Canine Mass Transit Remote Sensor System

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Paul Z. Jankowski
Transportation Security Laboratory
Science and Technology Directorate
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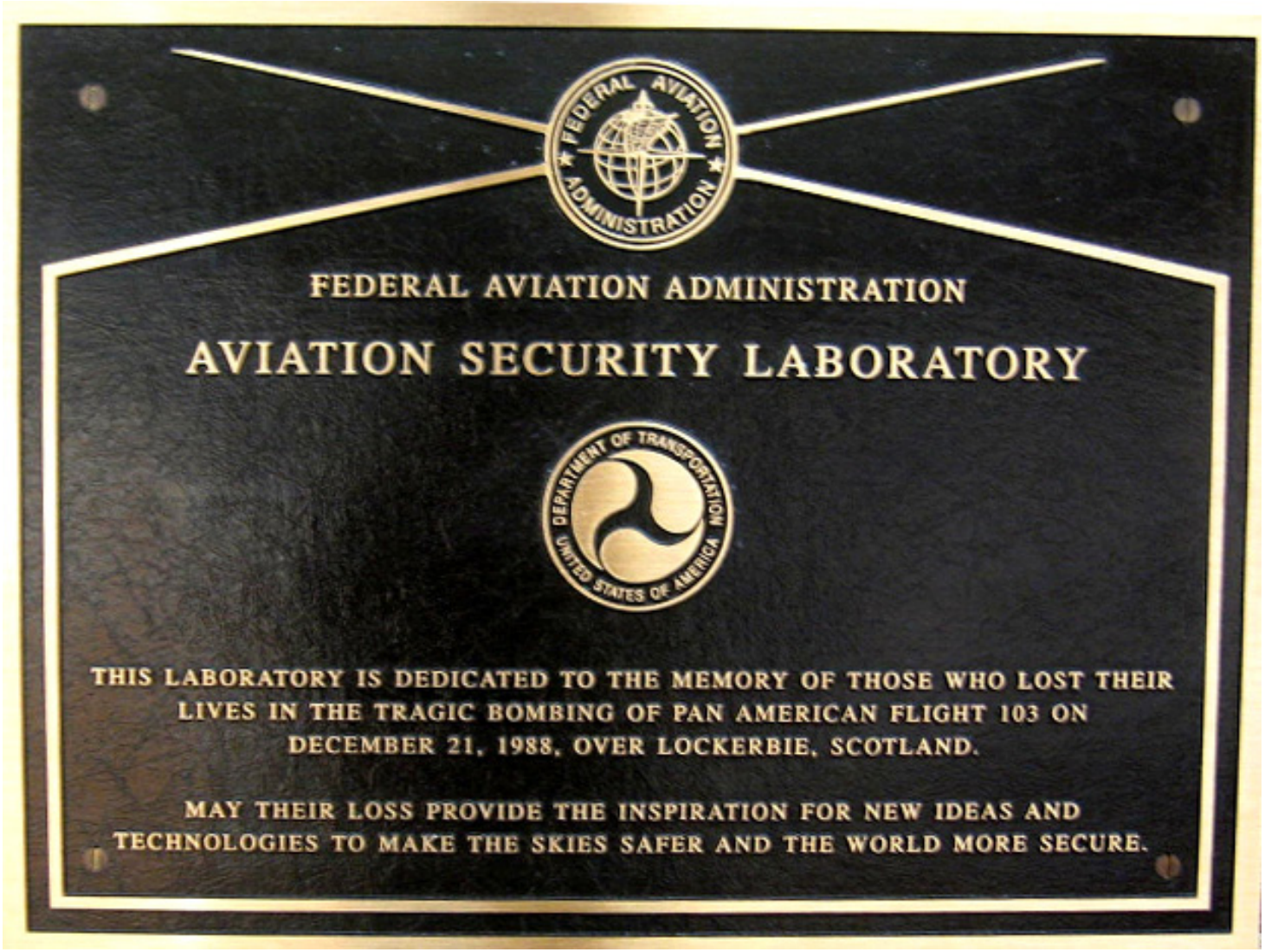

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Canine Mass Transit Remote Sensor System

TSL Mission

The Transportation Security Laboratory is a Federal Laboratory with a core mission of researching, developing, and validating solutions to detect and mitigate the threat of explosives and weapons.

Transportation Security R&D and Test and Evaluation

- We are a unique facility located in New Jersey
  - Development of next generation security
  - Test and evaluation of commercially available equipment, or evolving prototypes
  - Partnership activities with other Government Agencies, other Governments

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Canine Mass Transit Remote Sensor System

Canine Mass Transit Remote Sensor System

- **The Purpose**
  - **Conduct research and development for a prototype multi-sensor and guidance system embedded in a harness/vest to be worn by a trained detection canine working off-lead.**

- **The System:**
  - **Includes physiological, detection and location monitors and an audio guidance system.**
  - **The guidance system allows the handler to direct the canine off-lead as sensor feedback data is transmitted to the handler/first responder at a remote location.**

Major Wearing Vest

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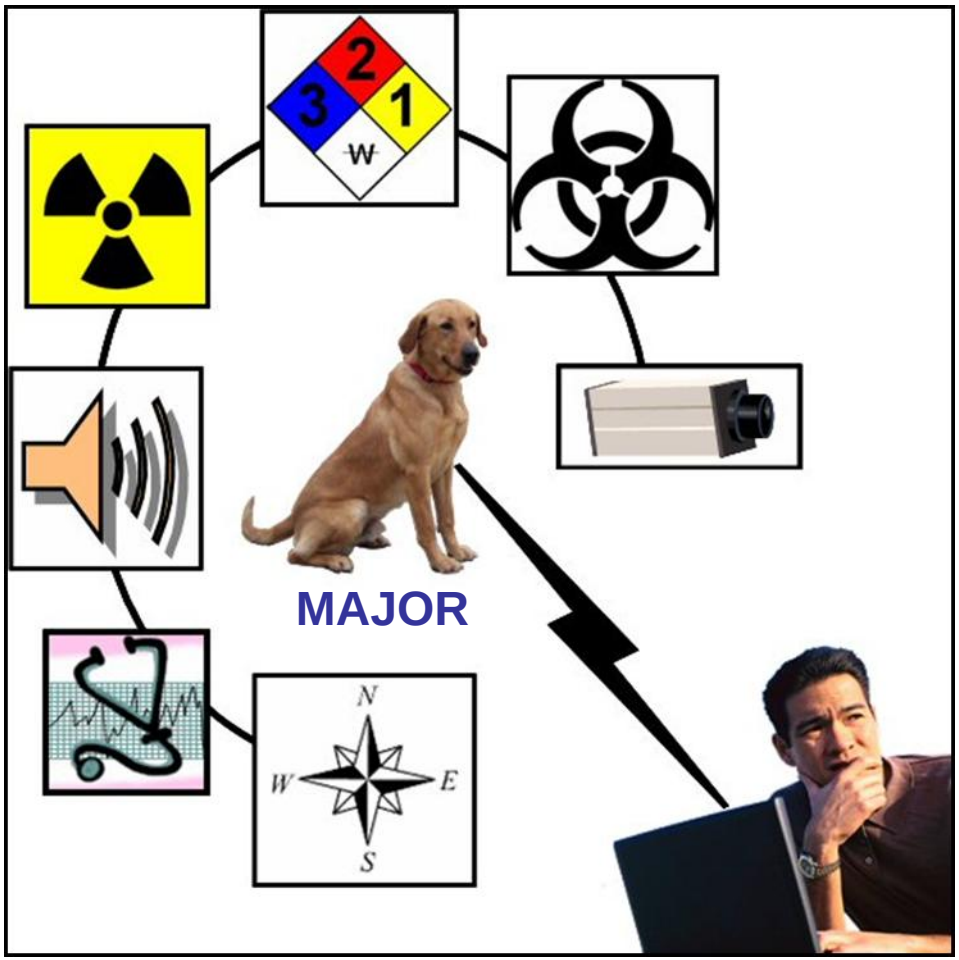
Canine Mass Transit Remote Sensor System

Grantee



- **Wyle Laboratories, Inc.**
  947 Mearns Road,
  Warminster, PA, 18974
- **Principal Investigator –**
  Joseph Reiter,
  Wyle Laboratories
- **Sub – Paul Waggoner**
  Auburn University
- **Monitor - Polly Gongwer**
  DHS S&T, TSL

Description:

- **Canine Mass Transit Remote Sensor System utilizes a systems approach to provide communications & data linking for canines and their handlers using remote commands and remote navigation sensors.**

- **While navigating the canine through a mass transit environment, the canine's location, physiological characteristics, and detection responses will be monitored remotely.**

Technical Approach

- **Recommend Sensors to augment the canine's detection capabilities**
- **Investigate the feasibility of canine navigation in a mass transit environment using remote navigation sensors and remote commands**
- **Develop a link from the canine sensor unit to the remote monitor system**
- **Assemble harness/vest communications system**
- **Test communications system**
- **Acquire and integrate physiological sensors**
- **Test integrated system with trained canine**

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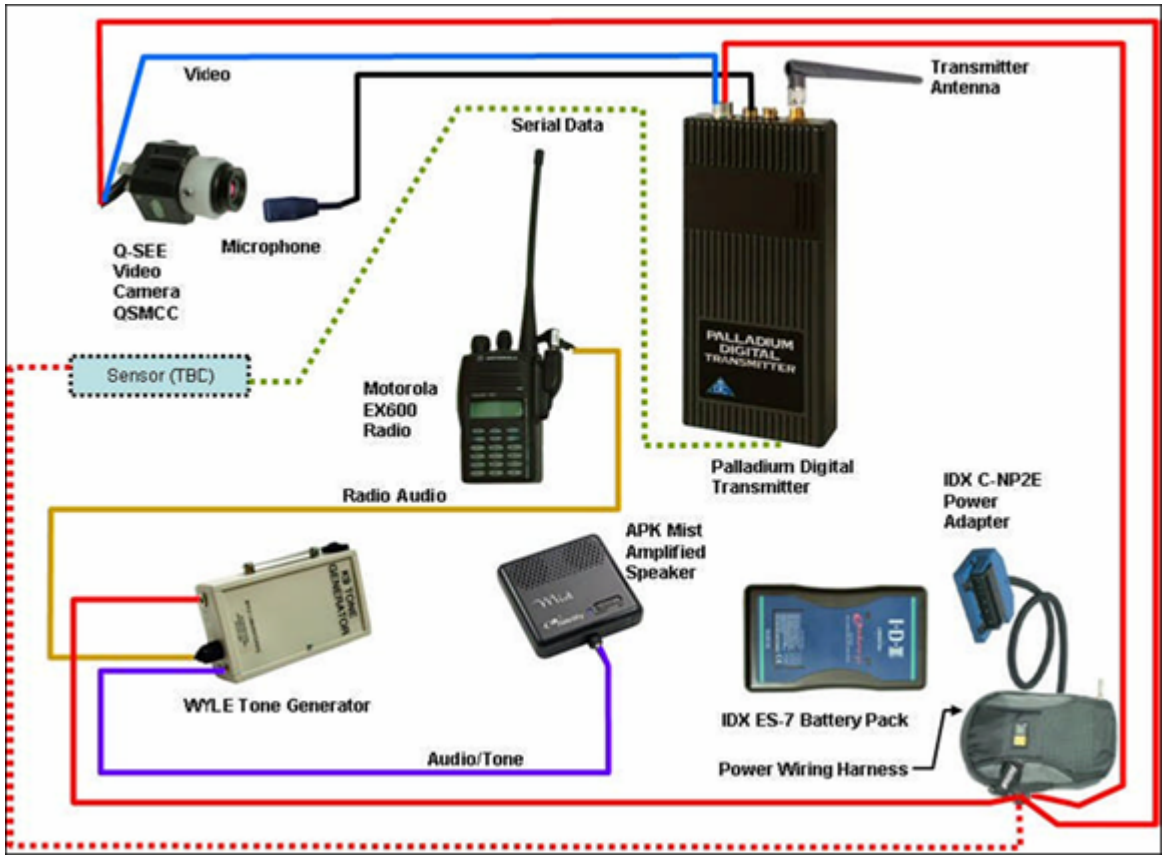
Components of Communication System



- **Blackthorn Harness Assembly**
- **Motorola EX600 Radio**
- **Wyle K9 Tone Generator**
- **APK Mist Amplified Speaker**
- **Palladium Digital Transmitter**
- **Q-SEE Video Camera QSMCC**
- **IDX ES-7 Battery Pack**
- **Power Wiring Harness**
- **IDX C-NP2E Power Adapter**

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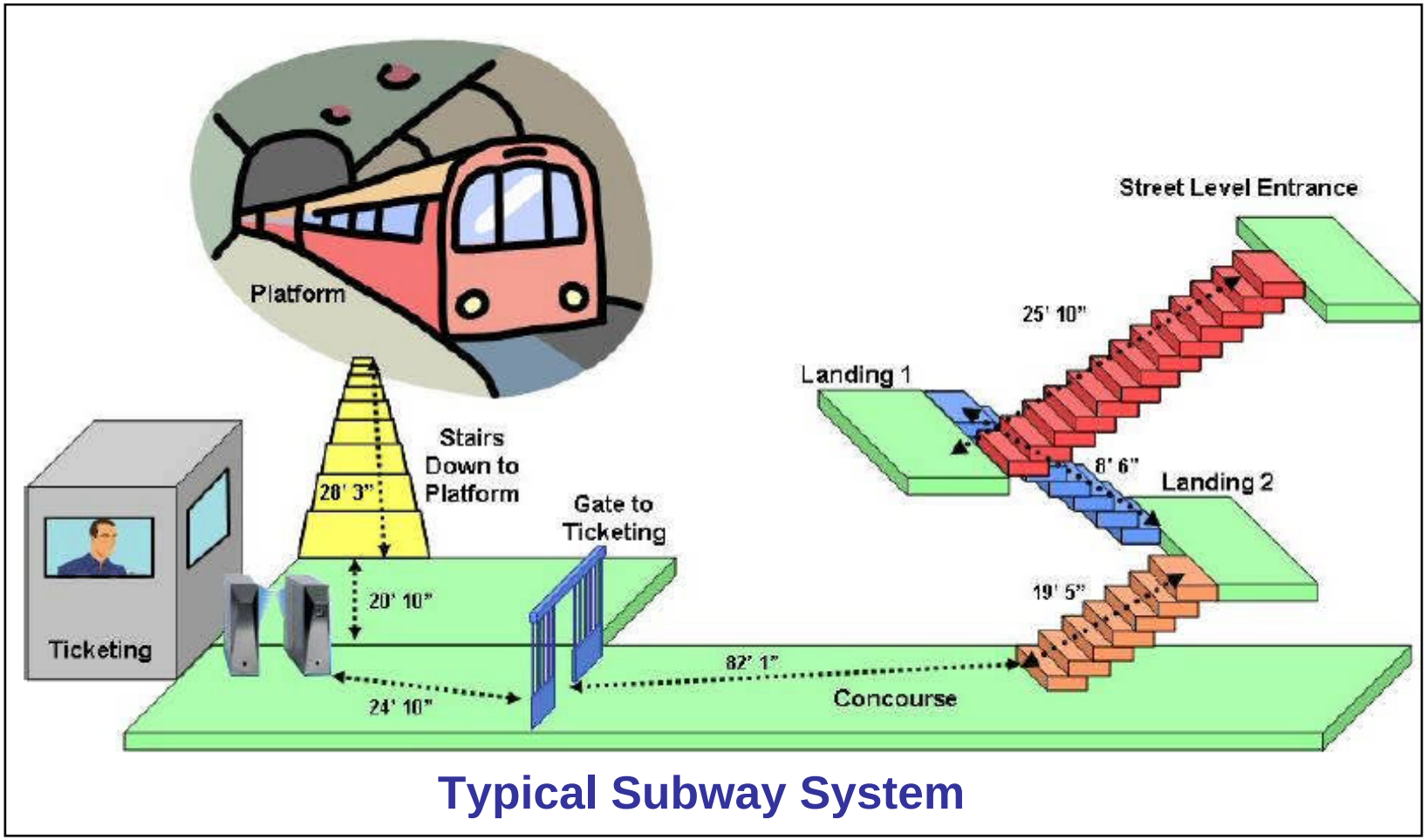

Typical Subway System

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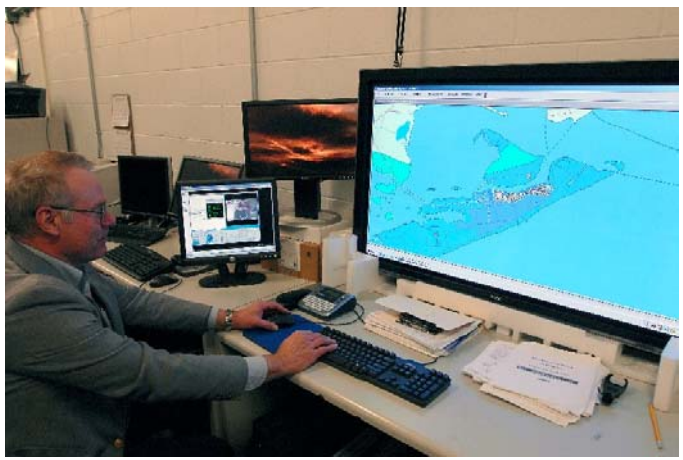
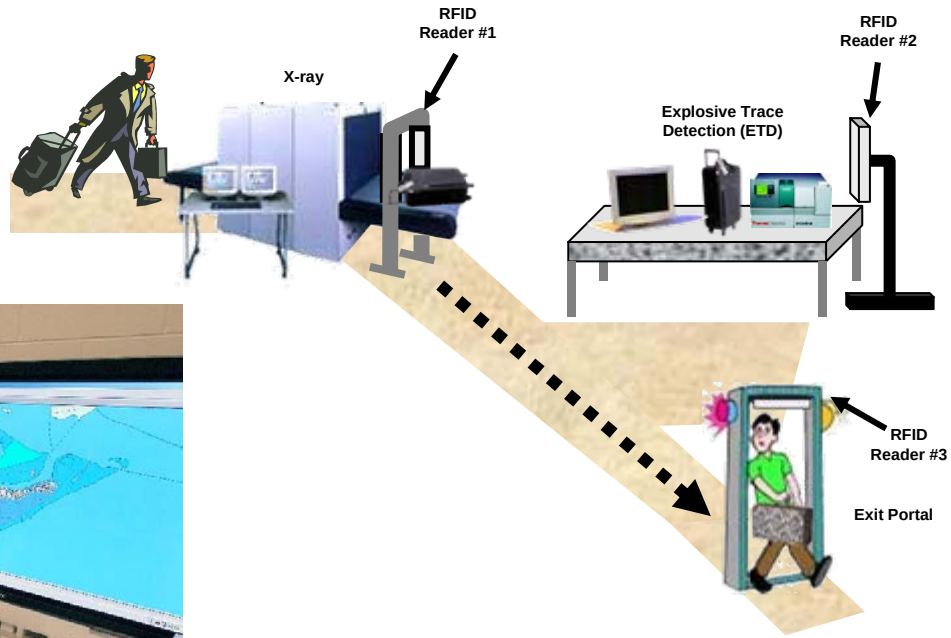
Future Work

- **Auburn University is currently training a canine for explosive detection; remote audio and tone commands are incorporated in the training using the communications vest assembly provided by Wyle.**
- **The canine and prototype system I will be evaluated in a multi level transportation environment using the sensor guidance and communication system – Metropolitan Atlanta Rapid Transit Authority in October 2007.**
- **Physiological and radiation detection sensors will acquired and integrated into the vest assembly.**
- **The canine and prototype system II will be evaluated in NJ/NY Port Authority transit site with communications sent to remote location, TSL C4I Laboratory, FY08.**

Command, Control, Communications, Computers, and Intelligence (C4I) Lab





Display of Ships in Galveston Harbor

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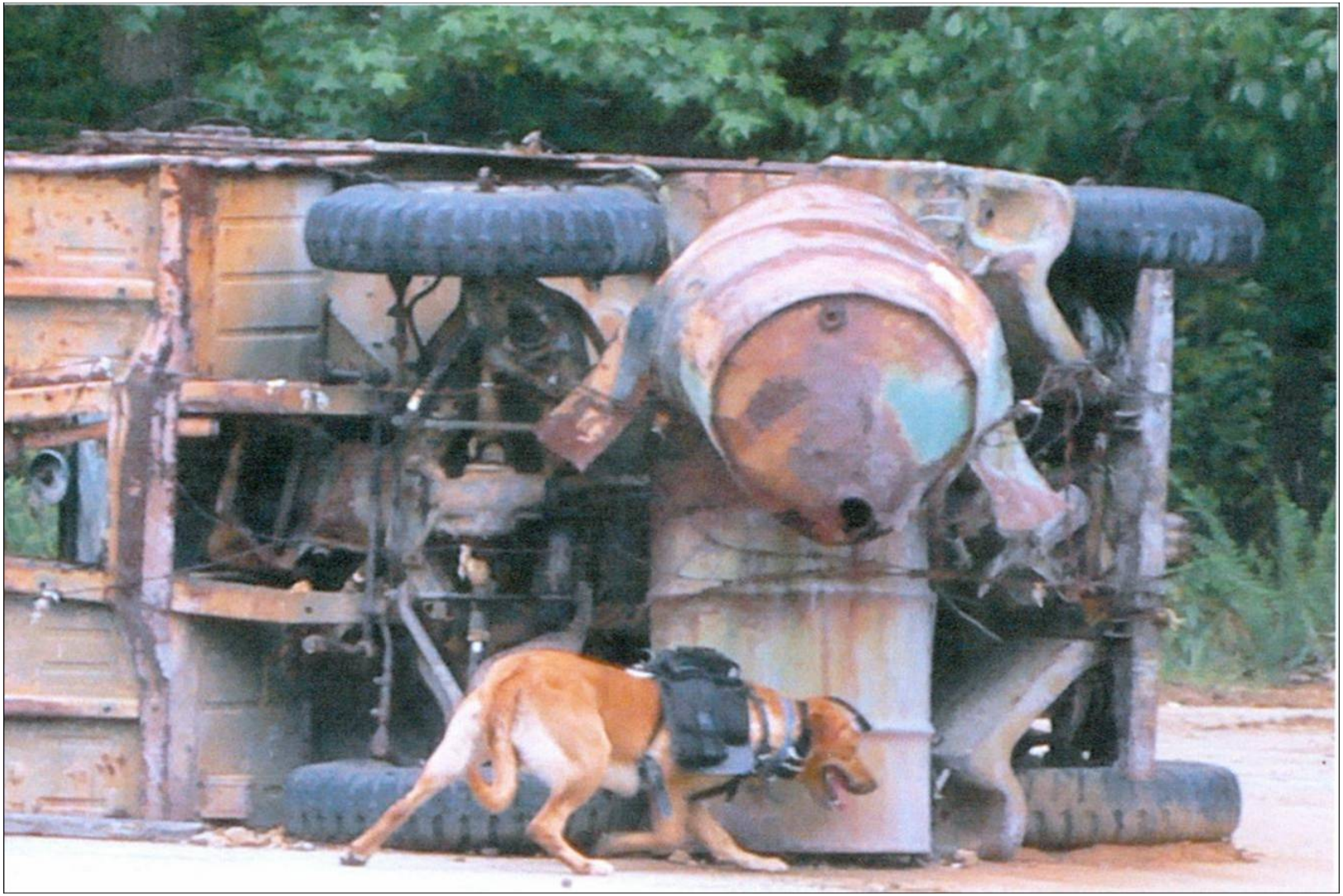

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Major to the Rescue!

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For Additional Information

- **Please contact DHS S&T, Transportation Security Laboratory**
  - **Dr. Polly Gongwer Polly.Gongwer@dhs.gov**
  - **Mr. James Remer James.Remer@dhs.gov**