This poster reports the findings from four experimental investigations of the effectiveness of tools and technologies that may be employed, or have been considered for employment, in military operations at tactical checkpoints in daylight conditions. The items under investigation included the B.E. Meyers green beam designator (GBD-III-C), high intensity red, green, and white light (Multi-Chromatic Non-Coherent (MCNC) light), and windshield obscuration. The laser and MCNC light were evaluated for their hailing and warning capabilities or, in other words, their ability to communicate a warning to a driver that is approaching a checkpoint. The laser, MCNC light, and the windshield obscuration were evaluated for their suppression capabilities (ability to suppress or stop a driver from proceeding towards the tactical checkpoint). Effectiveness of devices for hailing and warning was measured by how reliably the stimuli were perceived and understood, what percentage of the time the device caused compliance in a non-hostile driver, and time taken to comply with instructions. Effectiveness of devices for suppressing and stopping was measured by whether the stimuli were sufficiently averse to: (1) convince the driver to choose to stop, (2) impair the ability of driver to navigate or successfully operate the vehicle, or (3) impair the ability of the driver enough to cause a forced stop.
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Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18
Tactical Checkpoint: Hail/Warn Suppress/Stop

Target Behavioral Response Laboratory

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Suppression Experiment
Subjects were exposed to potentially suppressive stimuli prior to driving a serpentine course: Green dazzling laser, Non-coherent bright white light, Windshield obscurants.

Question
Do any of the three stimuli produce a suppressive effect? Can we make the driver choose to stop? Can we make the driver lose control of the vehicle? Can we make the driver hesitate? Can we make the driver slow down?

Findings
No driver stopped. No driver hesitated upon entering serpentine. No driver slowed down while navigating the serpentine. Positive correlation between number of paintballs that hit the windshield and the time to drive through serpentine.

Conclusions
Perceptibility is the key to compliance:
The most effective hail/warn non-lethal system is the one that can be seen and/or heard by the drivers. In the day, compared with standard non-coherent light sources, laser light devices are more difficult to see. Multiple presentations of instructions are more effective at conveying the instructions of the message.
In the daytime, lasers are ineffective in suppressing drivers approaching checkpoints at distances required for the target’s safety (for this device, 47 m).
None of the stimuli made drivers stop instinctively or reflexively. Even in subjects who were highly motivated to avoid hitting or contacting any barriers in the serpentine course, there was never a case where a subject chose to stop the vehicle for fear of crashing.
Obscurants, methods of blocking the drivers from seeing where they are going, appear to be the most promising avenue of further research for suppressive effectiveness.

Gather empirical data on real human behavior in response to non-lethal weapons and systems using real people in tactically relevant situations.