



THE UNIVERSITY OF VERMONT
**TRANSPORTATION
RESEARCH CENTER**

Intercity Mode and Destination Decision-making by Vermonters

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Abstract: As more agencies seek to incorporate long-distance travel into their travel forecasting and performance measures analyses, it is becoming more important to understand intercity mode choices and the destination/mode decision-making process. This project analyses the factors affecting mode choice including participants' propensity to make bundled decisions on mode and destination. Using a random sample of Vermont residents, data on a most recent trip for personal reasons were collected. Most respondents indicated they make bundled decisions of destination and mode choice, with no notable differences across socioeconomic groups. Bundled vs unbundled decision-making processes was statistically significant but had only modest explanatory power in mode choice models. More important, however, was the use of our alternative specific travel characteristics instead of simple distance in mode choice models. In particular, the ratio of flying and driving times between specific origins and destinations is the strongest predictor of mode choice. The paper outlines a process for collecting average weighted travel times and costs between alternative sets of origin and destination airports for each trip from the FAA DB1B database in order to include these measures in the mode choice models. Results support the use of joint destination-mode choice models with detailed alternative specific variables for long-distance travel demand models.

Figure 1. Travel Decision Making Processes

Process	% of People (3% missing)	Decision 1	Decision 2	Decision 3	Bundled
1	2%	Purpose	Destination	Mode	NO
2	1%	Purpose	Mode	Destination	NO
3	71%				YES
4	9%	Purpose	Mode	Destination	YES
5	14%	Purpose Destination	Mode		YES

Table 1. Results – Last Trip for Personal Reasons

Variable	Category	Frequency	Percent of full panel
Mode	Personal Vehicle	338	76.8%
	Air	84	19.1%
	Train	4	0.9%
	Bus	6	1.4%
	Missing	8	1.8%
Decision Process	1	8	1.8%
	2	2	0.5%
	3	313	71.1%
	4	41	9.3%
	5	62	14.1%
	Missing	14	3.2%

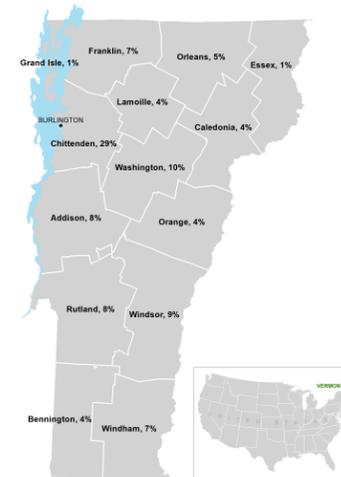


Figure 2: Respondents

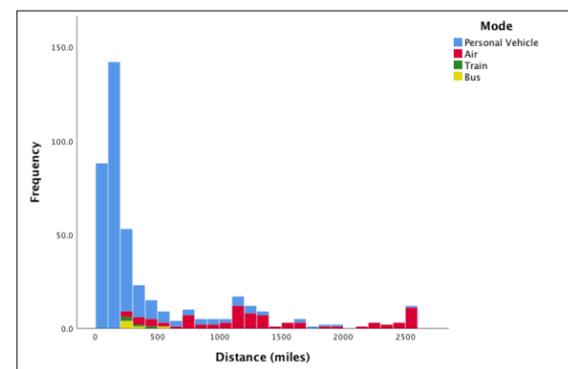


Figure 3a and 3b. Mode Choice and Distance

Take-home Message

Transportation planning needs long-distance travel data and national models. All models with intercity trips should use joint destination mode choice models. Measures of true air travel time accounting for connections derived from the FAA DB1B database improved mode choice models over distance-only models by 30%.

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