

Naturalistic Teen Driving Study

Tom Dingus, Charlie Klauer, Suzie Lee, VTTI
Bruce Simons-Morton, Marie Claude Ouimet,
NICHD
Mike Perel, Stephanie Binder, NHTSA

Experimental Design

- Instrument 42 private vehicles with highly capable data collection systems
 - Collect continuous data beginning within 2 weeks of licensure and continuing for 18 months
 - 22 teens are primary driver of vehicle
 - 20 teens share vehicle with parents
 - Video, video snapshots, driving performance data, and questionnaire data

40 Teen Continuous Video



40 Teen Video View with In-cabin Snapshots



Data Coding (aka Reduction)

Variables Coded per Trip

- Driver ID
- Number of Passengers
- Seatbelt use
- General age of passengers (5 age categories)
- Gender of passengers
- Day/Night

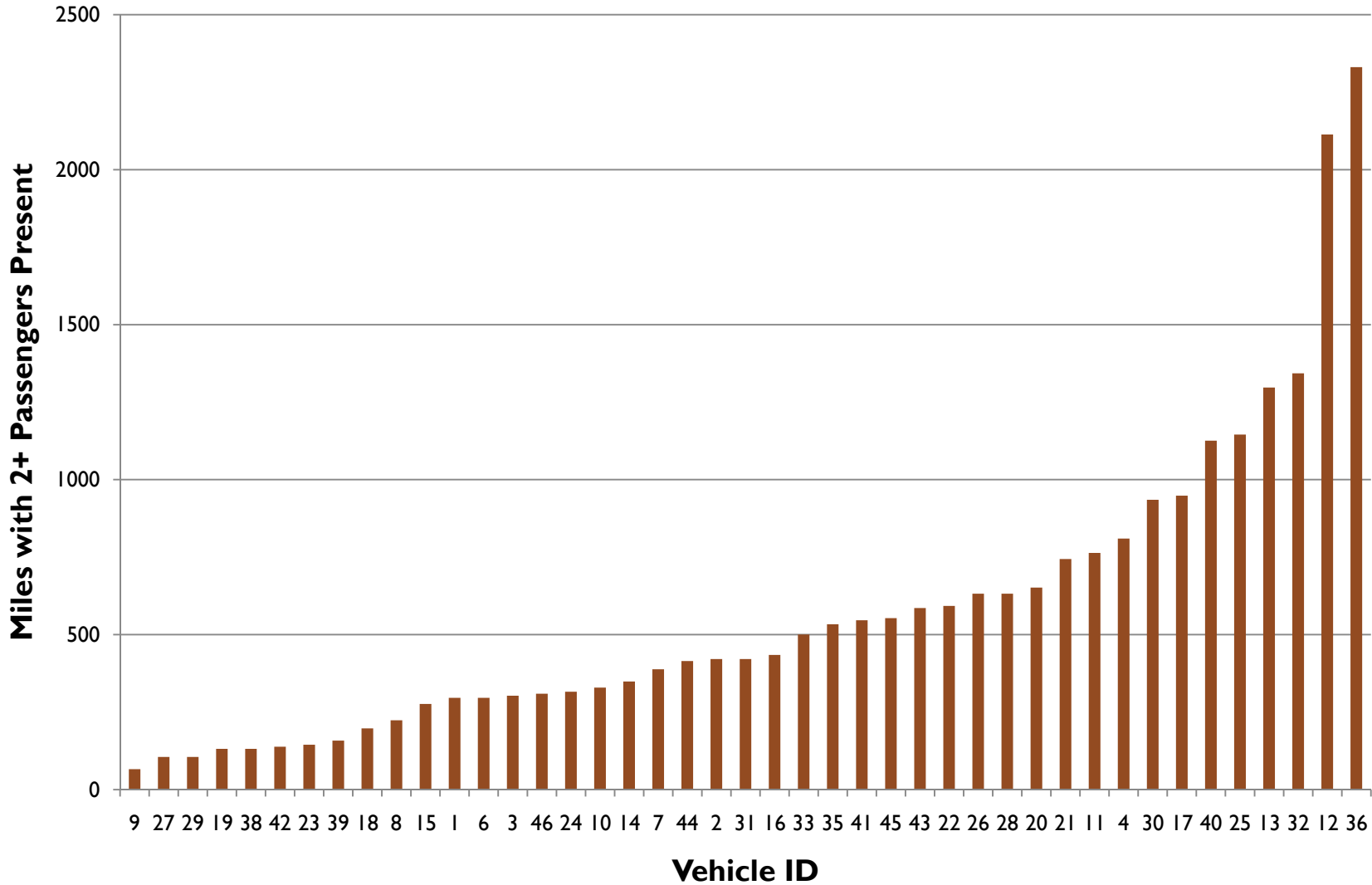
Data Set Stats:

- 105,000 trips
- 10,752 hours of teen driving
- 276,000 miles driven by teens

Inter-Rater Reliability

- Highly trained reductionists
- 10% of files were spotchecked
 - By other reductionists
 - By expert reductionist
- 5 Inter-rater tests were completed (every 3 months)
 - Driver ID = 95% accuracy
 - Number of Passengers = 90% accuracy
 - Passenger Age Category = 80% accuracy
 - Passenger Gender = 88-90% accuracy

Exposure to 2+ Passengers by Driver (Mileage)



Exposure to Passengers Across 18 Months (Mileage)

