



# Transportation Security Administration

## Hazardous Material Tracking

2008 Smart Roadside Workshop

April 29, 2008

# HAZMAT Truck Security Pilot (HTSP)

## Goal and Approach

### Goal:

- o The desired outcome is to provide TSA with a tested and established truck tracking center capability that will allow TSA to “continually” track truck locations and HAZMAT load types in all 50 states and to receive exception based events.



# HAZMAT Truck Security Pilot (HTSP)

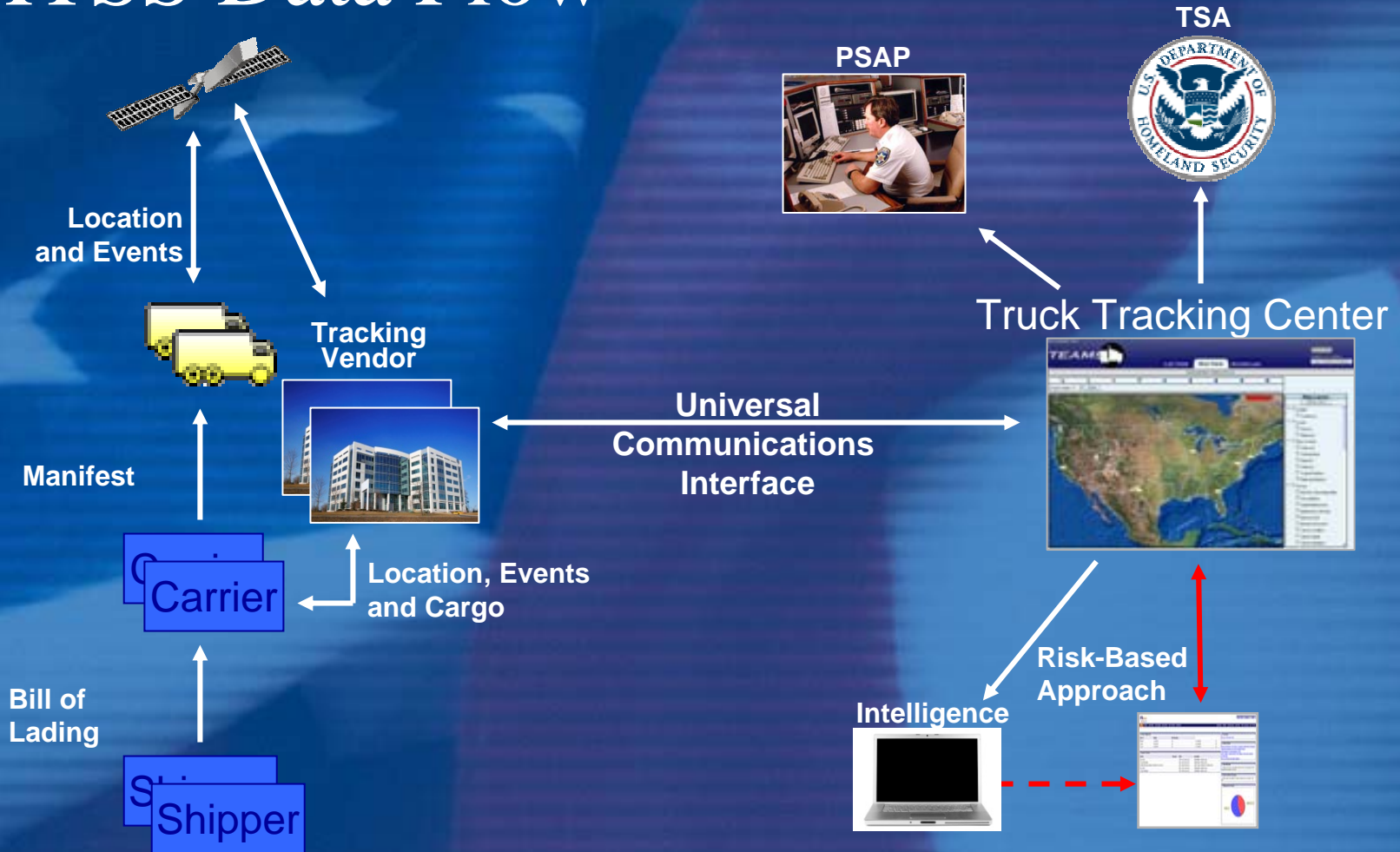
## Goal and Approach

### Result:

- o Developed and operated a prototype HAZMAT Truck Security System (HTSS) that met the goal through inclusion of a
  - Universal Communications Interface (UCI) for integration of tracking vendor data
  - Truck Tracking Center (TTC) with appropriate hardware, software, staff, and protocols to support the TSA mission



# HTSS Data Flow



# Universal Communications Interface

UCI satisfied communications requirements for an integrated view of all HAZMAT shipments

- Carriers not required to purchase additional equipment
- Cost effective for tracking vendors to build to specification
- IEEE-1512 worked well as a data standard both in data content and message format
- Supports various event types that can be associated with future alerts, as vehicle sensor technology becomes available
- Supports all modes of transportation



# Truck Tracking Center

- System operational for 18 months supporting both real time monitoring and pilot evaluation activities
- Truck Tracking Center application (TEAMS) included important features to effectively facilitate the evaluation and coordination of TSI response



# Truck Tracking Center

Skip Navigation Links

[LOGOUT](#)  
 Logged in as: sbfalbo  
[Open Geofence Designer](#)

**DETAILS VIEW**
**LIST VIEW**
**MAP VIEW**
**ACTION LOG**
**EMULATOR**

New Event Alert - Refresh TSI List

### Declare TSI

This event has not been declared a TSI

[Declare TSI](#)
[Cancel TSI Declaration](#)

#### Summary Information

**ID:** TEAMS\_101

**External ID:** ACME CHEMICAL\_TEST

**Type:** driver alarm

**Status:** confirmed report

[Update Type/Status](#)

**Current Address:** 8582 OLD SEVEN LOCKS RD, District 10, Maryland

**Destination Address:** HIGHWAY 125 NORTH, CHARLOTTE, NC

**Material:** CHLORINE

**Population Impact:** 114,882 people within 4.6 mile isolation zone

**Latitude / Longitude:** 38.99415 / -77.16063

**Creator:** Acme Chemical

**Created Time:** 10/10/2007 19:09:00

**Last Update:** Acme Chemical

**Last Update Time:** 10/10/2007 19:33:00

#### Vehicle Information

**Vehicle Make:** Freightliner

**Vehicle Color:** Green/Green

**Shipper Name:** ACME CHEMICAL INC.

**Carrier Name:** ACME CHEMICAL INC.

**USDOT Registration Number:** 052605 550 010NO

**License Plate:** NY 55283PA

**Geofence Data Details...**

#### Map Layers

Update Layers

- TEAMS Data
  - Event Locations
  - Weather Stations
  - Geofences
- Roads
  - Streets
  - Highways
- Mass Transit
  - Railroads
  - Transit Lines
  - Airports
  - Heliports
  - Transit Stations
  - Railroad Stations
- Energy
  - Electric Generating Units
  - Gas Stations
  - Liquid Natural Gas
  - Natural Gas Storage
  - Nuclear Fuel
  - Nuclear Research
  - Oil/Gas Facilities
  - Oil/Gas Wells
  - Oil/Gas Pipelines
- Infrastructure



# Pilot Results

- System Operational for 18 months supporting both real time monitoring and pilot evaluation activities
  - Pilot benefited from participation from tracking vendors and carriers (7 tracking vendors, 10 carriers, 128 trucks)
  - Established that UCI is easy to implement and thus minimizes cost to tracking vendor, which ultimately minimizes cost to carriers
  - Carriers are extremely sensitive to data privacy risks that would threaten their competitive advantage
  - Pilot demonstrated basic capability to safeguard carrier and government data, but more exploration is required
  - System would support additional vehicle sensors that could provide a broader set of threat alerts that may be become available in the market place





# Next Steps

- Develop Voluntary Tracking Program
  - UCI will be incorporated – well tested and validated
  - TTC Application features will be further developed
  - Needs extensive carrier participation to build an effective base for conversion to operational status



# Smart Roadside Building Blocks

- o Real-time HAZMAT Commodity Flow
- o Historical Tracking Data
- o HAZMAT Cargo Data
- o Incident Data
- o Two-way Communications



# Contact Information

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