**Weapons Detection Pilots Updates**
**Summary of the Activity and Preliminary Findings**

*Video Analytics-Based Weapons Detection*
Metro personnel have been testing visual gun detection solutions in the Union Station West area, enabling 25 CCTV cameras to detect brandished weapons. Staff is testing multiple solutions to assess their ability to detect firearms and minimize false positives. Visual gun detection systems leverage artificial intelligence (AI) and computer vision algorithms to scan video feeds in real-time, identifying and disseminating alerts through pre-established channels upon detection of brandished weapons, most effectively firearms.

| VA Detection System | Scheduled Piloting/Testing | Progress |
|---|---|---|
| Pilot A | August/September 2024 | Completed |
| Pilot B | September/October 2024 | Completed |
| Pilot C | September/October 2024 | Completed |
| Pilot D | October/November 2024 | In-progress |

SSLE staff have been testing the systems after station closure hours, employing a selection of inert and training replica firearms varying in size and shape and consistently following predetermined testing procedures. Cameras have been tested at different locations and with different lighting and environmental conditions.

Preliminary Findings
After the demonstration and testing of the two systems, staff observed the following:

- Video feeds with high resolution (+720p) and frame rates (+15 FPS) are necessary to provide sufficient image quality for detection.
- Lighting conditions are determinant, requiring a minimum threshold that allows clear contrast between objects.
- Certain types of weapons, mainly large firearms and rifles, have a higher detection rate than some smaller-sized weapons, such as revolvers and compact pistols.
- These systems are incompatible with the current CCTV systems onboard buses and train cars because those systems do not provide a consistent video feed through wireless communication.

*Concealed Weapon Screening*
Staff have also been working to test concealed weapons screening technologies. These systems offer an efficient, noninvasive screening method to detect and identify hidden threats without physical contact and eliminate the need to remove personal belongings. Metal Detection-based Weapons Detection generates an electromagnetic field, triggering an alert upon detecting dense ferrous material in handguns and knives. Millimeter Wave-based Weapons Detection emits low-power electromagnetic waves

that penetrate clothing and other non-metallic materials to measure an object's density, size, and shape to pinpoint concealed weapons.

Metro staff began Pilot AA with the demonstration of the vendor's single-lane system in a controlled indoor environment on the mezzanine area of the B/D Line Union Station East. No passengers or members of the public were screened. Instead, we enlisted the help of law enforcement and security personnel who were carrying their service weapons. This allowed Metro and the vendor to develop and evaluate different screening procedures and establish a robust Concept of Operations (ConOps) for piloting, scheduled for October to November.

Additionally, Metro staff have been working closely with County Counsel to substantiate the pilot's operating procedures align with the agency's legal basis and authority to conduct weapons screening.

Preliminary Findings
A high-level evaluation indicates the screening operation will be resource intensive in terms of personnel and involve significant mobilization of materials, furniture, and equipment. It will require ample coordination with Metro Transit Security and law enforcement to provide the necessary personnel and the appropriate coordination to stage and implement the deployment for passenger screening. Staff continue to work with the other vendors to implement pilots in the coming weeks.