

# ANALYSING HOW SOCIO-DEMOGRAPHIC CHARACTERISTICS ASSOCIATE PUBLIC TRANSIT USAGE

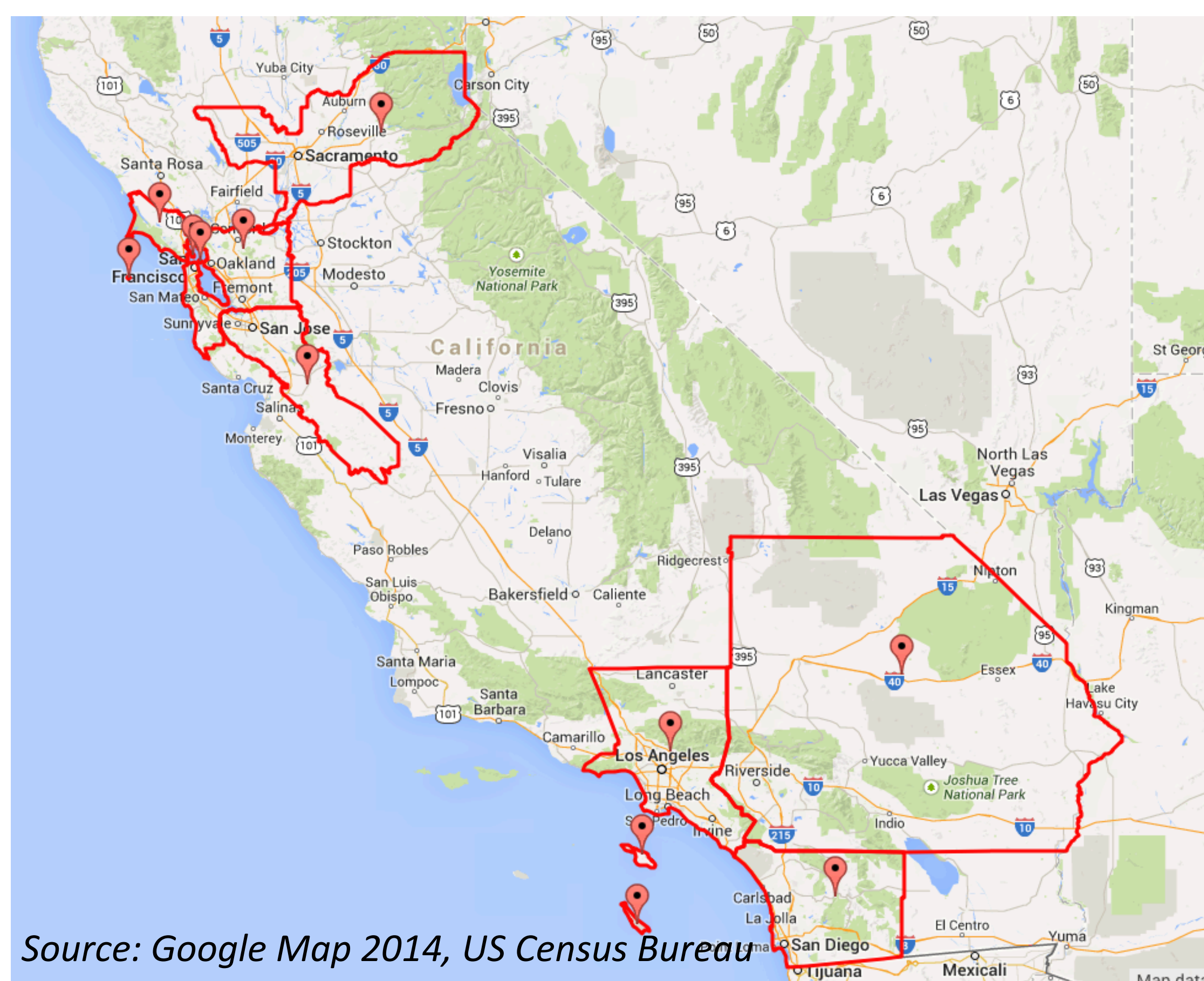
## A COMPARISON BETWEEN SOUTHERN AND NORTHERN CALIFORNIA

### Introduction

- California needs transit systems that are smart and diverse to make them more viable and effective for commuters.
- Knowledge about California transit riders' characteristics and how they affect transit usage still is lacking.
- Investigates the differences in transit usage between people in Southern and Northern California.
- Transit riders' socio-demographic and travel attitudes are accounted for in the comparison between the regions.

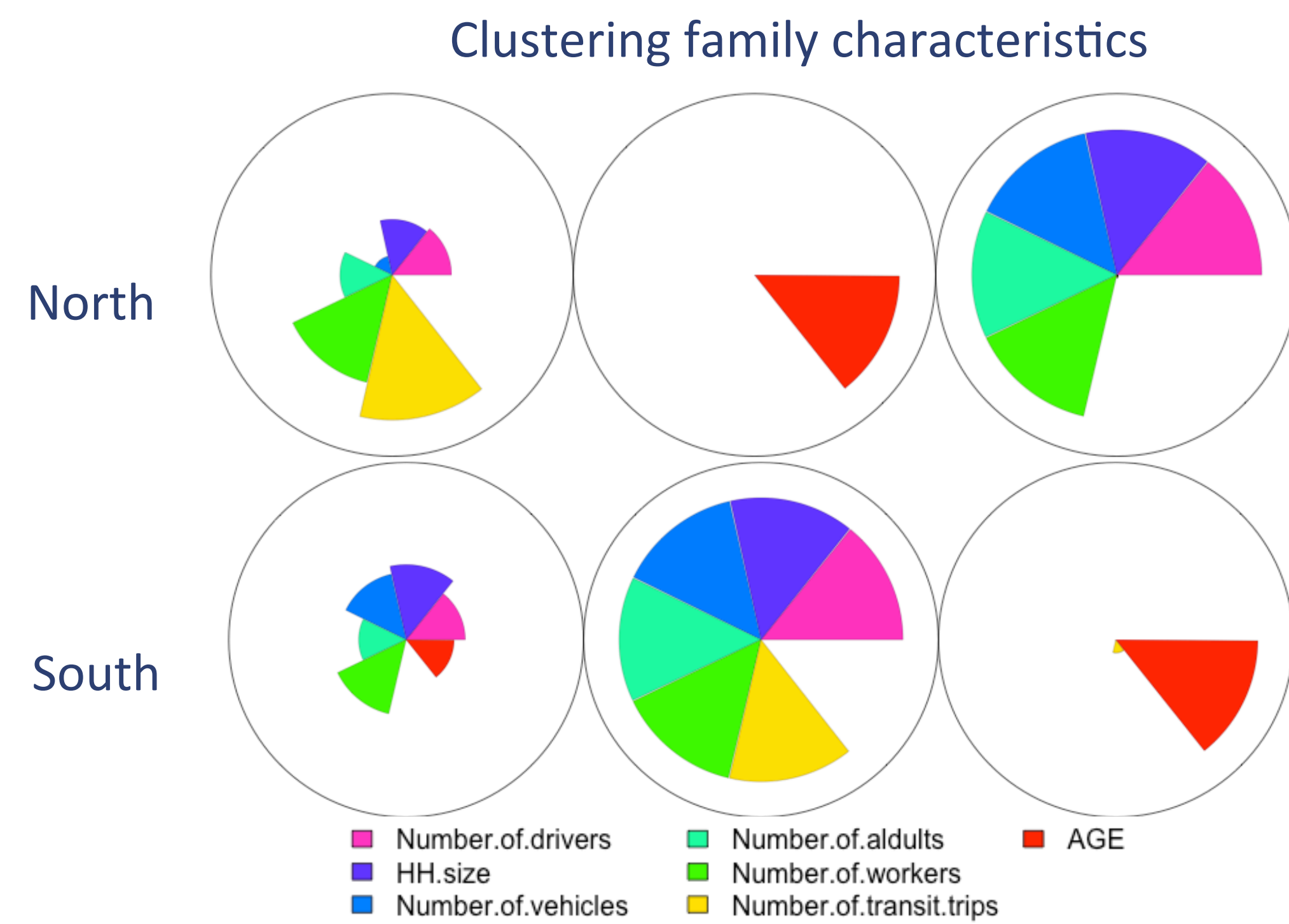
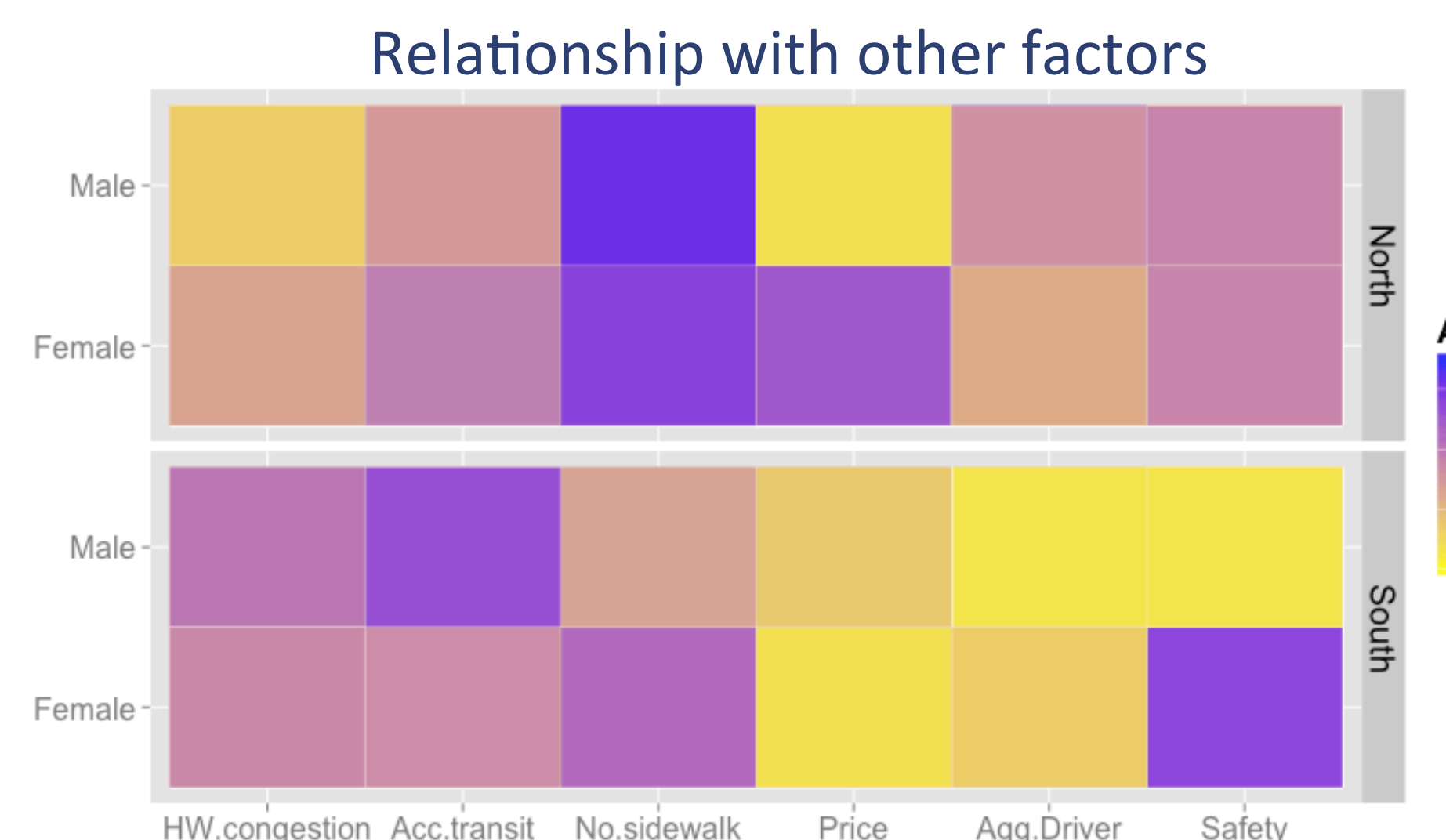
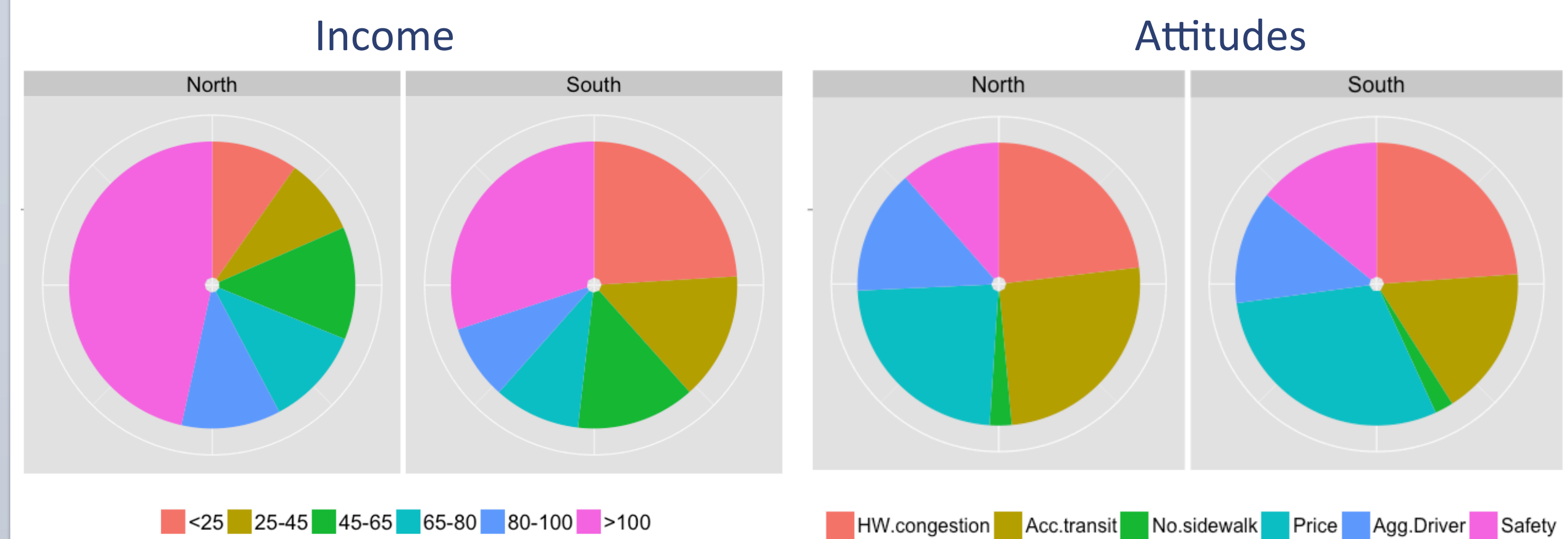
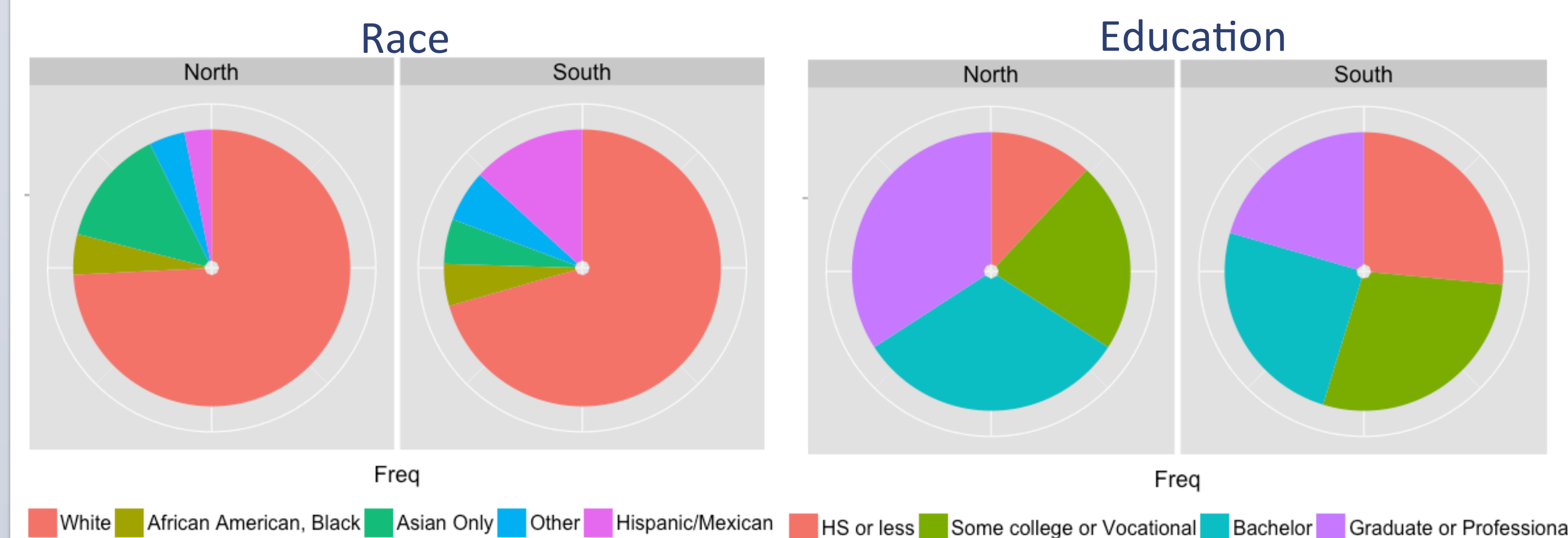
### Data

- The National Household Travel Survey, 2009
- Select by Metropolitan Statistical Areas (CBSA) Codes
  - South:** 2446 individuals from Los Angeles-Long Beach-Santa Ana, San Diego-Carlsbad-San Marcos, Riverside-San Bernardino-Ontario
  - North:** 1605 individuals from San Jose-Sunnyvale-Santa Clara, Sacramento--Arden-Arcade--Roseville, San Francisco-Oakland-Fremont



### Results

Most of the determining socio-demographic variables - race, education, employment status, age, household income - are significantly different between the Northern and the Southern transit riders, while gender showed no significant difference (chi square test).



A series of multivariate regressions were performed to identify the characteristics of those in each region who prefer to take transit. The results show that the socio-demographic factors associated with frequency of taking transit that vary between the regions.

Predictors	South		North	
	Model 2 y = PTUSED	Model 1 y = log(PTUSED)	Model 3 y = PTUSED	Model 4 y = log(PTUSED)
(Intercept)	16.473***	1.837***	14.761***	1.568***
African American, Black	-0.400	0.114	0.095	
Asian Only	0.999	0.248*	-0.058	
Other race	-1.247	-0.037	3.313	
Hispanic/Mexican	3.200**	0.237**	-3.828	
Number of drivers	1.602*	0.169**	1.287	
\$25,000 - \$44,999	-2.476*	-0.248**	-1.249	
\$45,000 - \$64,999	-3.215**	-0.436***	0.255	
\$65,000 - \$79,999	-3.609**	-0.436***	-0.962	
\$80,000 - \$99,999	-3.712**	-0.403***	-1.865	
more than \$100,000	-4.218***	-0.343***	-1.034	
HH size	-0.616*	-0.065**	-1.347**	-0.127***
Number of vehicles	-2.597***	-0.236***	-2.399***	-0.209***
Number of adults	1.345	0.084	1.313	0.261***
Number of workers	-0.085		0.245	
Foreign born	-0.759		2.048*	0.152*
Has driver status	-0.805	0.234*	2.578	0.264
Some college or Vocational	0.456	0.044	1.399	0.264**
Bachelor	-1.440	-0.127	1.227	0.170
Graduate or Professional	-1.949	-0.112	1.099	0.197*
Access to/availability of public transit	6.203***	0.508***	6.405***	0.684***
Lack of walkways or sidewalks	2.715	0.041	0.538	-0.157
Price of travel	0.205	0.041	0.946	0.219**
Aggressive / distracted drivers	0.178	-0.087	0.701	0.082
Safety concerns	0.075	0.006	-0.132	0.026
AGE	-0.040	-0.006***	-0.105***	-0.007***
Male	-0.659	-0.112*	-1.192	-0.174**
Not a worker	-3.193***	-0.203***	-4.113***	-0.327***
DF	2418	2410	1577	1578
p-value	<2.2e-16	<2.2e-16	<2.2e-16	<2.2e-16
Adjusted R-squared	0.104	0.147	0.101	0.142

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### Conclusion

- A significant association between region and views on public transit.
- The models were able to distinguish between respondents who did and did not take transit and between regions.
- Major differences between regions in trends in propensity to use public transit related primarily to race, ethnicity, and income.