

# FIREARMS RESPONSE TIME

by Thomas A. Hontz

## *Introduction*

The decision to use deadly force is one of the most critical and liability laden actions a law enforcement officer can undertake. Generally this decision involves the use of the officer's firearm in the defense of himself or a third party. This decision is guided by the officer's departmental policy which is generally modeled after the Tennessee v. Garner Supreme Court decision. The portion of that decision which affects officers the most states that an officer is justified in using deadly force to protect himself or a third party from death or serious bodily injury. On the face this seems to be a fairly clear standard, however, like most things in law enforcement, this may be more gray than black or white. This difficulty lies in the rather subjective decision by the officer of when the suspect is actually capable of delivering that level of force to the officer or the third party. It is this subjective decision that is usually the focus of concern and complaints by the community the officer serves and is scrutinized by the media. The citizens and the media are highly influenced by television where they see police officers shoot guns and knives out of suspect's hands. Wounded suspects give up the fight after being shot once and are bandaged up by paramedics at the scene and transported to jail.

Reviewing the most recent FBI Law Enforcement Officers Killed and Assaulted Summary (1994) reveals some disturbing data. The ten year period 1985-1994 indicates that 426 officers were killed with handguns, excluding those taken from the officer and used to kill him. These were instances where the suspect had a weapon on or near him when contacted by the officer, and that weapon was subsequently used to kill the officer. During that same ten year period another ten officers were killed with knives or other cutting instruments. In 1994 alone 64,912 police officers were assaulted, but not killed; 3,168 with firearms, 1,513 with knives or other cutting instruments, and 7,210 with other dangerous weapons. This averages to an assault somewhere in the United States every 1.77 hours where the officer would be justified in using deadly force to defend himself.

The quandary for law enforcement is to deal with the grayness of the subjective decision to use deadly force in a manner that is justifiable and explainable to the community they serve. Much of this justification and explanation has been intuitive on the part of police officers and firearms instructors. Obviously a gun pointed at the officer is a deadly threat and justifies the officer shooting. Likewise, a subject with a knife three feet away with an unobstructed path to the officer is capable of causing death or serious bodily injury. But what about the subject with a gun in his hand pointed at the ground? How far must the gun move, if at all, to be a deadly threat to the officer? How far away must the subject be with a knife before he is no longer a threat? What quantitative data does the police agency have to validate their answers to these questions? To address these issues, this research was undertaken.

## *Methodology*

A timing device was constructed by wiring a PACT shooting timer to a normally closed switch that passes 100 volts. This allowed the PACT timer to turn on a light mounted to a target frame at the instant it began timing. Since police officers respond with deadly force based predominantly on a visual cue, it was decided it was more appropriate to use a visual start signal rather than the auditory start signal the PACT timer normally uses. The auditory signal was turned off.

Five tests were utilized for the officer portion of the testing. In each of the five tests the officer shot a total of eight rounds, one round per trial, for a total of 40 rounds fired from a distance of five yards. In Tests 1, 3 and 5 a large (8 1/2 x 14 inch) yellow piece of paper was placed on a white background on the target frame. In Tests 2 and 4 a small (3 1/2 x 5 inch) piece of paper was attached to the white background. The large paper represented center body mass and the small paper represented a precise shot, such as a head shot or to shoot a weapon out of an offender's hand. The officer started at a low ready position in Tests 1, 2, 3 and 4. Test 5 started with the officer's gun in the holster. In Tests 1, 3 and 5 the officer only had to shoot at the left

target and was told that before the tests started. In Tests 2 and 4 the officer had to shoot either the left or right target, dependent upon which target's light illuminated. In all cases the officers were told to shoot one round as fast as they could on the target whose light lit, but to shoot slow enough to guarantee a hit on the yellow paper. Any shots that did not impact in the designated yellow area were not used to calculate the times, but were recorded to determine hit ratio. A total of 76 officers participated in these tests.

In the suspect portion of the testing, a broadcast quality video camera was utilized to record various suspect actions. By using the time generator it was possible to measure the time it took for these actions to be completed. The actions measured were a raise and fire of a handgun being held muzzle down along the pant seam of the suspect, a draw from a strong side holster, a draw from the waistband in front of the pants, a draw from the waistband in the small of the back, and a run measuring times from a standing position to 15, 20, 25 and 30 feet. The last test was to replicate the amount of time it would require a suspect to assault an officer with a contact weapon from various distances.

### *Results and Findings*

The results of the officer portion of the tests are shown below:

Test 1 (One large target)	1.15 seconds
Test 2 (Two large targets)	1.11 seconds
Test 3 (One small target)	1.56 seconds
Test 4 (Two small targets)	1.58 seconds
Test 5 (One large target draw from holster)	1.90 seconds

Statistical analysis was conducted on the data collected to determine its statistical significance. It was determined that the difference between the times on the small and large target tests were significant, as was the time between starting with the gun in the holster versus starting with the gun in a low ready position. The only common factor found to significantly affect all the tests was specialized training. However, there was insufficient data to determine whether more repetitions as opposed to higher skilled training caused this result.

The results of the suspect portion of the tests were:

Draw from holster	1.19 seconds
Front draw	1.09 seconds
Rear draw	.78 seconds
Raise and fire	.59 seconds

Run 15 feet	1.28 seconds
Run 20 feet	1.57 seconds
Run 25 feet	1.79 seconds
Run 30 feet	2.06 seconds

### *Conclusion*

The results of this study have some strong implications for the teaching of firearms to law enforcement personnel. The general belief is that a police officer is not justified in shooting an armed subject until the subject's weapon begins to move to be pointed at the officer or another person. However, in many situations, the officer is going to lose if he waits that long to engage the suspect. Compare, for instance, the officer's time for shooting at one large target from a ready position (1.15 seconds) with the offender's movement time for an inside-the-pants (belly) draw (1.09 seconds). This means that an officer could be covering a subject in a ready position, watching the subject's hands, and the subject could draw his weapon and fire a round before the officer could shoot. Even though the suspect wins by a very small margin, in this event, ties for the police are losses.

The explanation for this is the relationship of the mental process of reaction time to the physical process of movement time. The suspect's mental processing is not visible by the officer. It is not until the suspect actually begins the physical movement that the officer begins the mental and physical process to deal with that specific threat. These processes are known to sport psychologists as reaction time, movement time, and response time.

This study gives some scientific data to offer explanations of the gray area of when the suspect becomes a threat to the officer or a third party. It verifies what many officers and firearms instructors know intuitively and gives them a basis for explaining those beliefs. The study also reveals that officers may be more at risk than generally believed before. If an officer waits to see the gun in the hand of a suspect move before he takes action, he will not be able to prevent the suspect from shooting. Hard data will allow officers to make more appropriate decisions on the use of deadly force and allow administrators to offer rational explanations to the communities they serve.

### *About The Author*

Mr. Hontz is a 20 year veteran with the Scottsdale Police Department as Sgt. of Special Assignment Unit. He is also coordinator of Use-of-Force Training Department, team leader of the S.W.A.T. Team, and Staff Instructor for PPCT.

He has also provided tactical training to ATF, the U.S. Air Marshals, U.S. Army, U.S. Marine Corp. and the London England Metropolitan Tactical Team.

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