## SUSTAINABLE TRANSPORTATION ENERGY PATHWAYS An Institute of Transportation Studies Program

 Individuals who like biking are more likely to desire lower levels of car ownership Acknowledgement

- Older millennials that highly value owning a car are more likely to increase the level of car ownership

More materialistic people tend to have higher propensity to increase the number of vehicles

ownership.

- Individuals who are *not satisfied with current amount of travel* are more likely to increase their level of vehicle

- *Stage in life (age* and *presence of children*) can impact the propensity to change vehicle ownership.

households plan to increase ownership in the future.

The zero-vehicle/low-vehicle ownership status might be short-lived: most individuals in zero-/low-vehicle owning

Conclusion





options and use other alternative means of travel more often. Several explanations have been proposed to explain choose to live in urban locations and not to own a car, are heavy adopters of technology-enabled transportation same stage in life. Among the observed changes, millennials often postpone the time they obtain a driver's license,

Millennials are increasingly reported to have different lifestyles and travel behavior from previous generations at the

Overview

the previous Generation X (individuals between the age of 35 to 50 as of 2015) in California vehicle ownership). This study builds on a research project that investigates emerging travel patterns and residential current and desired level of car ownership as well as other exogenous stimuli (e.g. habits and changes in the cost of trends (e.g. shared mobility, telecommuting, and use of social media), individuals lifestyle, differences between events, residential location, attitudes toward a car (instrument vs. affective attitudes), disrupting technologies and propensity to change car ownership can emerge from a range of factors and circumstances, including major life analyzed the factors associated with changes in the level of car ownership of a households (e.g. Clark et al. 2016). The This study investigates the factors affecting the propensity to change car ownership. There are very few studies that location decisions among *millennials (i.e. young adults between the age of 18 to 34 as of 2015)* and the members of

presence of children in the household) to mirror the dimensions (gender, age, income, race and ethnicity, and suburban, rural), while controlling for five demographic California and neighborhood types (predominantly urban included from each combination of geographic regions of adopted to ensure that enough respondents were residents of California. A quota sampling approach was

> SACOG SANDAG SCAG MTC Gen Y Gen X Central Valle

LL(0): AIC: \*\*\*, \*\*, \* = significant at 1%, 5%, 10%.

online survey that was distributed to a sample of 2,400 As a part of the project, we designed a comprehensive

The California Millennials Dataset

 Propensity to change vehicle ownership highly depends on current car ownership Methodology and Preliminary Results Institute of Transportation Studies, University of California, Davis - <sup>2</sup> School of Civil and Environmental Engineering, Georgia Institute of Technology Patricia Mokhtarian<sup>2</sup> (patmokh@gatech.edu)

car ownership using car availability (zero, low, and high) as interaction terms. We employed a Multinomial Logit Model with Unequal Choice Set (Figure a), and controlled for the current level of

- We plan to expand the analysis by jointly estimating current car ownership and the propensity to change the

current level, using (Cross-)Nested Logit Models (Figure b and c).

	Reduce Number of HH Vehicle	Maintain Current Number of HH Vehicle	Increase Number of HH Vehicle	
Young millennial (18-24) with less than one vehicle per household driver	Ι	base	1.22 *** (0.38)	$\geq$
Older millennial (25-34) in zero vehicle household	I	base	3.60*** (0.78)	No Increase
Older millennial (25-34) with less than one vehicle per household driver	I	base	1.37*** (0.22)	a. Multinomial Logit with
Gen Xer (35-50) in zero vehicle household	I	base	1.97*** (0.52)	Unequal Choice Set
Gen Xer (35-50) with less than one vehicle per household driver	I	base	0.64*** (0.21)	
Have more than one car per driver and plan to move to more urban area	0.44** (0.23)	base	I	No De 2+
Gender: female	I	base	-0.28* (0.15)	
Young Gen Xer (35-44) with kid(s)	I	base	0.75***	No arge Increase Decrease No Charge Increase Decrease Charge Increase
Would like to use car less	I	base	-0.45** (0.20)	b. Nested Logit Model
Not satisfied with current travel	I	base	0.89** (0.47)	
Like biking	0.33* (0.17)	base	I	
Materialism	I	base	0.23*** (0.08)	Vehicle Vehicle
Variety seeking (Young millennial, 18-24)	) $(0.39)$	base	I	Decrease No Increase
Variety seeking (Older millennial, 25-34)	I	base	0.33** (0.13)	c. Cross-nested Logit Model
Variety seeking (Older Gen Xer, 45-50)	0.74** (0.3)	base	Ι	
Must own car (Older millennial, 25-34)	I	base	0.29** (0.13)	
Constant	-3.82*** (0.43)	base	-1.57*** (0.14)	
LL(0): -1386.539 AIC: 1603.34		LL(Model): BIC:	-783.67 1696.06	





