

Tunnel Detection and Surveillance

Problem: Cross-border tunnels are dug by transnational criminal organizations to smuggle contraband into the U.S. Current detection capabilities rely on random tips and laborious human intelligence (HUMINT) collection. When tunnels are discovered, U.S. Customs and Border Protection (CBP) and U.S. Immigration and Customs Enforcement (ICE) have limited ability to exploit the tunnel to arrest and prosecute those involved in creating and using the tunnel.

Solution: This project provides CBP and ICE with enhanced ability to locate clandestine tunnels, and the ability to perform forensic analysis of a detected tunnel to support investigations and prosecution.

Impact: Using the Department of Homeland Security (DHS) Science and Technology Directorate developed tunnel detection tools and systems, CBP will be able to accurately detect and locate clandestine tunnels. This will result in a reduction in the flow of contraband smuggled into the U.S. via tunnels, keeping hundreds of tons of drugs off U.S. streets, while saving thousands of CBP labor hours. Tunnel forensic tools/processes enable ICE to assign attribution for tunneling activity and thereby increase the arrest and prosecution of individuals involved in the creation and use of tunnels for illegal activity.



Cross-border tunnel exit on U.S. side of the border



Tunnel discovered under the U.S.-Mexico border

Current and Future Investments

- **Tunnel Prediction, Investigation and Remediation.** This project seeks to identify and evaluate available technology to enhance DHS's ability to perform forensic analysis of a detected tunnel to support investigations and prosecutions. Current efforts include evaluating unmanned ground systems to investigate found tunnels without having to put an agent in the tunnel.
- **Cross Border Tunnel Detection Program.** This project seeks to develop a system or combination of high performance systems for CBP to detect and locate clandestine cross-border tunnels along the southwest border.
- **Through Wall / Floor Void Detection.** This project seeks to develop a man-portable system capable of scanning large areas of interest to locate hidden tunnels and/or man-made voids behind walls or floors, enhancing the ability of law enforcement officers to quickly detect tunnels in typical urban environments.



U.S.-Mexico border fence