

# Bureau of Transportation Statistics

*Long Distance Travel Surveys:  
Historical Overview and Challenges for Future Surveys*

NHTS Workshop  
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**Joy Sharp**

# Previous Federal Efforts

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- 1963, 1967, 1972 and 1977 National Travel Surveys
- 1995 American Travel Survey
- 2001 National Household Travel Survey\*
- Future Effort ???

\* *Smaller long distance component also included in earlier NPTS Survey*

# National Travel Surveys (1972 & 1977)

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- Conducted by the Census Bureau\*
- Primary objective: provide national statistics on volume and characteristics of nonlocal travel\*\*
- Component of the Census of Transportation (Economic Census)
  - Truck Inventory and Use Survey
  - *National Travel*
  - Commodity Transportation
  - Nonregulated Motor Carrier and Public Warehousing
- Trip defined as roundtrip at least 100 miles from home
- 4 quarterly interviews over year
- Area probability sample of households (24k & 25k)
- Personal visit; full enumeration of household

\* *Joint sponsorship with U.S. DOT and U.S. Travel Service*

\*\* *state level to and through data; some regional level destination information*



# 1995 ATS

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- **Sponsor** – Bureau of Transportation Statistics
- **Purpose** – Obtain information on long distance travel of persons living in the U.S., especially in regard to *travel flows* and economic activities generated by travel
- **Content** – Trip detail (destination, purpose, mode, lodging, etc.) for all trips of 100 miles or more during a 1-year period. Socio-demographics of traveler
- **Survey Design** – Year panel with 4 quarterly waves
- **Sample Size** – 80,000 households (85% response rate)
- **No. of Trips** – over 500,000 trips

# Type of Information Collected

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For each long-distance person trip:

- demographics of traveler
- mode and purpose of travel
- geography of origin and farthest destination
- trip distances – GCD and route distances
- trip duration (in days) and lodging used, if any
- no. and location of overnight stops
- no. of accompanying persons
- access/egress to airport, train, bus



# 2001 NHTS

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- **Sponsor** – FHWA and BTS
- **Purpose** – Obtain *national picture* of long distance travel of persons living in the U.S. and characteristics of travelers
- **Content** – Trip detail (destination, purpose, mode, lodging, etc.) for all trips of *50 miles* or more during a *4-week period*
- **Survey Design** – *RDD survey; one time collection of trips (March 2001 – April 2002)*
- **Sample Size** – *25,000 households (~40% response rate)*
- **No. of Trips** – *45,000 trips (almost half 50-100 miles)*



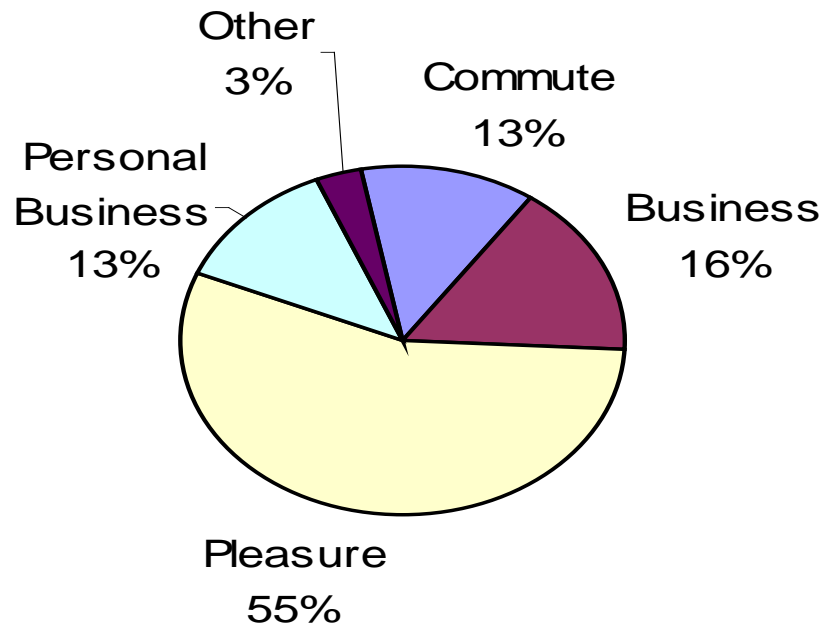
# 2001 NHTS – Basic Statistics

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- 2.6 billion long distance trips taken during 2001 resulting in 1.4 trillion miles
- slightly less than half of trips 50-100 miles
- over half involved no overnight stays
- most occur within state; only 2% are international
- majority of trips made by personal vehicle
- over half of long distance travel is for pleasure

# Trip Purpose

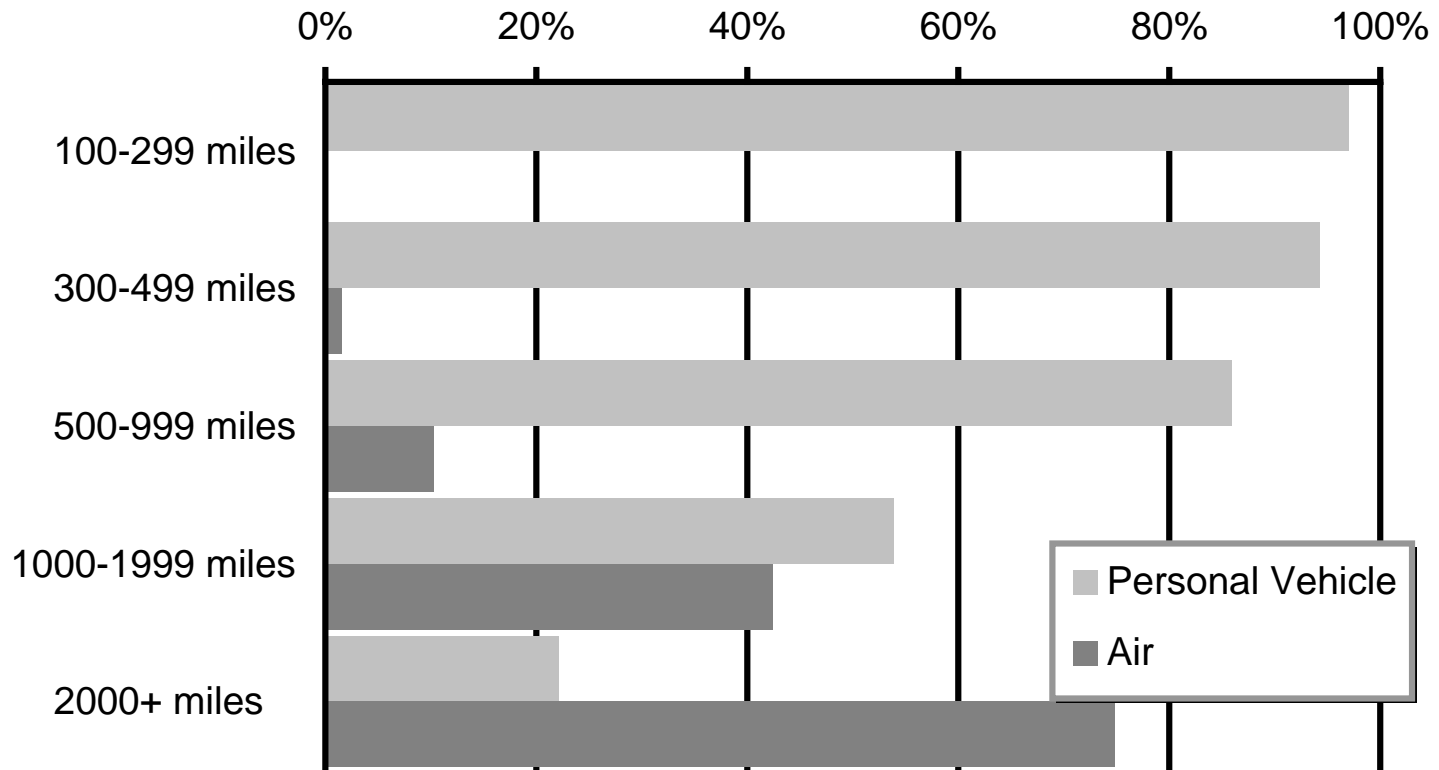
Distribution of Long-distance Travel by Trip Purpose





# Modal Shift

## Proportion of Long-Distance Trips by Mode and Mileage Category



# Methods Research and Recommendations

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- TRB/CNSTAT Special Report #277
- JPSM Review
- ORNL report on the travel data program
- BTS working groups identified needs and gaps in travel data
- BTS staff reviewed and responded to external assessments
- FHWA sponsored projects



# Challenges – Budget and Resources

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# Challenges: Sample Size and Reference Period

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- Sample size of long trips in 2001 was only 22,000 for trips of 100 miles or more, compared with 500,000 in 1995 ATS
- Impacts interstate flows, state estimates, etc.
- Four week reference period was a problem – can't say how many people didn't take long trips in 2001
- Must interview households multiple times (like 1995 ATS) to get all long trips for the year



# Challenges: Coverage and Nonresponse Bias

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- Nonresponse bias introduced when differences between Rs and Non-Rs
- Low response rates may make this problem worse
- In RDD sampling, non-telephone and mobile phone-only households are not covered
- Not unique to travel surveys
- OMB requirements for minimum response rates in *federal* surveys (below 80% require bias analyses).
- Difficult and costly to remedy
  - Need intensive nonresponse follow-up
  - Perhaps personal visit interviews
- In RDD samples, don't get addresses for a significant % of sample households



# Challenges: Under-reporting of Trips

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- People tend to forget some of their trips, especially non home-based and non work trips. Also forget trip details
- Worse for proxy reports
- GPS data may help us estimate this bias
  - GPS data are expensive to collect and process
  - Using a subsample of GPS data to make adjustments reduces the effective sample size



# ATS & NHTS long distance data resources

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## 1995 American Travel Survey

[http://www.transtats.bts.gov/DatabaseInfo.asp?DB\\_ID=505&Link=0](http://www.transtats.bts.gov/DatabaseInfo.asp?DB_ID=505&Link=0)

## 2001 National Household Travel Survey (long distance)

[http://www.bts.gov/programs/national\\_household\\_travel\\_survey/](http://www.bts.gov/programs/national_household_travel_survey/)

