



# Designing the “All-in-One” Vermont Transportation Survey

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## Why Design an “All-in-One” Transportation Survey?

Good data is critical for the planning and operation of the transportation system. The objective of the “All-in-One” project was to design a transportation survey program to *efficiently* meet the on-going transportation and travel data needs of *all* Vermont transportation and planning agencies by providing:

1. a *concise* and *consistent* set of transportation *survey question modules* appropriate for survey data collection and repeated use in Vermont, and
2. an *implementation strategy* for an on-going statewide survey program.

This survey program is intended to provide an efficient and reliable method to collect the data previously captured by VTrans and CCRPC agency-based surveys and by FHWA’s National Household Travel Survey (NHTS) add-on data.

## What Data Needs to be Collected?

To determine what questions merited inclusion in the survey program, the team reviewed national survey guidance, interviewed national experts and assessed recent travel surveys. Ultimately, five survey modules were developed covering: socio-demographics and travel context, general travel behavior, attitudes about transportation issues, customer satisfaction, and a travel diary.

Table B1. Socio-Demographics Module – Household Question Selection

Questions	NCHRP 2008	NHTS 2009	NHTS 2016	CTDOT 2016	CCRPC 2016	VTrans LRTPS	Question Bank Question Number and Notes
Home location							
Type of neighborhood							
Months/year at home location							
Zip code of alternative home location							
Household size							

Table B4. General Travel Behavior Module – Question Selection

Questions	NCHRP 2008	NHTS 2009	NHTS 2016	CTDOT 2016	CCRPC 2016	VTrans LRTPS	Question Bank Question Number and Notes
Primary commute mode							
Typical mode for travel to/from school							
Frequency of using various modes							
Frequency of travel to various destinations							

Table B5. Travel Attitudes Model – Question Selection

Questions	NCHRP 2008	NHTS 2009	NHTS 2016	CTDOT 2016	CCRPC 2016	VTrans LRTPS	Question Bank Question Number and Notes
Preferred neighborhood type						✓	A1 May be important given aging population
Most important transportation issues/funding priorities		✓				✓	A2
Acceptance of alternative fee structures						✓	A3
Likelihood of purchasing an AFV						✓	A4
Obstacles to HEV/EV purchase						✓	A5
Barriers to walking more		✓	✓				A7 Added from NHTS 2016
Barriers to bicycling more		✓	✓				A8 Added from NHTS 2016
Barriers to using transit more			✓				A9 Added from NHTS 2016
Attitudes toward biking and walking		✓					-
Impact of cost on travel decisions			✓				-
Reasons for choosing home location		✓	✓				-

Table B6. Customer Satisfaction Module - Question Selection

Questions	NCHRP 2008	NHTS 2009	NHTS 2016	CTDOT 2016	CCRPC 2016	VTrans LRTPS	Question Bank Question Number and Notes
Satisfaction with transportation infrastructure/concious						✓	CS1

Figure 1. Development of the Survey Question Modules

## What is the BEST Way to Collect Travel Data in Vermont

Digital survey tools (including online and App-based surveys) offer advantages over older survey methods in terms of data accuracy and marginal costs. Vermonters’ access to the Internet and to smartphones was a key consideration in selecting a data retrieval method.

Household Income (Thousands of dollars)	Means of Accessing the Internet				
	None	Limited	Home No mobile	Home and Mobile	Mobile No Home
Less than \$25	14.8%	11.9%	41.2%	21.3%	10.9%
\$25 to \$50	4.2%	3.3%	40.1%	47.0%	5.5%
\$50 to \$75	2.0%	1.2%	36.7%	53.9%	6.1%
\$75 to \$100	0.4%	2.0%	38.0%	58.1%	1.5%
\$100k +	0.1%	0.0%	25.6%	72.8%	1.5%

Above: Internet Access in VT, 2016 Long Range Transportation Planning Survey (VTrans)

Right: Smartphone Access in VT, 2017 Vermonter Poll (UVM Center for Rural Studies)

Household Income (Thousand of dollars)	HH Smartphone Penetration		
	None	Partial	Full
Less than \$25	57.9%	10.5%	31.6%
\$25 to \$50	27.0%	23.5%	49.6%
\$50 to \$75	15.7%	17.7%	66.7%
\$75 to \$100	8.5%	15.9%	75.6%
\$100k +	2.3%	9.1%	88.6%

## Recommended Survey Program

**Schedule:** 5-year collection cycle with 1/5 of the total sample surveyed annually

**Recruitment Strategy:** Random, address-based recruitment using two postcard solicitations and a random prize drawing participation incentive

**Retrieval Method:** Web-based survey tool

**Sample Size:** 2,500 total households statewide over a 5-year survey cycle including 1,200 total households in Chittenden County to support travel modeling by CCRPC (sample sizes are based on 95% trip rate / trip length accuracy and a minimum number of observations by sociodemographic group)

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