Ohio Long-Distance Travel Survey

17th TRB Transportation Planning Applications Conference
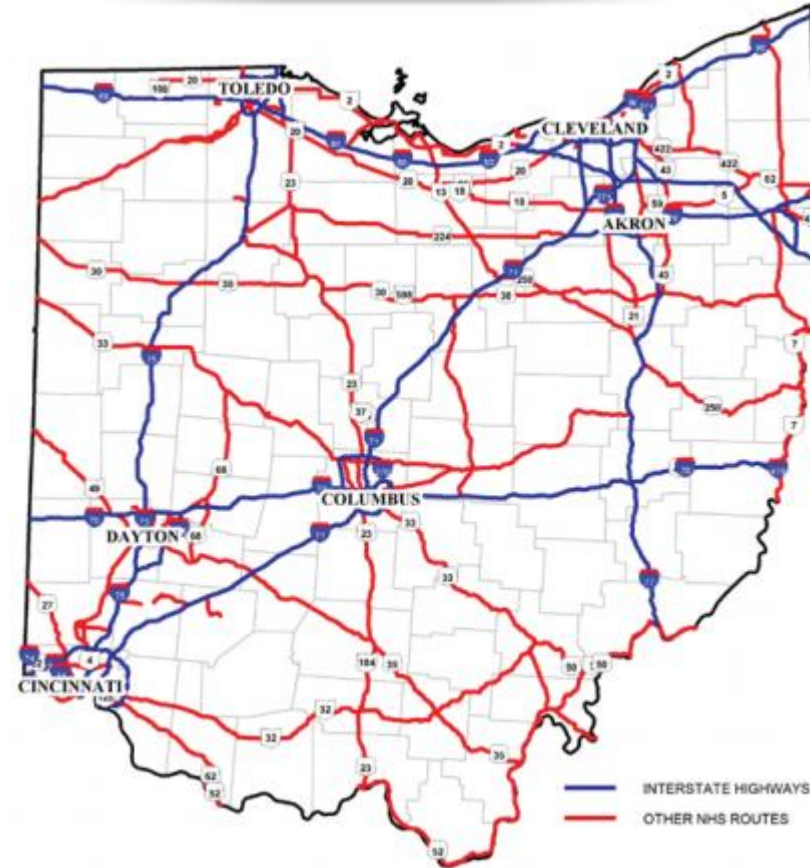
MONDAY 3 JUNE 2019

Ohio Long-Distance Travel

- Ohio Long-Distance Stats

  - 4th largest interstate lane-miles (8,100)

  - 5th highest VMT (200M)

  - Within 1 day (600 miles) of 60% of US and Canadian population

  - 7 commercial airports (176 total public airports)

  - 6.5M jobs

  - 8th largest economy in US (484B GSP)

Ohio's Statewide Long-Distance Model

- Disaggregate tour-based travel demand model

  – Population is microsimulated
    > Daily activity pattern

  – Long-Distance travel is prioritized
    > Half-day: AM or PM
    > Full-Day
    > Away on Travel

  – Short-distance trips are then simulated if the traveler has time available

Economic Model

Passenger **Freight**

Long-Distance

Short-Distance
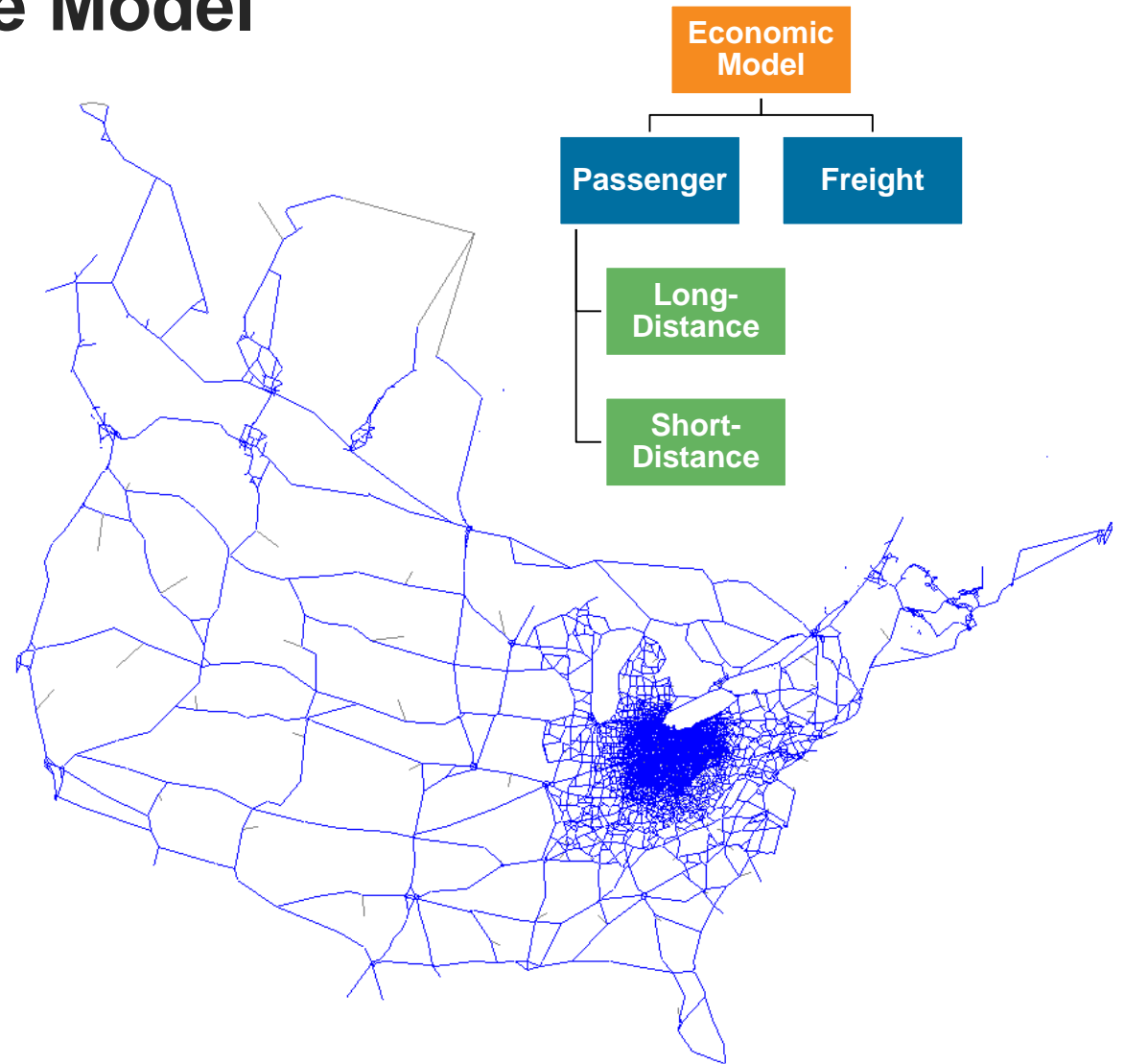
Ohio's Annual Household Travel Survey

Diary Design: 7-Day Smartphone or 1-Day Online/Telephone

Recurrent: Annual survey in 1 of 10 regions

YEAR	DATA COLLECTION	TARGET SAMPLE	FINAL SAMPLE
Columbus Area	Fall '16–Spring '17	2,300 HHs	3,100 HHs
Rural Counties	Fall '17–Spring '18	2,300 HHs	2,500 HHs
Dayton Area	Fall '18–Spring '19	1,600 HHs	1,735 HHs
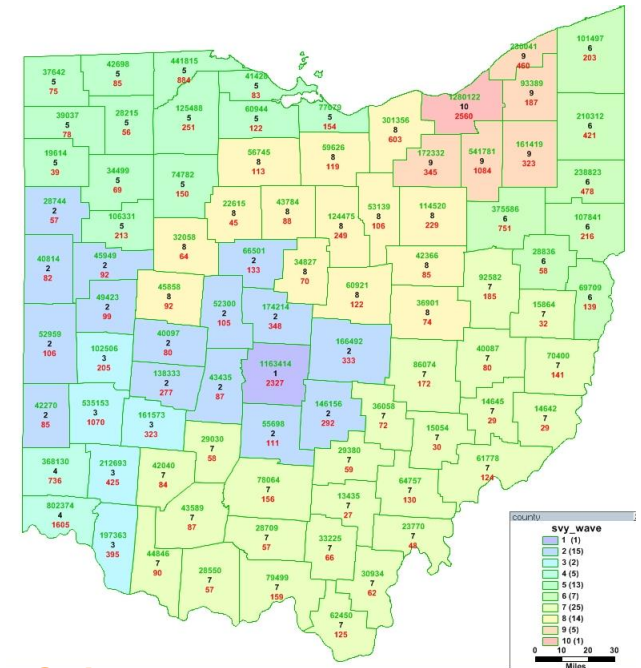
Ohio 10-Year Sample Geographies

Key Elements

- **Mode:** Share of smartphone participants increasing year-over-year
  - From 57% of HHs to 71% of HHs

- **Households:** Very high agreement to be re-contacted for follow-on surveys
 - 95% in urban areas, 85% in rural counties

Ohio's Long-Distance Smartphone Survey Subsample

Long-Distance Diary Methodology:

- Invite smartphone owners (18+) who complete HTS to participate in 6-month long-distance diary

- Sample plan ensures even sample size across all 12 months

- rMove App only collects trips of 50+ miles
  - Trip survey, end of day survey
  - Highly similar UI to HTS

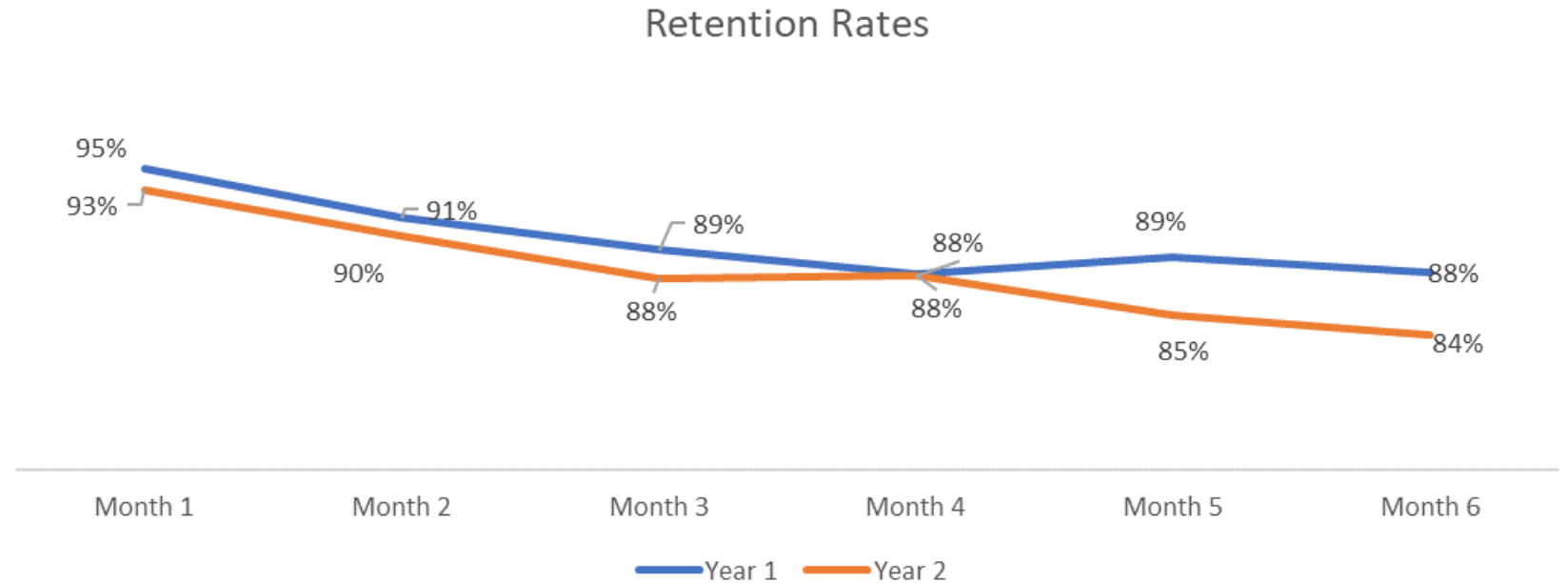- Monthly "mini-survey" maintains engagement
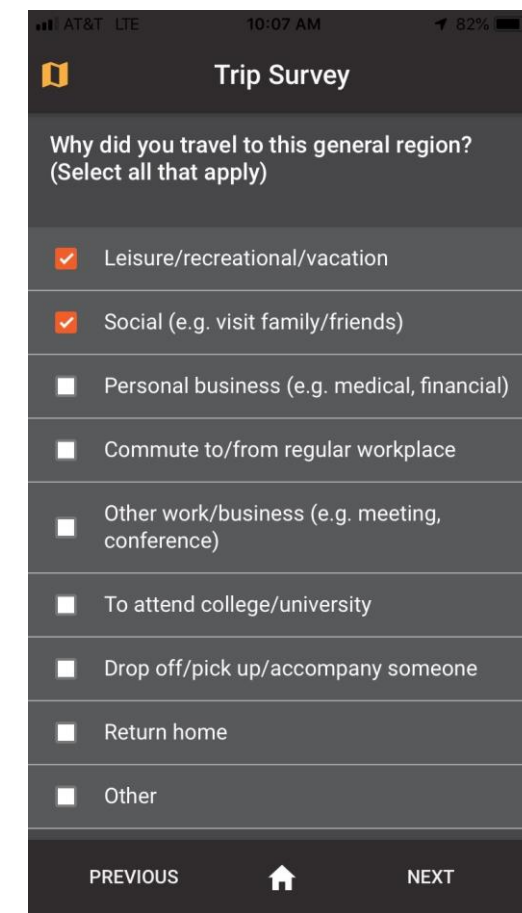
Long-Distance Survey: effectively a low-cost 12-month panel

Recruitment, retention, and completion rates are very high

- 26% response rate to survey invite
- 89% retention across the 6 months
- 95% completion of LD trip surveys
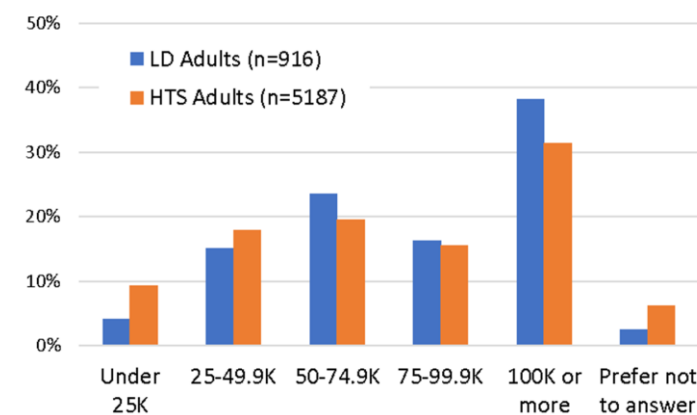
**1,450 persons
and 21,500 LD trips**

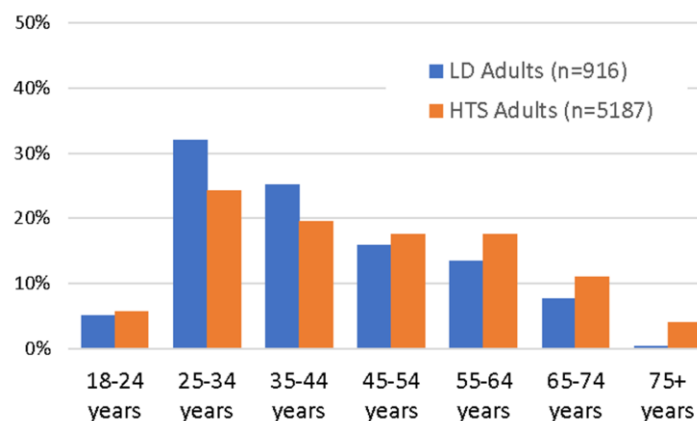### Retention Rates

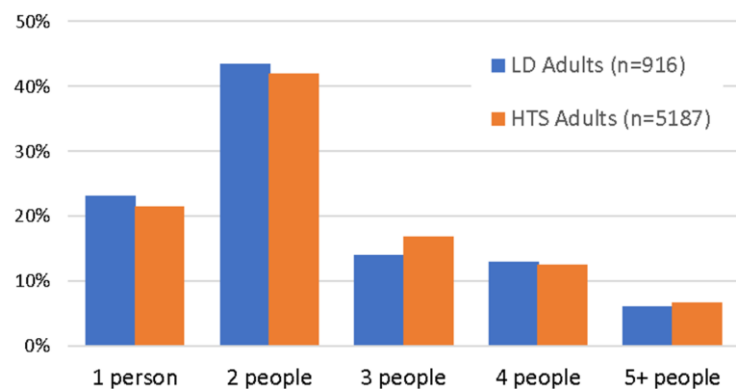|	Month 1	Month 2	Month 3	Month 4	Month 5	Month 6
Year 1	95%	91%	89%	88%	89%	88%
Year 2	93%	90%	88%	88%	85%	84%

— Year 1 — Year 2

Preliminary results

LD participant demographics are similar to HTS

Study participants are younger (<45) and higher income (100K+) than HTS
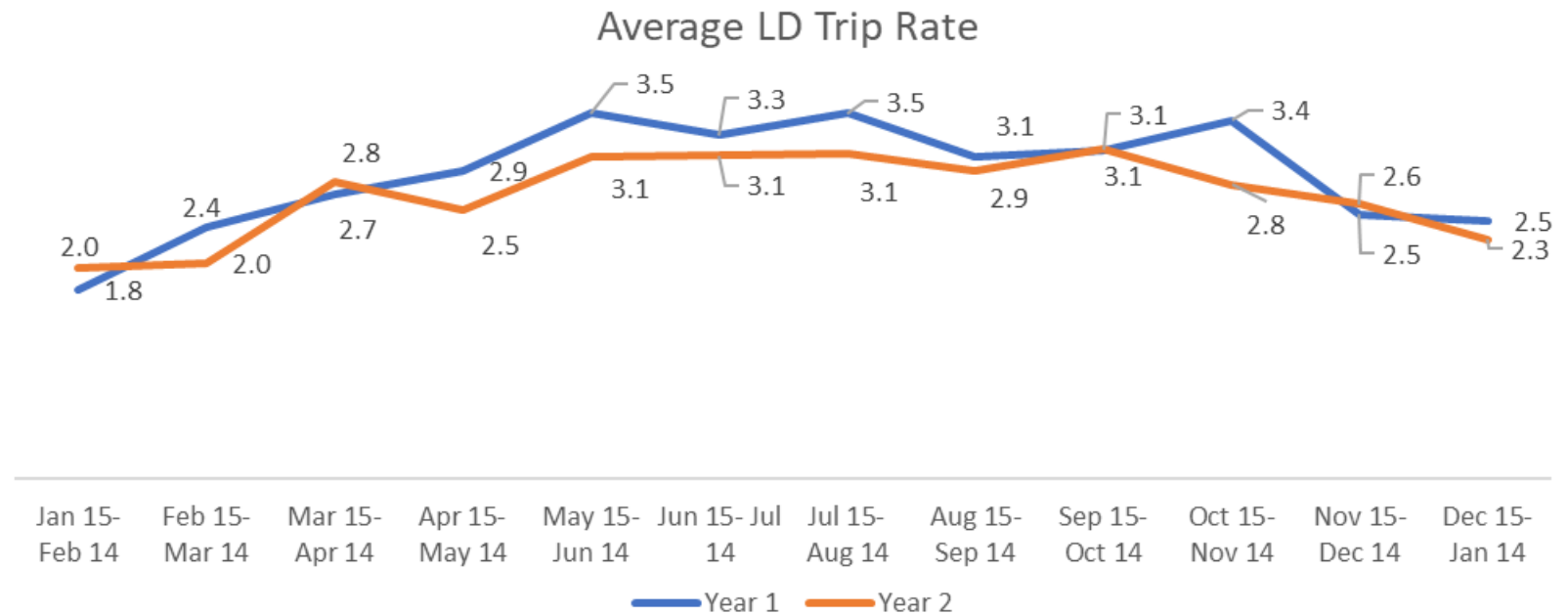
- Unweighted Y1 sample shown below

Preliminary results

Total Trips by Month: Higher in Summer and Fall

Typically, 50-70% of the panel had an LD trip in the given month

- 90% made at least one LD trip
- ~50% of panel had 10 or more LD trips
  - 54% in Y1
  - 45% in Y2

Average LD Trip Rate

Preliminary results

Mode by Trip Distance: Driving Still Rules

Personal vehicle: 75% of all LD trips
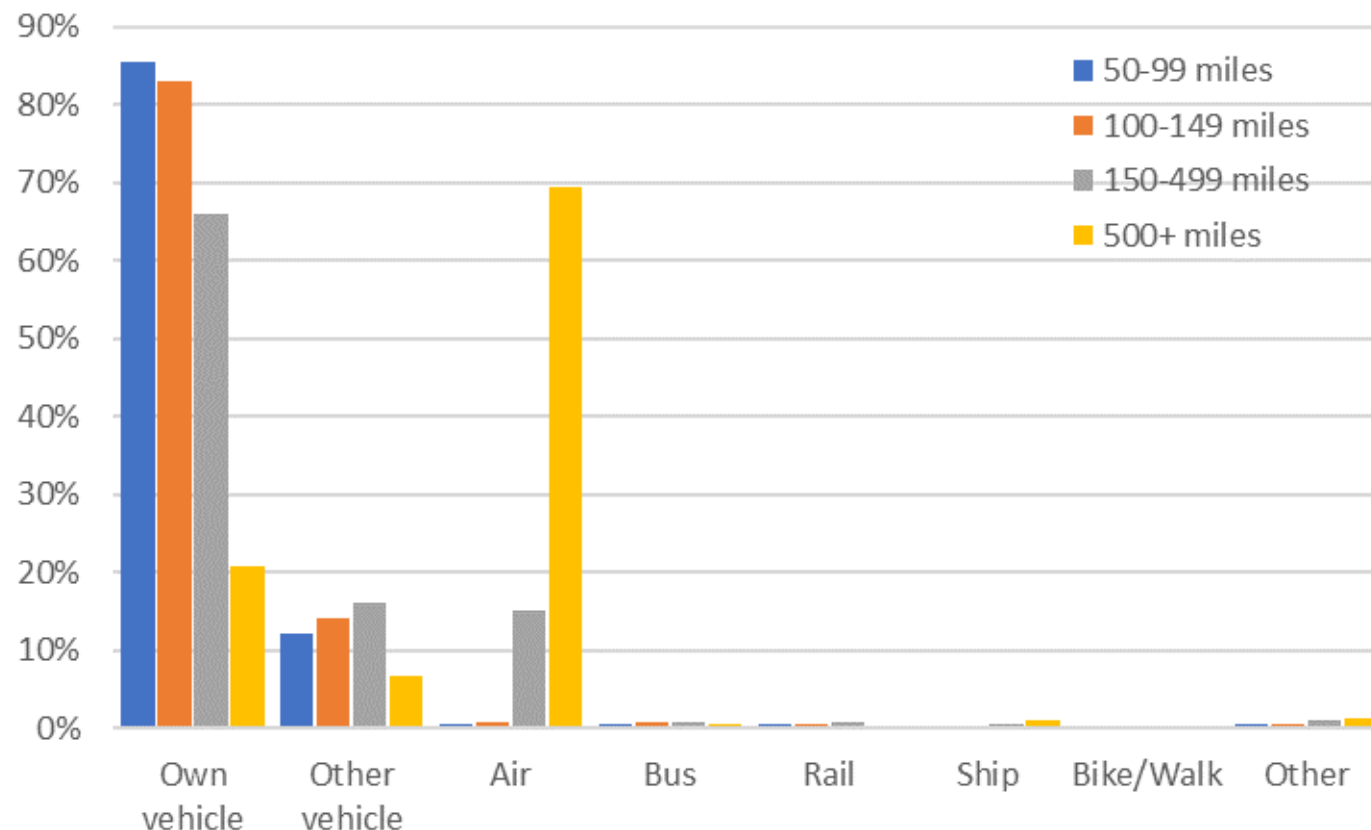
- 13%: other vehicle
- 10%: air
- 2%: other (bus/rail/ship/bike)

46% of trips are <100 miles

- Rural counties 53% Columbus 42%
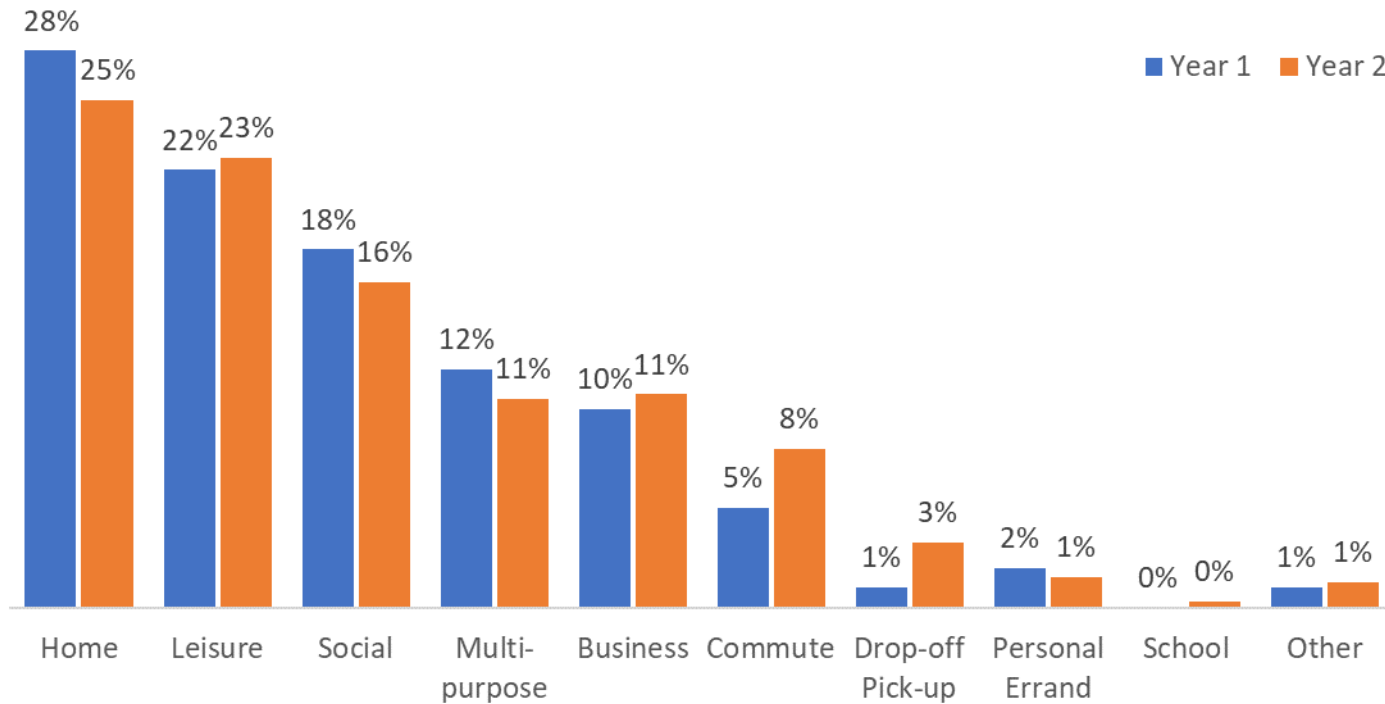
10% of trips are >500 miles

- Same in rural and urban

Legend:
- 50-99 miles
- 100-149 miles
- 150-499 miles
- 500+ miles

Categories: Own vehicle, Other vehicle, Air, Bus, Rail, Ship, Bike/Walk, Other

LD Survey: Purpose by Trip Distance

Trip Purpose is consistent across Year 1 and Year 2

- More long commutes in the rural counties in Year 2

■ Year 1 ■ Year 2

	Home	Leisure	Social	Multi-purpose	Business	Commute	Drop-off Pick-up	Personal Errand	School	Other
Year 1	28%	22%	18%	12%	10%	5%	1%	2%	0%	1%
Year 2	25%	23%	16%	11%	11%	8%	3%	1%	0%	1%

Trip Survey

Why did you travel to this general region? (Select all that apply)

- ☐ Leisure/recreational/vacation
- ☐ Social (e.g. visit family/friends)
- ☐ Personal business (e.g. medical, financial)
- ☐ Commute to/from regular workplace
- ☐ Other work/business (e.g. meeting, conference)
- ☐ To attend college/university
- ☐ Drop off/pick up/accompany someone
- ☐ Return home

Previous   Next

Preliminary results

Lodging used overnight on LD trip: Year 2 Data

Year 2

MILES	50-99	100-149	150-499	500+
Home	72%	62%	41%	35%
Home of family/friend/partner	17%	20%	18%	15%
Hotel/motel/inn/B&B	5%	13%	31%	38%
Peer-to-peer rental (e.g., Airbnb, VRBO)	1%	2%	3%	5%
Second/vacation home	2%	1%	1%	1%
Camping/RV	2%	1%	2%	0%
Other (includes military, medical)	0%	0%	1%	2%
Traveling overnight	0%	0%	1%	4%

Daily Survey

On Tue, Jan 23, where did you spend the night?

Home of family/friend/partner

My second/vacation home

Hotel/motel/inn/B&B

Peer-to-peer rental/vacation house (e.g. Airbnb, VRBO)

Camping/RV/Rustic cabin

Other (includes military & medical housing)

My (primary) home

I was traveling overnight (e.g. on redeye, on a

Previous   Next

Preliminary results

What's Next: LD Survey

WHERE YOU TRAVELED

Upcoming project elements

- Launched Year 3 long-distance survey for Dayton area
  - Participation remains consistent

- Weight combined Y1 and Y2 long-distance dataset
  - Weight combined HTS dataset and characterize long-distance trips in the 7-day HTS dataset (includes non-smartphone HHs) -> want to know long-distance trip making in the representative, full population
  - Apply key-variables to the combined LD dataset to inform weighting
  - Ensure process automated for future years of data

- Now conducting LD survey projects elsewhere

Contacts

www.rsginc.com

ELIZABETH R. GREENE
Director

elizabeth.greene@rsginc.com
802.359.5588

Ohio DOT Co-Authors:

Rebekah Anderson, Greg Giaimo

RSG Co-Authors:

Mark Bradley, Leah Flake, Megan Kelly, Michelle Lee