

2008 DHS Science & Technology Stakeholders Conference

Why am I losing sleep?

(Underwater, Tubes and Tunnels)

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BART/Lawrence Livermore Nat'l Lab and DHS Science & Technology Partnership

- BART approached LLNL in 2003 for help characterizing known vulnerabilities to the post 9/11 threat-space.
- LLNL worked with BART
 - to secure DHS resources
 - to bound the threat-space
 - to fully characterize the vulnerability to a terrorist threat
- LLNL assisted BART with mitigation efforts to protect vulnerable infrastructure.
- As a result of LLNL/BART efforts, LLNL is now doing similar work with other metropolitan transit systems.

Threat to vulnerable transit infrastructure is real and can be of high consequence.



BART is Public Transportation

- BART serves 100 million passengers per year.
- Passengers have open access to stations and public areas.
- During commute hours passenger trips through the Transbay Tube equal the number of vehicle trips across the Bay Bridge.
- Each 10-car train carries approximately 1,000 people.



Transbay Tube



- The 3.6 mile-long Transbay Tube is 135 feet below the surface of the San Francisco Bay.
- A catastrophic breach would flood the 4 downtown San Francisco Stations in 8-14 minutes (shared with Muni).
- During peak commute there could be more than 4,000 people in the tube (four 10-car trains) and thousands more in stations.

Transbay Tube Fire



- The most serious incident on BART to date was the 1979 fire caused by a mechanical failure.
- One firefighter died during the response.
- No passengers were harmed.

Time, Direction & Location



- Thousands of passengers use downtown stations during commute hours.
- Public stations are vulnerable to biological, chemical and other threats.
- Can we to completely secure these stations?

Operations Control Center

- The OCC is the heart of BART's operations.
- Loss of the OCC capabilities would shut down BART.



Questions? Comments?

