

# Exploring Truck-based Telemetry and Sensor Data

Pat Kennedy, Transportation Specialist  
Federal Highway Administration HQ,  
Washington DC

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Contact: [Pat.Kennedy@dot.gov](mailto:Pat.Kennedy@dot.gov), 202-366-9498

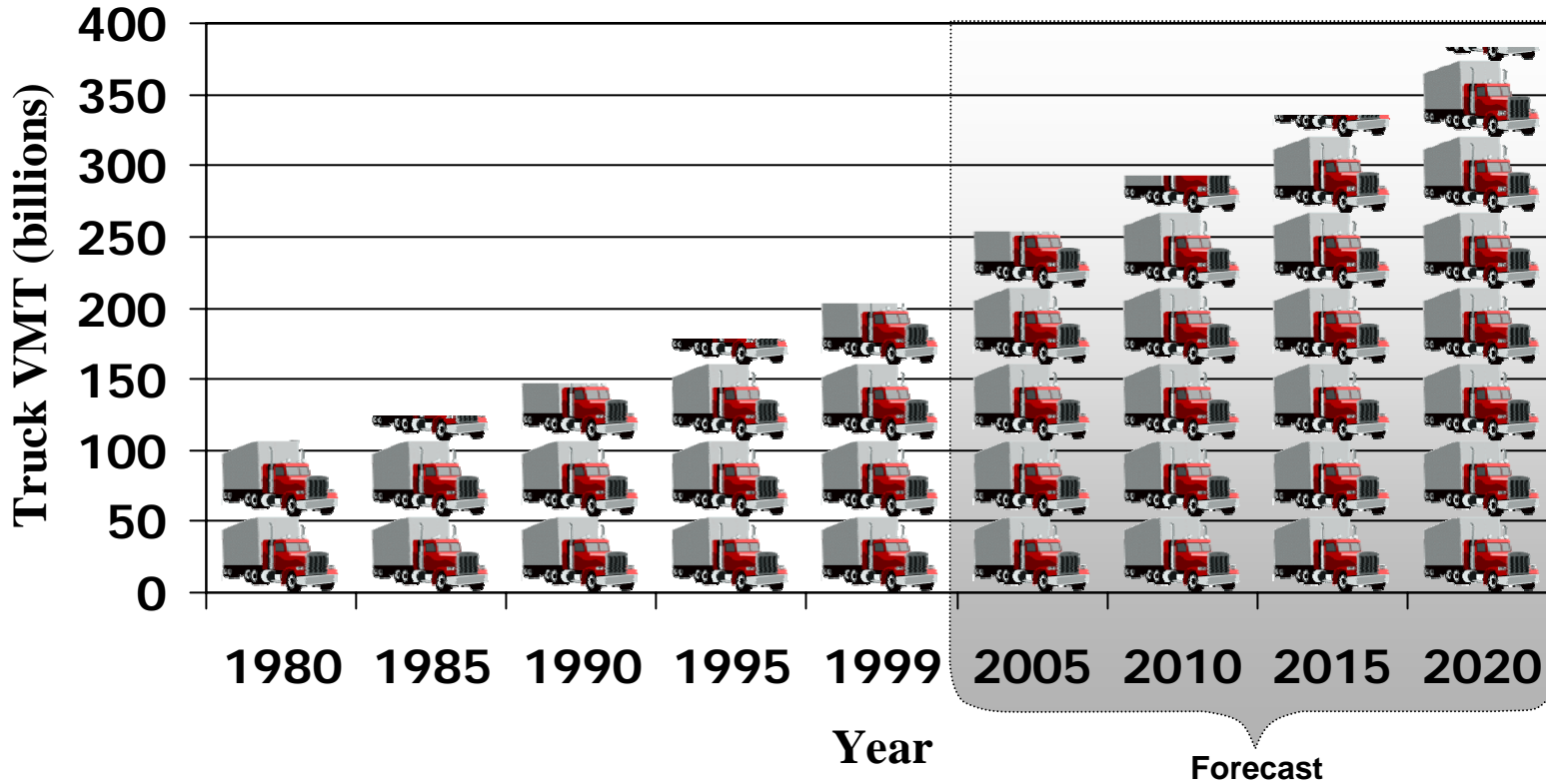


# Background

- Over 8 million long haul trucks registered in the U.S.
- These account for
  - 3.5% of all vehicles
  - 7% of all vehicle miles traveled
  - 11% of all fatal crashes
- Nearly 500,000 long haul trucks contain transponders to transmit real-time vehicle operating characteristics & environmental conditions

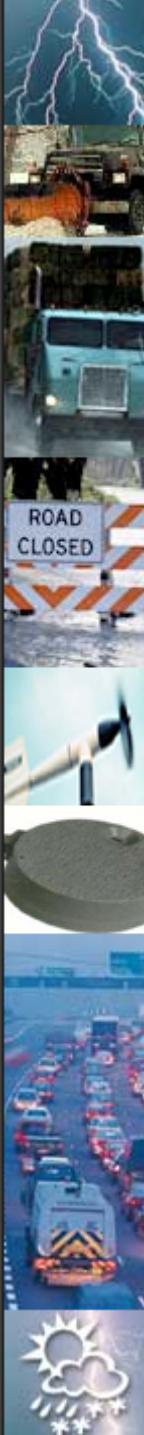


# Forecast Truck Usage



Truck Vehicle Miles Traveled (VMT) - 1980 to 2020

Forecast generated for FHWA, Office of Policy, by WEFA, Inc.



# Research Focus

- Using passenger vehicles as data probes appears feasible
- This research focuses on using probe data from long haul trucks as a supplemental data set.
  - Trucks operate 24 hours/day
  - in all weather conditions
  - for longer hauls/distances than most passenger vehicles



# Research Objectives

- Assess the utility of commercial vehicle data for surface weather applications
- Evaluate the practicality and value of continued truck-based research
- Provide a foundation for the weather community on what data are currently available and what might be needed in the future



# Research Team

- FHWA is contracting with the American Transportation Research Institute (ATRI)
  - Coordinate with at least 3 trucking companies
  - Establish agreements to capture probe data
  - Collect information on probe data elements and formats
  - Protect commercially sensitive data and effectively address institutional challenges related to data access/dissemination
  - Provide a feasibility study on how truck-based data could be used to support surface transportation weather research



# Research Team

- FHWA has contracted with NCAR who will
  - Receive the truck probe data from ATRI
  - Analyze the data for scientific validity and quality
  - Compare the probe data with established in situ and remote observation data sets
  - Provide a feasibility report on whether to pursue additional research



# Milestones

- The FHWA contract with NCAR is already in place
- The ATRI contract is currently being finalized. Period of Performance (PoP) is 9 months.

