Kentucky Critical Infrastructure Protection Program (KYCIP)
NATSC Workshop

Enhancing Hazardous Materials Transportation Security

Understanding Tracking Technologies

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Truck Tracking Technologies

- Various Established Technologies Work
  - Satellite
  - Terrestrial (Cellular)
- Enhancing Logistics Efficiency
  - Improve Routing Efficiencies
  - Improve Dispatcher Efficiency
  - Conserve Fuel
  - Provide Customer Information

Segments of the Trucking Industry

- Truckload
- City P&D
- LTL line haul
- Bulk Fuel
- Small companies

<u>Some</u> companies can save money with tracking technologies, others will not see a benefit that justifies the cost

Cost of Tracking

- Low Cost Solution (Driver check-in)

- Remote Tracking Hardware costs ($1000 - $2500)
  - Functionality
  - Exception Based Software
  - Low volume materials
    - Can’t dedicate trucks
    - Equip the entire fleet

Additional Costs

- Airtime Costs (contact frequency)
  - Satellite (reports 2x daily $40/month)
  - Cellular (hourly reports $30/month)
- Monitoring Costs - someone needs to look at the report and determine whether action is required
- Training Costs
- Maintenance Costs

Tracking to Enhance HM Security

- *Assumption* that tracking trucks will PREVENT a terrorist attack

- Problem is that tracking technologies are easily defeated

Defeating Tracking Technology

Assumption that terrorists would hijack a truck equipped with tracking technology rather than utilize a *Trojan horse*

- Common materials (ANFO)
- No Placards
- No Tracking Technologies

An Even Better Trojan Horse

Defeating Tracking Technology

- Low Tech Defeat Techniques
  - Trailer swap

Defeating Tracking Technology

- Cellular coverage has gaps
- Satellite systems require line of sight

Defeating Tracking Technology

- Low Tech Defeat Devices
  - Cutting Power
  - Interrupting Line-of-Sight

Defeating Tracking Technology Electronic Jamming Devices

"GPS, GSM Cellphone Jammers Hit Mainstream, Calamity Ensues"

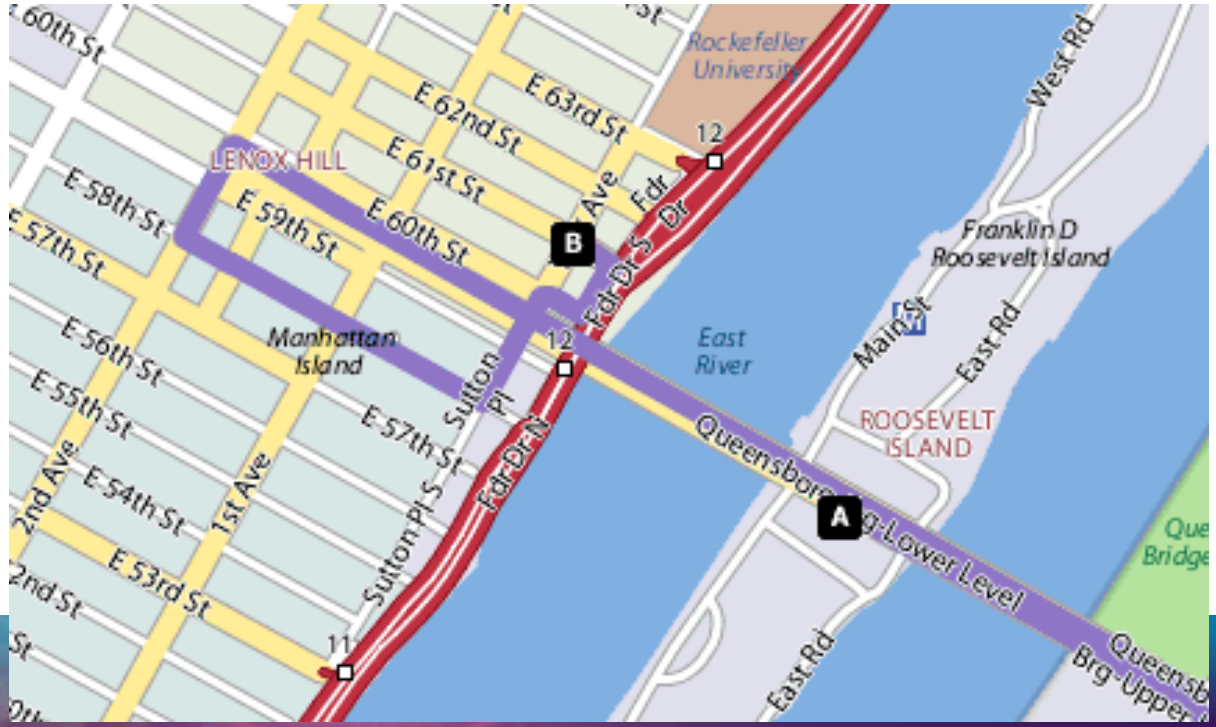
"Avoiding being tracked in a vehicle supplied by your boss is easy, from a technology standpoint"

Defeating Tracking Technology

- IED

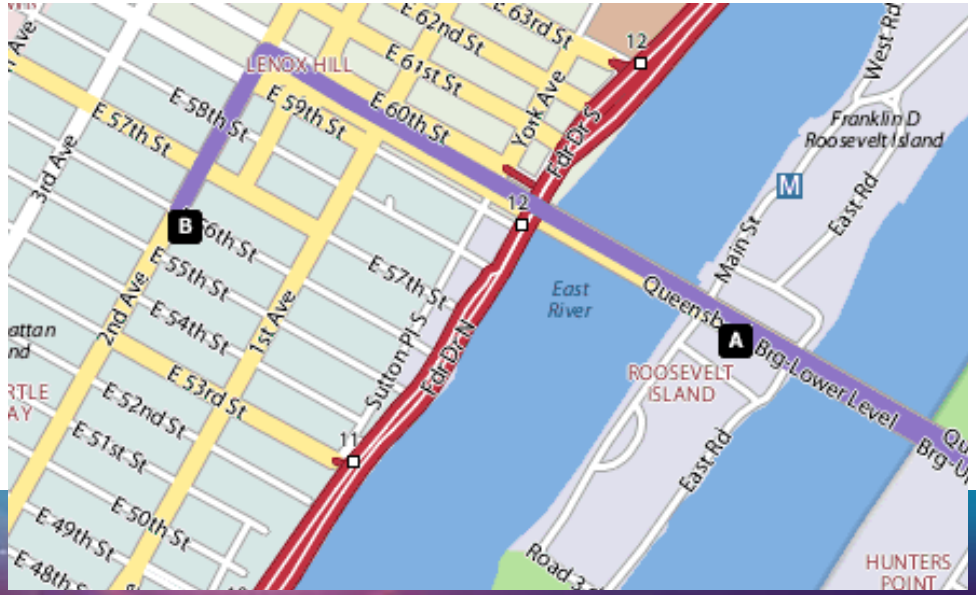
Tracking Scenario
the "real world"

- Gas Station Delivery
  - Long Island Fuel Depot
  - Exxon (61st and York)
- 6:30 a.m. (ping)



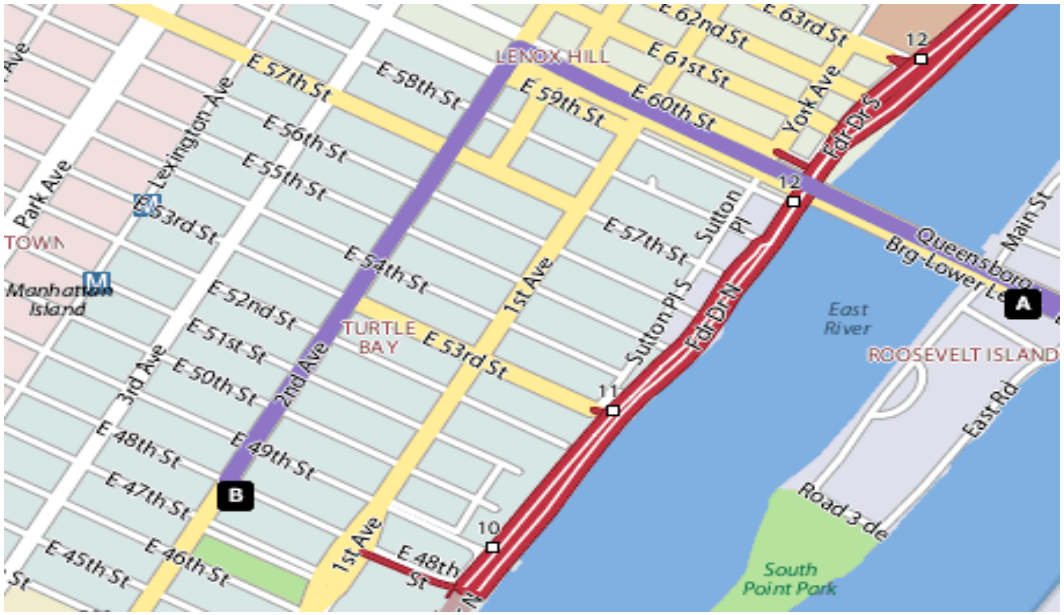
Tracking Scenario
the "real world"

- 6:35 a.m. (ping)
- 56th Street and 2nd Ave.
- 6:36 Attempt to contact driver . . . unsuccessful



Tracking Scenario
the "real world"

- 6:40 (ping) – 48th Street and 2nd Avenue
- Contact TSA and NYC Police



Tracking Scenario
the "real world"

- 6:42 a.m. Truck driven by terrorist has arrived at its destination . . . .

Where do we go from here?

- Enhance efficiency in certain applications
  - Revisit FOT Conclusions
- Expensive (hardware, airtime, monitoring, training)
- Easily defeated
  - Examine HTSP Conclusions

Tracking technologies provide . . .

. . . a false sense of security