes throughout Canada and the United States since 1983. The details of my experience as a police officer and trainer are outlined within my curriculum vitae and include experience with calls of the nature similar to this case, as a front-line patrol officer, as a Tactical and Rescue Team (SWAT) member, and as a member of a criminal investigation bureau. Information concerning other aspects addressed will be supported with empirical evidence where available.
5. Based on the review conducted, as outlined in this report, the material provided for review and other information collected, my understanding of the event, and my experience, education and/or training, it is my opinion that:
- a) the conduct of Mr. Danler is consistent with prudent police practice and training;
 - b) Mr. Danler used appropriate force under the circumstances, as he perceived them to be at that time.

Background

6. My analysis and comments on this incident are based upon a combination of 38 years of police operational and training experience, and other use of force expertise. My operational

experience was collected over 16 years within two different police services including one of Canada's largest while my instructional experience consists of 34 years in both physical skills and academic environments including over 20 years instructing at one of North America's largest police training facilities. Additionally I have been involved in the following activities:

- Provided training, consultation, comment, and presentations regarding police use of force throughout North America, Europe, and Australia.
 - Permitted to offer expert opinion evidence on police procedures, police training and use of force related issues to courts within Ontario, Alberta, British Columbia, Newfoundland, and Quebec as well as in State court in Utah and Colorado and Federal court in Alabama.
 - Provided testimony before the House of Commons Standing Committee on Public Safety and National Security in Canada.
 - Deposed as a police procedures expert in civil suits in the states of Alabama, Arizona, Florida, Illinois, Kansas, Nevada, and Wyoming.
 - Completed a Master of Arts degree in Leadership and Training (MALT), specializing in Justice and Public Safety Leadership from Royal Roads University, Victoria, British Columbia.
 - Consulted regularly on police use of force, operational, and training issues throughout Canada at the local, state/provincial and federal level as well as on U.S. local, state and federal matters.
 - Authored and co-authored law enforcement related articles, including peer-reviewed papers.
 - Provided live and recorded interviews to the local and national news industry on law enforcement matters.
 - Provided a pre-publication review of a book on Canadian policing, now in publication.
7. As of August 2017, I have effectively retired from my career as a police use-of-force instructor. I am the president of Elgin Security Consultants Inc., a corporation providing services in respect to expertise to clients based on my training and experience as a police officer and police trainer over a 38-year career. My time and comments associated to this review effort and testimony, if required, is independent of any previous employment as well as any current or past affiliations.
8. I remain a Technical Advisor to the Force Science Institute as well as a facilitator and instructor on the Force Science Institute Certification Course, with experience facilitating classes relating to the investigation of police use of force in England, the U.S., and Canada. In particular, I have trained police officers with respect to human performance issues (e.g., reaction and response times) and limitations of human perception during rapidly unfolding, tense, uncertain events and the impact these factors might have on an investigation.
9. I am aware that it will be the jury who determines precisely what occurred during this incident, including credibility issues. The comments provided within this report are not intended to usurp that role, but merely to assist the reader of this report to understand the information upon which I formulated my comments. I am also aware that, if I am permitted to provide expert

testimony on matters related to my training, experience, and education, I have a duty to assist the court by providing objective, impartial evidence.

10. The issues mentioned above include aspects of police training I have been providing to police investigators, legal counsel, civilian oversight investigators and other interested parties (e.g., law school faculty, psychologists) during courses taught in Canada, England, and the United States in which I participated as a facilitator and instructor in the past.
11. My comments remain dependent upon the information provided. Upon the disclosure of additional information, these comments and opinions are subject to revision.

Material Provided for this Review

12. The following is the list of materials reviewed in respect to this matter:

Florida Department of Law Enforcement Criminal Investigation Records and Reports:

- a) *Use of Force Investigation, OR-27-0266. Special Agent Nicole Miller, Florida Department of Law Enforcement (OR-27-0266 E-Book Nicole Miller.pdf – 138 pages);*
 - i. INV-2 Radio Traffic 20162450589_8A_0555 to 0800 HRS.mp3 (142.49 MB)
 - ii. INV-3 20162450589.mp3 911 Call Recording (928.57 KB)
 - iii. INV-3 20162450600.mp3 Recording of Call from Neighbor re: shots fired (463.78 KB)
 - iv. INV-3 20162450605.mp3 Recording of Call to 330 Reed Avenue re: Beatrice Sheppard-Scott at the door (4.94 MB)
 - v. INV-4 Chris Salemi.mp3 (9.41 MB)
 - vi. INV-5 Edward Heim.mp3 (10.21 MB)
 - vii. INV-7 Interview of Beatrice Scott.mp3 (20.29 MB)
 - viii. INV-8 Sworn Interview with Christine Nickolas.mp3 (12.43 MB)
 - ix. INV-10 Sworn Statement with Isaiah Nickson.mp3 (8.72 MB)
 - x. INV-12 Interview of Sgt Sacco.mp3 (11.90 MB)
 - xi. INV-17 Sworn statement from Patricia Martins 09-01-16 1006hrs.mp3 (6.68 MB)
 - xii. INV-19 Sworn Statement from Jessica Alicea 09-01-16 1038hrs.mp3 (5.86 MB)
 - xiii. INV-22 Sworn statement from David Monies 09-01 -16 1026hrs.mp3 (8.23 MB)
 - xiv. INV-24 Detective George.mp3 (6.16 MB)
 - xv. INV-25 Interview of Officer Stephan Seiltgen.mp3 (5.90 MB)
 - xvi. INV-38 Recording of Dexter Campbell.mp3 (4.20 MB)
- b) Officer Danler Body Cam 1.mp4 (136.64 MB)
- c) Officer Danler Body Cam 2.mp4 (295.03 MB)
- d) Officer Salemi Body Cam 1.mp4 (318.05 MB)
- e) Officer Salemi Body Cam 2.mp4 (84.30 MB)

- f) Deposition of Crime Scene Analyst Jacqueline Grossi, November 14, 2017, Sanford, Florida (50 pages).

Photos

- g) DSC_0051.JPG – DSC_0064.JPG (14 photos)
- h) DSC_0088.JPG – DSC_0091.JPG (4 photos)
- i) DSC_0120.JPG – DSC_0130.JPG (11 photos)
- j) DSC_0174.JPG – DSC_0420.JPG (247 photos)

Videos

- k) Officer Danler Body Cam 1.mp4 (length 10:06)
- l) Officer Danler Body Cam 2.mp4 (length 21:50)
- m) Officer Salemi Body Cam 1.mp4 (length 23:47)
- n) Officer Salemi Body Cam 2.mp4 (length 06:16).

Miscellaneous

- o) VIN 2C3KA53G06H113175: 2006 Chrysler 300 Touring - Decode This VIN Decoder (<https://www.decodethis.com/vin/2C3KA53G06H113175>) – (4 pages)
- p) VIN 2C3KA53G06H113175: 2006 Chrysler 300 Touring - Decode This VIN Decoder (<https://www.decodethis.com/vin/2C3KA53G06H113175>) – (4 pages)
- q) 2006 Chrysler 300 Spec & Performance Sedan 4D Touring Specifications [<http://www.nadaguides.com/Cars/2006/Chrysler/300-V6/Sedan-4D-To>] – (6 pages)
- r) Truck Bed Size Charts [<http://www.truckinamerica.com/toppers/BedSize.htm>] (7 pages).

Synopsis of Event

- 13. On Thursday September 1, 2016, at approximately 0555 hours, Oviedo Police Department Officer Matthew Danler¹, Officer Chris Salemi, and Officer Ed Heim responded to a residence in relation to what was reported as a “911 hang up” call.²
- 14. The address where the officers were sent, “996 Sharon Court” does not exist within Oviedo, Florida.
- 15. Officers arrived near the front of 990 Sharon Court at 5:58:59 am. Upon arrival, Officer Salemi observed a door ajar at 990 Sharon Court.³
- 16. A black Chrysler 300 motor vehicle with dark tinted windows was backed into an open area in the front yard at 990 Sharon Court. This car was facing westbound, toward the roadway, on the north side of a tan colored Chevrolet S10 pickup. Unknown to the officers, the Chrysler

¹ Officer Danler has been dismissed from the Department in relation to his actions taken during this event. The remainder of the report refers to Officer Danler as Mr. Danler.

² OR-27-0266 E-Book Nicole Miller.pdf, page 4

³ INV-4 Chris Salemi.mp3 (9.41 MB)

contained two occupants, a male driver and female passenger, sitting in the front seats with interior lighting off and engine running.

17. Mr. Danler exited his patrol vehicle after parking behind the patrol vehicle containing Officers Heim and Salemi. Mr. Danler walked past the other marked unit, parked parallel to a line of cars parked along the front of 990 Sharon Court, to a point near the left rear corner of the a Chevrolet S10 pickup, parked just south of the Chrysler.
18. As Mr. Danler approached the left rear corner of a pickup truck parked next to the Chrysler, the Chrysler began to accelerate forward while the rear wheels began to slide to the south, causing the driver's side of the car to move towards Mr. Danler. At the same time, the front wheels turned into a forward left turn, which oriented the accelerating vehicle in the direction of Mr. Danler's location.
19. Mr. Danler began backing away from the threat posed by the oncoming Chrysler causing him to move further westward, into the roadway.
20. As the Chrysler rapidly approached Mr. Danler's location, he rapidly fired approximately six rounds at the Chrysler.
21. The Chrysler vehicle, driven by Mr. Jason Scott, fled the area and was later located in Orlando.
22. Mr. Scott was also located in Orlando and transported to Orlando Regional Medical Center (ORMC) and treated for gunshot wounds. Beatrice Sheppard-Scott was located later at 330 Reid Ave, Oviedo, Florida and treated for her injuries.

General Police Procedures in Responding to Suspicious Circumstances

23. Calls involving reports of suspicious circumstances, such as a "911 hang-up" are generally treated as a priority one call – attend immediately. This opinion is consistent with the call priority assigned by the Oviedo Police Department dispatcher⁴ and Officers Danler, Salemi and Heim attended to this call despite it coming in before their shift started at 6 am that day.
24. These types of calls can involve a need to protect a threatened or potentially injured party and can create exigent circumstances requiring a rapid police response involving the use of lights and sirens on police vehicles in order to quickly and safely respond to the scene. Generally, unless traffic patterns require continued use, police use of emergency lights and sirens are commonly discontinued prior to arrival.
25. It is not unusual for officers to turn off all vehicle lights as they move toward the location of the reported event. This step can be taken to assist in covering the officers' approach.

⁴ INV-2 Radio Traffic 20162450589_8A_0555 to 0800 HRS.mp3 (142.49 MB)

26. Upon arrival at a scene, efforts should be made to locate involved parties in an attempt to stop any attack and/or mitigate injury as well as protecting victims and the public. If a victim cannot be located, persons in an area where an incident is believed to have occurred can expect to be approached by police requesting their assistance in providing information to expedite locating a victim or a suspect. Persons who appear to be hurrying to leave the area or ignoring clear commands by police to stop can expect to be intercepted for further investigation. Each case must be evaluated on its own merits.

Turning Characteristics of Motor Vehicle Movements

27. Given a motor vehicle where the front wheels are turned to the left, the motor vehicle does not simply go forward. For example, the forward portion will veer left toward the direction and to the extent the front wheels are turned. Similarly, the forward portion of a motor vehicle, with front wheels turned to the right, will also veer to the right as it moves forward.
28. Modern motor vehicle design is such that the radius of a motor vehicle's turn is not at the front axle, but rather, parallel with the rear axle. I have confirmed through testing a variety of motor vehicles that a modern automobile, which steers by movement of the front wheels only, with the steering wheel turned left or right, will generally move along a consistent arc until it completes a circle, dependent upon the surface over which the automobile is moving and the extent to which the steering wheel is turned. The radius of the turning circle falls along a line extending through the rear axle rather than the front axle. The size of the circle is determined by the extent to which the front wheels are turned and the design of the vehicle's steering mechanism as well as the size of the motor vehicle (American Association of State Highway and Transportation Officials, 2011).
29. I have tested and confirmed this point using a variety of motor vehicles (Toyota, Hyundai, Chevrolet, Ford, Acura, Chrysler) in relation to the turning capacity in both forward and reverse directions, particularly with the front wheels turned in either direction to the maximum extent. While the extent to which the vehicles move laterally can be different, the movement characteristics of motor vehicles are consistent.
30. Testing has shown that it is possible to turn some motor vehicles to such an extent that the motor vehicle may run into a person standing next to the front quarter panel, depending on where the person is standing and how far the wheels are turned in the same direction. The gap between a person standing at or near a front quarter panel of an automobile will diminish as the car moves forward, again, depending on the degree to which the wheels are turned.
31. With the front wheels turned and the drive train in forward, all motor vehicles turn while moving forward and make a sweeping type movement with the front end. The farther forward of the front bumper one stands, the greater the potential to be successfully intercepted by the driver and run down. The diagram below provides a representation of the danger posed by the potential movement of the front of a motor vehicle.



Figure 1. – Relative danger area surrounding a motor vehicle.⁵

32. During their careers, police officers routinely see the results of damage, physical injuries, even deaths, resulting from vehicle collisions, particularly when a pedestrian has been struck. Knowing what a motor vehicle is capable of when colliding with a person can be expected to heavily influence the perception of danger posed by an oncoming, accelerating motor vehicle to a police officer standing nearby.
33. Consequently, consideration should be given to the fact that simply moving to one side, that is, beyond the front bumper of a motor vehicle is not necessarily sufficient to move a pedestrian to an absolute position of safety.
34. The turning diameter of the 2006 Chrysler 300 Touring edition is 38.90 feet, which makes the turning radius of the vehicle 17.45 feet.⁶ This diameter circle can be accomplished when the steering wheel is turned to its maximum rotation in either direction. Doing so would cause the outboard side of the forward wheel on the inside of the turn to move beyond the outside edges of the vehicle's wheel well.
35. Turning in this manner will result in the forward portion of the motor vehicle sweeping toward the direction of the turn. This means that it is possible for the front bumper to pass by a standing subject and the forward portion of the motor vehicle will close the gap between the automobile and the standing observer. Depending on where the subject is standing and the extent the vehicle moves laterally, it is possible to be struck by the approaching car.
36. A secondary feature of this event that should be considered in order to fully evaluate the experience of a person in Mr. Danler's position relative to the oncoming Chrysler has to do with

⁵ Diagram not to scale.

⁶ VIN 2C3KA53G06H113175 2006 Chrysler 300 Touring - Decode This VIN Decoder
[<https://www.decodethis.com/vin/2C3KA53G06H113175>]

evidence left by the car as it left the scene. Based on a photograph taken at the scene [DSC_0126.jpg] the Chrysler crabbed towards the direction of Mr. Danler. That is, the driver's side of the vehicle was not simply moving forward in a line perpendicular to the front bumper of the car. The driver's side was moving on an angle as it was moving forward. This factor will result in the vehicle having increased its capacity to left turn left relative to Mr. Danler's position, compared to the car's design.

37. The result is that Mr. Danler would be faced with evaluating a threat he has likely never encountered before and one that is not covered during general police training – that of an on rushing motor vehicle being steered at him.

38. Consequently, given the factors described above as well as:

- i. an analyses of Matthew Danler's body-worn video camera recording of the event;
- ii. the evidence of tire marks in the front yard at the scene as photographed;
- iii. the estimation of the distances associated with photos publically available on Google Earth Pro;
- iv. the reported turning radius of the Chrysler 300 model driven by Mr. Scott;
- v. testing the turning capacity of a variety of motor vehicles; and
- vi. the comments of Officer Heim and Ms. Beatrice Sheppard-Scott,

it is my opinion that the vehicle driven by Mr. Scott possessed a turning capacity sufficient to cause Mr. Danler genuine concern that his personal safety was threatened.

Police Use of Force, Including Factors Associated With Threat Perception, Response, and Performance during Rapidly Unfolding, Dynamic Encounters

The Impact of Visually Looming Threats on Human Threat Perception

39. If an object is moving towards a viewer, where the angle might be described as "shallow;" (directly or near directly toward the viewer) a phenomenon known as "looming" will arise (Bridgeman, 2011; Green, Allen, Abrams, & Weintraub, 2008; Krause, 2015; Olson, Dewar, & Farber, 2010; Regan, Kaufman, & Lincoln, 1986). Looming is a phenomenon humans begin to experience at a very early age (van der Meer, Svantesson, & van der Weel, 2012; van der Weel & van der Meer, 2009).

"The visual looming effect, i.e., expansion of an object's size on the retina over some period of time is an indication for possible collision with the object. The reaction to this visual stimulus is the result of some kind of "perceived threat", i.e., the measured relative rate of expansion of objects on the retina corresponds to a visual timing parameter that causes the subject to defensively react to reduce the visual threat" (Raviv, 1992).

"The ability to avoid a threatening moving object is essential for survival. Biological systems have evolved to visually detect such objects: Objects approaching on a direct

collision course result in optical looming, a stimulus that elicits evasive or defensive actions in animals and humans (Schiff 1965; Ball and Tronick 1971)” (Brendel, Hecht, DeLucia, & Gamer, 2014).

40. When the speed of the approaching object is constant, the object ‘grows’ (increases in the number of visual angles subtended by the approaching object) within the observer’s visual field at a rate where the resultant visual image of the object doubles as the distance is reduced by half (Krause, 2015). The vehicle’s size then doubles again in half the time remaining and so on. When the object approaches at an accelerating rate exponential growth is experienced, particularly as the distance closes on the viewer (Green et al., 2008).
41. The research literature pertaining to visual phenomena associated with images and sounds indicating or depicting approaching items, particularly threatening stimuli:
 - i. can induce shortened time-to-contact estimates in the observer (Brendel, DeLucia, Hecht, Stacy, & Larsen, 2012);
 - ii. results in the perception that the approaching object appears to be physically closer than compared to non-threatening stimuli (Cole, Balcetis, & Dunning, 2013);
 - iii. results in the observer underestimating (shorter) the time-to-collision compared to non-threatening stimuli (Vagnoni, Lourenco, & Longo, 2012, 2015).
 - iv. Egocentric, that is a self-interested, viewpoints have been shown to provoke a response bias for reporting collisions, rather than no-collisions, reflecting increased caution for head-on approaches (Coull, Vidal, Goulon, Nazarian, & Craig, 2008).
42. These factors arise because the human brain, among other capacities, is essentially an organ of survival. While the human brain can create thoughts, remember past events, consider future circumstances, etc., a fundamental property of the human brain is an ability to rapidly size up a threat and assist the individual to respond quickly to danger, ensuring the person survives (LeDoux, 1996; Niehoff, 1999; Ratey, 2001; Sapolsky, 1998). Under anxiety or stress, humans will default towards dangerousness of actions or proximity of threat (Bishop, 2007) including the decision to shoot (Nieuwenhuys, Savelsbergh, & Oudejans, 2015).
43. Observers not in the position of the individual to which the object is approaching will not experience the same effect, for example, the video captured by Officer Salemi’s body camera⁷. Given that the object passes across their visual field rather than towards it, their perception of speed, proximity and danger will be different from that of the observer experiencing the same object approach.
44. These factors must all be considered in the context of three bits of information every experienced police officer has:
 - i. People trusted with our care warned us from a very early age of the dangers of being ‘run over’ by a car.

⁷ Officer Salemi Body Cam 1.mp4 (318.05 MB)

- ii. Instructors, trusted by the police agency to train new police officers in how and when to use a firearm have consistently informed trainees that they can lawfully shoot to stop a threat once they reasonably believe their lives or the lives of another are in danger.
 - iii. Police officers regularly and routinely see the carnage visited upon the human body during motor vehicle collision investigations.
45. Combining all three factors, and with no experience or practice to the contrary, it is my opinion that some police officers will shoot at oncoming motor vehicles.
46. In relation to how the information associated with the looming phenomenon bares on this event, Officer Heim said in answer investigator’s questions following the event that the believed the Chrysler was turning at the police officers attending the scene.
- Q. *“And after revving his engine he made like a left hand turn to try to - to turn out of the complex?”*
- A. *No. To me he was turning at us.”*
- Q. *“Did it appear the vehicle was going off toward Officer Danler?”*
- A. *Yes.*
- Q. *Did it hit Officer Danler?⁸*
- A. *I thought so. He didn’t move. I was worried about myself. I thought it might have hit me as well, cause I was only a couple of feet away from him at the time.”⁹*
47. Even Beatrice Sheppard-Scott, passenger in the car driven by Jason Scott commented during her interview following the event:
- “I think the officer thought he was trying to hit him. He might have tried to hit him . I don’t know. I think that’s what the officer probably thought. You know what I’m saying. So they took action. You know, but at the same time, I don’t think he was trying to go – he wasn’t trying to hurt nobody.”¹⁰*
48. Given that other people in the near proximity of Mr. Danler evaluated this event as posing a real risk to his safety, understanding the looming a phenomenon will assist the trier of fact in fully evaluating this event.
49. Consideration should also be given to the impediment associated with wearing police duty gear and boots.¹¹

⁸ These quotes are not consecutive in Officer Heim’s interview.

⁹ INV-5 Edward Heim.mp3 (10.21 MB)

¹⁰ INV-7 Interview of Beatrice Scott.mp3 @ 25:06 (20.29 MB).

¹¹ Mr. Danler was wearing police equipment and shoes at the time of the incident.

Time Required for Police Officers to Step from Danger

50. A common issue raised in relation to shooting at vehicle evaluations often involves the question, why did the involved officer(s) not move out of the way. Research has been conducted on the time required to move rapidly from one point to another while wearing police duty gear.
51. Two studies delved into this question. One group was tasked with running as fast as possible over a 30-foot distance while wearing athletic attire (Dysterheft, Lewinski, Seefeldt, & Pettitt, 2013). A second group was tasked to run over the same distance while wearing clothing and boots consistent with police uniform apparel and a 20-pound weight belt intended to simulate an operational law enforcement duty belt and body armor (Lewinski, Dysterheft, Dicks, & Pettitt, 2015).

	Civ Clothing	Duty Equip	Civ Clothing	Duty Equip	Civ Clothing	Duty Equip
	Left		Forward		Right	
1st Step	3.02 ft - 0.36 sec	2.95 ft - 0.87 sec	3.18 ft - 0.33 sec	3.35 ft - 0.89 sec	3.02 sec - 0.30 sec	2.99 ft - 0.87 sec
2nd Step	6.60 ft - 0.67 sec	6.82 ft - 1.13 sec	6.97 ft - 0.59 sec	7.05 ft - 1.18 sec	6.63 ft - 0.63 sec	6.89 ft - 1.14 sec
3rd Step	10.52 ft - 0.92 sec	10.89 ft - 1.4 sec	10.99 ft - 0.85 sec	11.29 ft - 1.44 sec	10.52 ft - 0.87 sec	11.02 ft - 1.41 sec

Table 1. Civilian Clothing vs Police Duty Equipment Movement Times

52. The chart above outlines the progress of the participant groups during the first three steps. While distances are similar between the two groups, what is markedly different is the time required to take each step while wearing duty gear compared to wearing athletic attire.
53. Participants were permitted to move on their own initiative, consequently, measurements recorded were of movement time only (Schmidt & Lee, 2014). Reaction time to a stimulus was not a factor in either study.
54. Mr. Danler's uniform equipment can be seen in photograph DSC_0013.jpg.
 - blue shorts, shoes, and duty belt
 - ballistic vest worn under the uniform shirt
 - duty belt comprised of holster and sidearm, a radio and radio holder, two magazine pouches, J hook for keys, and a Taser in a holster.¹²
55. Since police have been measured to be 2-2.5 times slower (e.g. step 1=[.89 sec ÷ .33 sec = 2.69] step 2=[1.18 sec ÷ 0.59 sec = 2]) while moving in duty equipment compared to people moving in athletic attire, triers of fact should be provided this information, given the close proximity of the motor vehicle and the police officers in this event.
56. While a police officer may be unaware of precisely the impact on his or her movement constraints while wearing duty equipment, they are generally aware that their performance is reduced. Other research of a similar nature exists (Dempsey, Handcock, & Rehrer, 2013). While

¹² Although not visible in the photograph, most police officers carry at least one set of handcuffs as well.

the tasks and measurements were different than the above noted studies, the results were clear that duty equipment reduced the performance of experienced police officers.

57. Given the video evidence from Mr. Danler's body camera, he did in fact attempt to step back away from the oncoming Chrysler.¹³ Unfortunately, he moved away from the threat and given his orientation at the time the threat presented itself, he moved backwards which placed him in greater peril. It is my experience having evaluated hundreds of police candidates and officers during dynamic encounters, police officers will generally back away from a threat in an effort to create distance.

Focus of Attention

58. Ultimately, the primary function of the human brain is to ensure that its owner survives through repeating beneficial experiences and behaviors and avoiding danger and risk. When a human perceives an attack, the fundamental response is fight, flight, or freeze. This is why police officers receive specific training on managing violent incidents, however, they are still human and training can only take a person so far. During a critical event where danger is perceived, the human brain is hard-wired for survival (Ghiglieri, 2000; LeDoux, 1996; Niehoff, 1999; Ratey, 2001). Limitations in respect to what a person will do can be expected.
59. Even when not under life-threatening stress, humans have a limitation on what they can attend to within their environment (Honig & Lewinski, 2008; Johnson & Proctor, 2004; Kahneman, 1973, 2011; Schmidt & Lee, 2014; Vickers, 2007). One task that requires attention can interfere with the capacity to notice other objects or events, even when they occur right in front of the viewer. One good example of this phenomenon is demonstrated in a video made for a study that examined how much we 'see' as well as how much we might miss.
60. Participants were asked to watch a video of two groups of people, one group dressed in black shirts and the other in white shirts. Each group was passing a basketball to other members of their group as they moved around the screen. Viewers were asked to count the number of times the white team passed the basketball. One group were asked to count the number of times the white team bounced-passed the ball as well as the number of times the ball was passed without bouncing on the ground. A third group was simply asked to watch the video. During the recording, a person wearing a black gorilla suit walked into view, stood in the middle of the group, pounded its chest, turned, and walked off.
61. When the research subjects had finished watching the video, they were asked to write down their counts on paper. They were then asked a series of unexpected questions, one of which was, "Did you see a gorilla [woman carrying an umbrella] walk across the screen?" Out of all 192 observers across all conditions, 46 percent failed to notice the unexpected event, revealing a substantial level of sustained inattentive blindness for a dynamic event. (Simons & Chabris,

¹³ Officer Danler Body Cam 1.mp4 – between 9 and 11 seconds in the video.

1999). Of course, knowing about the gorilla before watching the video often changes the results.

62. Kahneman (2013) writes, “[T]he gorilla study illustrates two important facts about our minds: we can be blind to the obvious, and we are also blind to our blindness” (p.24).
63. When someone intently focuses on an aspect of an event, his or her visual field can narrow substantially. It has also been reported that loud sounds are not heard or not recalled. The concept is known by several names, for example, focus of attention (Schmidt & Lee, 2014; Vickers, 2007), attentional narrowing, (Easterbrook, 1959; Johnson & Proctor, 2004) tunnel vision and in respect to hearing, auditory exclusion (A. Artwohl & Christensen, 1997; Grossman & Christensen, 2004; Sharps, 2009; Siddle, 1995; Staal, 2004). The term ‘perceptual narrowing’ is sometimes used by police trainers to cover the same concepts. The phenomenon isn’t unique to police officers. If people reflect on their own experience watching television, there are times when the screen fills their visual field despite the fact that objects nearby are available for their attention. People do not know they are being spoken to despite the person speaking being nearby. It is estimated that when a driver is operating a motor vehicle along a roadway at 30 miles per hour, targets can be seen in a visual field of 150 degrees. At speeds approximately 60 miles an hour, the driver’s visual field will drop by half (Olson et al., 2010). These phenomena are also known to arise during officer-involved-shootings (Alexis Artwohl, 2002; A. Artwohl & Christensen, 1997; Honig & Lewinski, 2008; Klinger & Brunson, 2009; Sharps, 2009).

“To see an object in detail it must be focused on a very small central portion of the retina, the fovea. This tiny area, densely packed with cone cells translates into a visual arc in our field of vision which is only about 2 to 3 degrees across, perhaps the size of a quarter dollar coin held at arm’s length. Here our vision is most acute and we can see objects in color and great detail. As a target is focused farther away from this central region, the amount of detail drops off rapidly as the transition from rods to cones progresses. At an angle of only 10 degrees away from the fovea, the acuity of an image drops off by 50% and at an angle of about 25 degrees, acuity is only about 10% when compared to focal acuity. This rapid loss of detail in the periphery means that to see an object clearly we must look directly at it. For this reason the human eyes are constantly in motion, scanning back and forth, up and down, so that different parts of the field of view can be sampled in detail” (Robins, 2009, p.13).¹⁴

64. The belief that “we see everything,” is inconsistent with research on the topics associated with the human stress response, vision, and memory and should be considered, particularly when evaluating an event which can be described as tense and rapidly unfolding where the outcome is uncertain.

¹⁴ See also (Harris Sr. & Harris II., 2009).

65. As will be outlined later in this report, at one point the a red hue can be seen along the leading edge of the roof line of the residence where the Black Chrysler is parked. This light is consistent with a driver pressing the brake pedal prior to engaging the drive train of a vehicle¹⁵. Despite this colored light being activated in an area of low light, neither Officer Heim nor Officer Salemi mentioned seeing this when providing their statements.
66. As an example, let us assume a law enforcement officer perceives a threat that is more than 10 feet away from his location. If that threat causes him or her to draw their duty pistol, their visual system will accommodate – change its focal length to the extent that the threat is clearly visible, at that distance. If the subject moves in a manner causing the officer to then accommodate their visual system to clearly focus on the front sight of their pistol, the officer can no longer clearly ‘see’ the subject (Levine & Shefner, 2001). The time for this change to occur will be between 0.3 to 0.9 seconds (Boff, Kaufman, & Thomas, 1986).
67. It should also be recognized that police officers who raise their pistol and fire are limited in what they can see below the slide of their firearm. Their own hands and the pistol slide occlude part of their vision (Sharps, 2009). In other words, when a subject creates a threat requiring a law enforcement officer to respond with deadly force, officers are trained to either align their sights with center mass of the subject or, in circumstances where the subject is close to the officer, look over their sights while aligning the pistol with the threat. In either case, the ability to take in visual information below the officer’s hands and pistol is limited.
68. Humans, in threatening situations, may attend more to what they perceive to be critical information rather than information that is available (Kahneman, 2011).
69. Ultimately, despite Ms. Sheppard-Scott’s assurances that her husband had no intention on hurting anyone, it is the perception of the officer that is to be considered.
- “The reason it is important to consider perception and cognition in police decision making is because humans are not passive encoders of information. The mind is not a camera; we make subjective assumptions and impose order and interpretation on the ‘objective’ reality. We must remember that perception is far from perfection, it is never totally ‘objective’ [Dror, 2005a; Humphreys et al., 1997; Snyder et al., 1977]” (Dror, 2007).*
70. Police officers are trained, when faced with imminent deadly force to either themselves, another law enforcement officer or a member of the public, to respond with deadly force.

Related Firearms Training Issues

71. A common feature in North American police firearms training is that if an officer reasonably perceives a subject has the ability, intent, and means to cause grievous bodily harm or death to

¹⁵ The top of the left rear brake light, which is on, can be seen from 8.7 seconds frame 257) until 9.4 seconds (frame 276) on Mr. Danler’s body worn video recording [9.4 – 8.6 seconds = 0.8 seconds].

the officer or to someone under his protection, including another police officer, that officer is permitted by law to use force likely to result in grievous bodily harm or death to the subject. Ability will involve factors like weapon type, proximity, and capability of using the weapon. Intent will be associated to factors like the subject's apparent actions, including movement, gestures, and verbal threats, within the context of the situation. Means has to do with the viability that the object being used by the subject actually has the capacity to inflict the type of harm that would justify the use of deadly force, again, given the context of the situation.

72. In this situation, Mr. Danler made an effort to move in a direction that should have created distance from the oncoming threat. Unfortunately, his actions moved him towards a path of increasing danger.
73. Police officers are generally taught to shoot at the center mass of the threat, which is often the torso area. One of the reasons for this is the reported hit rates, that is the number of rounds that strike a subject in relation to the number of rounds fired at the subject, are generally reported to be around 30 percent accuracy (Morrison & Vila, 1998; Rostker et al., 2008). While the use of lethal force may result in the death of a subject to which it has been applied, law enforcement officers are not trained to shoot to kill the subject. They are trained to shoot to stop a threat.
74. Shooting and hitting a hand or leg, which is substantially smaller in surface area and can change position faster than a torso is impracticable and generally unachievable, particularly when considering a police officer firing a pistol. When movement is involved, striking small fast moving targets (e.g., the hands, a knife, a handgun) with a pistol or rifle round becomes essentially left to chance. Consequently, police officers are not trained to try to shoot such a small target.
75. It is also for these reasons that police officers are trained to shoot until the threat stops. The number of rounds required cannot be pre-determined in every event. In the first instance, the visual feedback provided when shooting at a person is often vague or absent in comparison to shooting at a paper target or the manner in which shooting a person is portrayed in the entertainment industry (Patrick & Hall, 2010).
76. Absent a bullet strike to the central nervous system which destroys the brain stem or transects the cervical portion of the spine, there is no such thing as a reliable one shot incapacitation in respect to a police service pistol (Barach, Tomlanovich, & Nowak, 1986a, 1986b; Karger, 2008; Levy & Rao, 1988; Maiden, 2009; Patrick & Hall, 2010; Pinizzotto, Kern, & Davis, 2004; Spitz, 2006). Consequently, a person may be shot, in fact suffer a lethal wound, and still be able to move, including in a threatening manner, for a considerable period of time. Therefore, police officers are trained to respond to physiological incapacitation of the subject or to his or her surrender. The result is that sometimes multiple shots will be fired.
77. A separate issue has to do with ejected shell cases located at the scene. Caution should be used when interpreting this type of evidence and any related testing. Depending on the manipulation

of the pistol, the manner it is held, various angles to which the pistol orientation may be aligned, and the movement of the officer firing the handgun, shell cases could be found within a 360-degree circle of where the round was actually fired (Lewinski, Hudson, Karwoski, & Redmann, 2010). Empty cartridge cases simply indicates that a firearm was discharged in a relative area. They cannot reliably be used to pinpoint the precise location a shooter was positioned at the time the discharge(s) occurred.

Time to Start Firing, Cadence, and Time to Stop Firing a Pistol

78. Reaction time to all stimuli are not the same. Reaction time to various stimuli are reported in the following ranges:

- a. Kinesthetic(touch) 0.12-0.14 seconds.
- b. Auditory (sound) 0.14-0.16 seconds, and
- c. Visual (light) 0.18-0.20 seconds (Vickers, 2007).

These times are in response to simple stimuli where the subject is attempting to respond as quickly as possible and the response is also simple, for example, clicking a mouse or pressing a button. The greater the complexity of the response required, the longer the response time may become (Henry & Rogers, 1960; Schmidt & Lee, 2014). Unfastening the security devices from a police pistol holster followed by drawing the pistol upward and then orienting the firearm toward a 'threat' is more complex than pressing a button.

79. For example, when police officers were required to simply fire a pistol pointing at a target in response to a single light coming on at staggered times, reaction times averaged 0.25 (\pm 0.06) seconds. I have independently confirmed this timeframe using experienced police officers firing their duty pistols on a range. When the stimulus became more complex – officers were required to react to a cluster of three lights, where one or two lights in the cluster were to be ignored, reaction time doubled to 0.56 (\pm 0.08) seconds (Lewinski, Hudson, & Dysterheft, 2014).

80. Research has been conducted in respect to how long it takes for a police officer to draw and fire a pistol in response to a simple stimulus, such as a laser or LED light. Drawing and firing a shot from a variety of retention holsters found that the time for an experienced police officer to respond in such a manner required in the range of 1.52 (\pm 0.45) seconds to 1.94 (\pm 0.30) seconds, depending on the holster configuration (Campbell, Roelofs, Davey, & Straker, 2013; Hontz, 1999; Jason, 2010; Lewinski, Dysterheft, Bushey, & Dicks, 2015).

81. Producing a pistol and shooting quickly does not occur instantaneously, even when the pistol is no longer in a holster but in the shooter's hand. In response to a stimulus, pistols held in the low ready position require, on average 0.64 (\pm 0.10) seconds to raise and point and slightly longer, 0.97 (\pm 0.19) seconds to aim (Lewinski, Dysterheft, Bushey, et al., 2015). Another study found it required a slightly longer time, 1.15 seconds, to raise a pistol from a low ready position and fire a single round (Hontz, 1999). In comparison, a study where a subject could raise a pistol from beside their leg and fire at an officer to the front of the subject was accomplished in 0.36 seconds (Blair et al., 2011).

82. The Blair et al. study also examined the ability of an officer to respond to a subject raising a pistol held at the subject's side, and firing at the officer. The start position for the officer was pistol in hand, aligned with the subject. All the officer had to do was recognize the movement and press the trigger. Essentially, the officer and the subject who moved first fired at almost the same time (Blair et al., 2011). Consequently, even responding to a sudden attack with a pistol in hand is not instantaneous.
83. The average time required for a person to produce a pistol from their waistband and fire it at a target toward their front was found to be 0.26 seconds, with a minimum time of 0.09 seconds. The same paper determined that a subject could produce a gun from beside their thigh while seated (as though driving a car) and fire out the driver's side window in an average time of 0.25 seconds, with the fastest time recorded at 0.15 seconds) (Lewinski, 2000). The disparity in movement times of a subject compared to the response times of an armed police officer provide the foundation for why officers might draw a pistol in rapidly evolving, tense, and uncertain circumstances. Given that officers may have to draw their duty pistol under such conditions, the finger off the trigger procedure has been developed and is reinforced in training.
84. Once a shot has been fired, a second shot fired quickly can occur, on average in .28 seconds using a pistol with a short stroke trigger like a Glock® (Lewinski & Redmann, 2009). The role of anticipation using police firearms was examined and may have reduced this response time by 0.05 seconds, on average (Lewinski et al., 2014). Other research efforts found that police officers fire at a rate or cadence of 0.23 seconds a round (Jason, 2010), while realigning a pistol with a moving target may lengthen a shot cadence to a 0.4 second interval range (Lewinski, Dysterheft, Seefeldt, & Pettitt, 2013). Tests I have conducted using a combination of pistols including those with a short trigger pull distance (Glock®) and longer trigger pulls (Sig Sauer®) fired by experienced police officers responding to a simple light while stationary were in the 0.25 second range. The shortest duration between two shots I have ever recorded on video has been in 0.12 seconds. Consequently, a time in the 0.20-0.40 second range between rounds should be considered when assessing this event.
85. The movies provided for review were all mp4 files, which indicates these files are MPEG-4 Part 14 digital multimedia containers, a digital format commonly used to store video and audio. This particular file can be opened using the Quick Time (Pro) Player.¹⁶ ¹⁷ Using this particular player (software) allowed me to examine the recording frame by frame.
86. In an effort to more precisely evaluate this event, the video recording was copied to a computer hard drive and trimmed to the first 14 seconds of the event. The entire video was not copied frame-by-frame.¹⁸ The edited video was then rendered into a series of sequentially numbered

¹⁶ Quick Time (Pro) Player, Version 7.7.1 (1680.42), Copyright 2010-2011, Apple Inc., All Rights Reserved.

¹⁷ QuickTime Pro, Version 7.7.4 (1680.86), see <https://www.apple.com/quicktime/>.

¹⁸ The copy resulted in 427 sequential frames of video beginning at the start of the video where Mr. Danler had exited his patrol vehicle.

jpeg images. This process resulted in the ability to review the video frame-by-frame, forward or backward, at near normal speed as well as very slowly.

87. The body camera frame rate¹⁹, according to the metadata within the digital file was 29.469 frames per second [fps], and ranged between 14.925 and 38.462 fps.²⁰ Using the average frame rate of 29.469 fps, Mr. Danler fired six shots in 1.36 seconds. The time between shots is listed under the heading Hiatus.²¹
88. The following list results from analyzing the edited critical section of the video on a frame-by-frame analysis. Each frame requiring approximately 0.0339 seconds.²²

Shot #	Frame Number	1 sec ÷ 29.469 fps = 0.0339 sec/frame	Hiatus
1	369	0.00	9 frames x 0.0339 = 0.305
2	378	0.305	14 frames x 0.0339 = 0.475
3	392	0.780	6 frames x 0.0339 = 0.204
4	398	0.984	6 frames x 0.0339 = 0.204
5	404	1.188	5 frames x 0.0339 = 0.170
6	409	1.358	Shots end
			Total Time = 1.358

Table 2. Shot Timing Based on Average Frame Rate

89. As stated, the time it takes for a police officer to draw and fire a pistol shot is not instantaneous, but rather, a period of time is required. During that brief period of time, circumstances can change faster than a human can respond to that change. The inability for humans to immediately respond to rapidly changing events can be seen whenever and wherever athletes compete, skill level notwithstanding.²³
90. In the case of firing a pistol, laboratory research indicates that the average time to stop pulling the trigger, upon noticing a visual signal to stop, was measured and found to require an average of 0.29 (\pm 0.17) seconds. This research was conducted using a series of lights displayed in a

¹⁹ The number of image frames captured per second.

²⁰ MediaInfo 17.12. Copyright © MediaArea.net SARL. MediaInfo provides easy access to technical and tag information about video and audio files [<https://mediainfo.net/MediaInfo>.]

²¹ Hiatus is a synonym for interval

²² Video recording using digital cameras is usually captured at approximately 29.97 to 30 fps resulting in an image recorded every – 0.03336 to 0.03333 seconds respectively.

²³ The *fake* is ubiquitous throughout sports.

laboratory without any danger or consequence to the officer for failing to respond to the change (Lewinski et al., 2014). Consequently, the notion that police officers can react and stop instantaneously is inconsistent with research on the topic.

91. It is the time lags identified above that inform police training that results in police officers taking preparatory actions when circumstances indicate danger. Waiting until danger has occurred before taking protective action to protect him or herself or others is inconsistent with prudent police practice.
92. Officer Heim said in his interview that he believed Mr. Danler unholstered his duty pistol as he moved forward toward the Chrysler.²⁴ A review of the video, outlined in the next section, will show that he is mistaken.

Video Analysis and Cadence of Mr. Danler's Six Shots

93. A detailed analysis of this incident must include the context of the information associated with the events involving the officer, not merely the sequence. The sequence of the events are listed, consistent with the synopsis provided earlier in this report.
94. On Thursday September 1, 2016, at approximately 05:55 hours, Oviedo Police Department Officer Matthew Danler, Officer Chris Salemi, and Officer Ed Heim responded to a residence in relation to what was reported as a "911 hang up" call.²⁵ The following is a transcript of the radio call transmitted by Oviedo Police Department communication staff:

"Oviedo Priority Call in District One, Ridgewood, University Village. 996 Sharon Court; 996 Sharon Court. Off Mitchell Hammock, Unit respond on 8 Alpha."

"Male Caller who requested the police and then hung up. We're attempting to call."²⁶ , ²⁷

95. The following scripted information was provided, via the computer automated dispatch system, for the responding officers between 5:55:18 am and 5:56:28 am:

"MALE CALL SAID SEND POLICE THEN HU CALLING BACK NOW. SUBJ WAS WHISPERING. ON CALL BACK, GOES INTO VOICEMAIL."

96. AT 5:57:18 am, the officers were advised:
"STILL NO ANS ON 2nd CALL BACK."²⁸

97. The address, "996 Sharon Court" does not exist in Oviedo, Florida.

²⁴ INV-5 Edward Heim.mp3 (10.21 MB)

²⁵ OR-27-0266 E-Book Nicole Miller.pdf, page 4

²⁶ The dispatcher's recorded voice was clipped at the end on the version provided for review.

²⁷ INV-2 Radio Traffic 20162450589_8A_0555 to 0800 HRS.mp3 (142.49 MB)

²⁸ OR-27-0266 E-Book Nicole Miller.pdf, page 4

98. According to Oviedo PD communications records²⁹, the three officers arrived near the front of 990 Sharon Court at 5:58:59 am. Upon arrival, Officer Salemi observed a door ajar at 990 Sharon Court.³⁰
99. A black Chrysler 300 motor vehicle with dark tinted windows was backed into an open area in the front yard at 990 Sharon Court. This car was facing westbound, toward the roadway, on the north side of a tan colored Chevrolet S10 pickup. Unknown to the officers, the Chrysler contained two occupants, a male driver, Jason Scott, and female passenger, Beatrice Sheppard-Scott, sitting in the front seats with interior lighting off and engine running.
100. Mr. Danler exited his patrol vehicle after parking behind the patrol vehicle containing Officers Heim and Salemi. Mr. Danler walked past the other marked unit, parked parallel to a line of cars parked along the front of 990 Sharon Court, to a point near the left rear corner of the a Chevrolet S10 pickup, parked just south of the Chrysler.
101. As Mr. Danler approached the left rear corner of a pickup truck parked next to the Chrysler, the Chrysler began to accelerate forward while the rear wheels began to slide to the south, causing the driver's side of the car to move towards Mr. Danler. At the same time, the front wheels turned into a forward left turn, which oriented the accelerating vehicle in the direction of Mr. Danler's location.
102. Mr. Danler began backing away from the threat posed by the oncoming Chrysler causing him to move further westward, into the roadway.
103. As the Chrysler rapidly approached Mr. Danler's location, he rapidly fired approximately six rounds at the Chrysler.
104. The Chrysler vehicle, driven by Mr. Jason Scott, fled the area and was later located in Orlando.
105. Mr. Scott was also located in Orlando and transported to Orlando Regional Medical Center (ORMC) and treated for gunshot wounds. Beatrice Sheppard-Scott was located later at 330 Reid Ave, Oviedo, Florida and treated for her injuries.
106. As mentioned earlier in this report (paragraph 83) Officer Heim said in his interview that he believed Mr. Danler unholstered his duty pistol as he moved forward toward the Chrysler.³¹ A review of the video recorded by Mr. Danler's body camera provides clarification on this point.³² While Mr. Danler cannot be seen, his shadow produced by the street light behind his position outlined his movements. As I interpret the video, Mr. Danler's left side is consistent with the left side of the screen.

²⁹ OR-27-0266 E-Book Nicole Miller.pdf, page 4

³⁰ INV-4 Chris Salemi.mp3 (9.41 MB)

³¹ INV-5 Edward Heim.mp3 (10.21 MB)

³² Officer Danler Body Cam 1.mp4 (136.64 MB)

107. Upon exiting his patrol vehicle, Officer Heim can be seen walking in front of Mr. Danler. At the frame 136, (4.7 seconds) Officer Heim has moved around the front left corner of his marked patrol vehicle and has drawn a flashlight from the right side of his duty belt. Officer Heim is wearing his duty pistol and holster on his left side.
108. From frame 158 to frame 179 (5.4 to 6.1 seconds), the shadow of Mr. Danler's head begins to appear at the lower left portion of the screen. As he walked toward the vehicles, Officer Heim's shadow went off camera at frame 213 (7.2 seconds).³³ The shadow of Mr. Danler's upper body is then visible.
109. Beginning at frame 237 (8.0 seconds) until frame 284 (9.6 seconds) Mr. Danler can be seen pulling a slender object, consistent with the shape of a flashlight, from the left side of his duty belt. Officer Danler carried his duty pistol, holster, and expandable baton on the right side of his body.³⁴
110. While Mr. Danler was drawing his flashlight, from frame 257 (8.7 seconds) until frame 276 (9.4 seconds) a red hue can be seen along the leading edge of the roof line, consistent with a driver pressing the brake pedal in order to engage a vehicle's drive train.³⁵ At frame 272 (9.2 seconds) the red hue begins to lessen, consistent with releasing the foot brake on a motor vehicle. By frame 276 (9.4 seconds) the red hue is no longer visible. Neither Officer Heim nor Officer Salemi mentioned seeing this when providing their statements.
111. From frame 296 (10 seconds) and frame 304 (10.3 seconds), a light beam, consistent with Mr. Danler's use of a flashlight, is recorded by the camera.
112. At Frame 308 (10.5 seconds), the Chrysler made the first motion toward acceleration, which was a rising of the front bumper and grill area. Based on testing a variety of automobiles, when an automobile first accelerates its center of gravity shifts towards the rear of the vehicle resulting in the front end rising from its position compared to its height while the vehicle was stationary. The fact that the rear wheels of the Chrysler would be spinning in sandy soil as it accelerated, as evidenced by the scene photographs, would limit how abruptly and high the front of the Chrysler would rise.
113. Movement of the Chrysler notwithstanding, Mr. Danler had not yet drawn his duty pistol and continued to walk forward.
114. By frame 311 (10.6 seconds), the light beam was aimed toward the ground just below the driver's-side door of the Chrysler. In my opinion, based on the movements of his shadow on the

³³ Officer Heim's shadow is visible again from frame 251 (8.5 secs) until frame 301 (10.2 seconds).

³⁴ Photo DSC_0013.jpg

³⁵ The top of the left rear brake light, which is on, can be seen from frame 258 until frame 275 (17 frames = 0.58 seconds)

roadway, by this point Mr. Danler made no movements consistent with drawing his firearm point.

115. Mr. Danler shined the light beam along the ground, then to the front left corner of the Chrysler (frame 307 = 10.4 seconds). By this time, the front of the Chrysler has started to rise quickly. Mr. Danler adjusted the beam downward, to the front left wheel, and then into the vehicle's interior (frame 316 = 10.7 seconds, which reveals the vehicle's interior. The driver's face is blocked by the vehicle's A-pillar and the passenger is obscured by the glare of the flashlight on the windshield.
116. The first indication that Mr. Danler is making an effort to draw his pistol occurs at about frame 317 (10.6 seconds), as indicated by the lowering of his left hand, which was holding his flashlight and the movement of his right elbow consistent with reaching for his pistol.
117. By this stage of the event, the Chrysler has moved forward while still on the soil in front of the residence. Mr. Danler is near the left rear corner of the S10 pickup parked south of the Chrysler.
118. From frame 319 (10.8 seconds) until frame 329 (11.2 seconds), Mr. Danler has moved toward the west, consistent with moving away from the accelerating car's position, which by now is ever changing, sweeping forward and southwest, towards Mr. Danler. While moving, Mr. Danler has continued his effort to draw his duty pistol.
119. By frame 348 (11.8 seconds), Mr. Danler has overcome the retention system of his holster and begins to move his pistol out of his holster, finally bringing it into view at frame 360 (12.2 seconds). It has taken Mr. Danler 1.6 seconds to draw his duty pistol while also trying to move to the west, which would be away from the approaching vehicles' original position.
120. By this stage of the event, the Chrysler has moved forward and turned to the extent the front wheels were on the roadway and the left rear wheel was on the paved driveway. It appears the Chrysler is within two to three feet of Mr. Danler at this point.
121. From frame 366 (12.4 seconds) to frame 369 (12.5 seconds) the alignment of Mr. Danler's pistol barrel actually drops such that the muzzle is pointed downward and forward. I have video-recorded experienced police officers drawing as fast as they can during dynamic scenario training where a deadly force threat has suddenly appeared and have seen this same phenomenon. Once the pistol is out of the holster, the forward movement of the pistol is so rapid that when the officer's arm maximizes the extent of his or her reach, their pistol muzzle depresses downward. In my opinion, Mr. Danler was drawing his pistol as fast as he could.
122. In all, the movement time associated with Mr. Danler drawing and firing his pistol was 1.76 seconds (52 frames). This does not account for the reaction time upon perceiving the threat, which has been measured at 0.56 in the laboratory (Lewinski et al., 2014). During this time, events were changing rapidly and the vehicle was getting closer to Mr. Danler.

123. Mr. Danler's first shot occurs at about frame 369 (12.5 seconds). By this point the vehicle has, based on my best estimation, moved about four feet south from its starting position, toward the direction of Mr. Danler. The Chrysler appeared to be two to three feet away from him at its closest point when Mr. Danler fired his first shot.
124. This opinion is based upon comparing photographs taken at the scene with images captured by Google Earth in June 2013, which include scale measurements provided by the Google Earth program, and comparing the images with scene photographs.
125. Consistent with the chart produced earlier in this report, subsequent shots followed at frames 378 (12.8 seconds), 392 (13.3 seconds), 398 (13.5 seconds), 404 (13.7 seconds), and frame 409 (13.9 seconds).
126. The black Chrysler drove southbound along Sharon Court.
127. My experience researching experienced officers firing 9 millimeter and .40 caliber pistols is that 0.20-0.30 seconds between shots is common. Pistols with a shorter trigger travel like, for example, a Glock tend to result in a shorter firing cadence compared to pistols with longer trigger strokes, for example, a Sig Sauer.³⁶

Opinions and Bases

128. I have been requested to review the material provided and other evidence in this case and to offer comments and opinions in respect to:
 - a) general police procedures in responding to 911-hangup calls;
 - b) turning characteristics of motor vehicles;
 - c) the impact of visually looming threats on human threat perception;
 - d) police use of force, including factors associated with threat perception, response, and performance during rapidly unfolding, dynamic encounters;
 - e) related firearms training issues; and
 - f) an evaluation of the video captured by Mr. Danler's body worn video camera.
129. The remainder of this report will provide the foundation for several opinions, expressed below:
 - a) Calls involving reports of suspicious circumstances, such as a "911 hang-up" are generally treated as a priority one call – attend immediately.
 - b) Given the information outlined in this report, including:
 - i. an analyses of Matthew Danler's body-worn video camera recording of the event;
 - ii. the evidence of tire marks in the front yard at the scene as photographed;
 - iii. the estimation of the distances associated with photos publically available on Google Earth Pro;
 - iv. the reported turning radius of the Chrysler 300 model driven by Mr. Scott;

³⁶ See paragraph 91.

v. testing the turning capacity of a variety of motor vehicles; and
vi. the comments of Officer Heim and Ms. Beatrice Sheppard-Scott, the vehicle driven by Mr. Scott possessed a turning capacity sufficient to cause Mr. Danler genuine concern that his personal safety was threatened.

- c) Given the research literature related to threat perception of oncoming dangerous objects, and with no experience or practice to the contrary, some police officers will shoot at oncoming motor vehicles.
- d) Mr. Danler was faced with evaluating a threat he has likely never encountered before and one that is not covered during general police training – that of an on rushing motor vehicle being steered at him.
- e) The vehicle driven by Mr. Scott possessed a turning capacity sufficient to cause Mr. Danler genuine concern that his personal safety was threatened.
- f) Mr. Danler did not draw his duty pistol until after the vehicle had started its forward motion.
- g) Mr. Danler was drawing his pistol as fast as he could.
- h) The Chrysler had moved about four feet south from its starting position, toward the direction of Mr. Danler.
- i) The Chrysler appeared to be two to three feet away from him at its closest point when Mr. Danler fired his first shot.

130. Based on the review conducted, as outlined in this report, the material provided for review and other information collected, my understanding of the event, and my experience, education and/or training, it is my opinion that:

- a) the conduct of Mr. Danler is consistent with prudent police practice and training;
- b) Mr. Danler used appropriate force under the circumstances, as he perceived them to be at that time.

131. I hold all of the opinions I express herein to a reasonable degree of professional and scientific certainty. I have cited academic and published reports where available to support my comments and opinions. Any calculations used during this review have employed simple mathematical formulas.

Exhibits

132. I may use the following exhibits to explain my opinions.

- a) Officer motions
- b) Subject motions

c) Officer – Subject Interactions³⁷

Testimony in Last Four Years

133. See my attached curriculum vitae.

Compensation

134. See attached fee schedule.

Conclusion

135. This event fit(s) the hallmarks of a rapidly unfolding event where the situation is tense and the outcome uncertain. Sudden drastic turns of events, the impact of stress upon human perception, performance, and recollection could all play a role in this event. Given the circumstances surrounding the events on the early morning hours on September 1, 2016, Mr. Danler's conduct was justified and objectionably reasonable.
136. My role is not to determine credibility of a witness. Further, the determination of the ultimate issues is for the court and/or jury to decide. My role is to assist the trier(s) of fact in understanding the type of training and guidance a police officer gets as well as some of the considerations a police officer must address in responding to this type of event. By identifying factors that influence event outcomes, some of which are beyond the officer's control, the trier of fact might be better able to understand the event and assess the situation facing the officer and the evidence more completely.
137. Should additional questions arise or if clarification is deemed necessary, please let me know and I will do my best to address them.

ESCI
President
Chris W. Lawrence



³⁷ See Force Science Institute website: <http://www.forcescience.org/demos.html> for exhibits.

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