



1 INTRODUCTION

The understanding of **travel behaviour**, and in particular citizens' choices on how to perform their routinely trips, is a fundamental step towards the decarbonisation of the transport sector. **Travel mode choice** affects the level of greenhouse gases emissions, as well as local air pollution, noise and congestion produced by passenger cars. The quantification of how different *social, economic, cultural and trip-related factors* affect this choice is critical to account for households heterogeneity in the transition to low-carbon mobility.

2 OBJECTIVES

- Analyse how the probability of choosing a low-carbon travel mode is affected by factors related to:
 - Environmental Concerns
 - Trip Characteristics
 - Mode attributes
 - Satisfaction with Infrastructure
 - Socio-economic factors

3 METHODOLOGY

- A Survey representative of national population, over 5000 observations;
- 5 EU countries: Hungary, Italy, Norway, Poland and Spain;
- 2 destinations: Trip to Workplace (or University) and to the Grocery/Shopping
- 3 travel modes: private vehicle, public transport, active modes
- Variables of **attributes, environmental concern and infrastructure satisfaction** have been developed from Likert-scale attitudinal questions.
- Data has been analysed with a **Multinomial Logistic Regression**

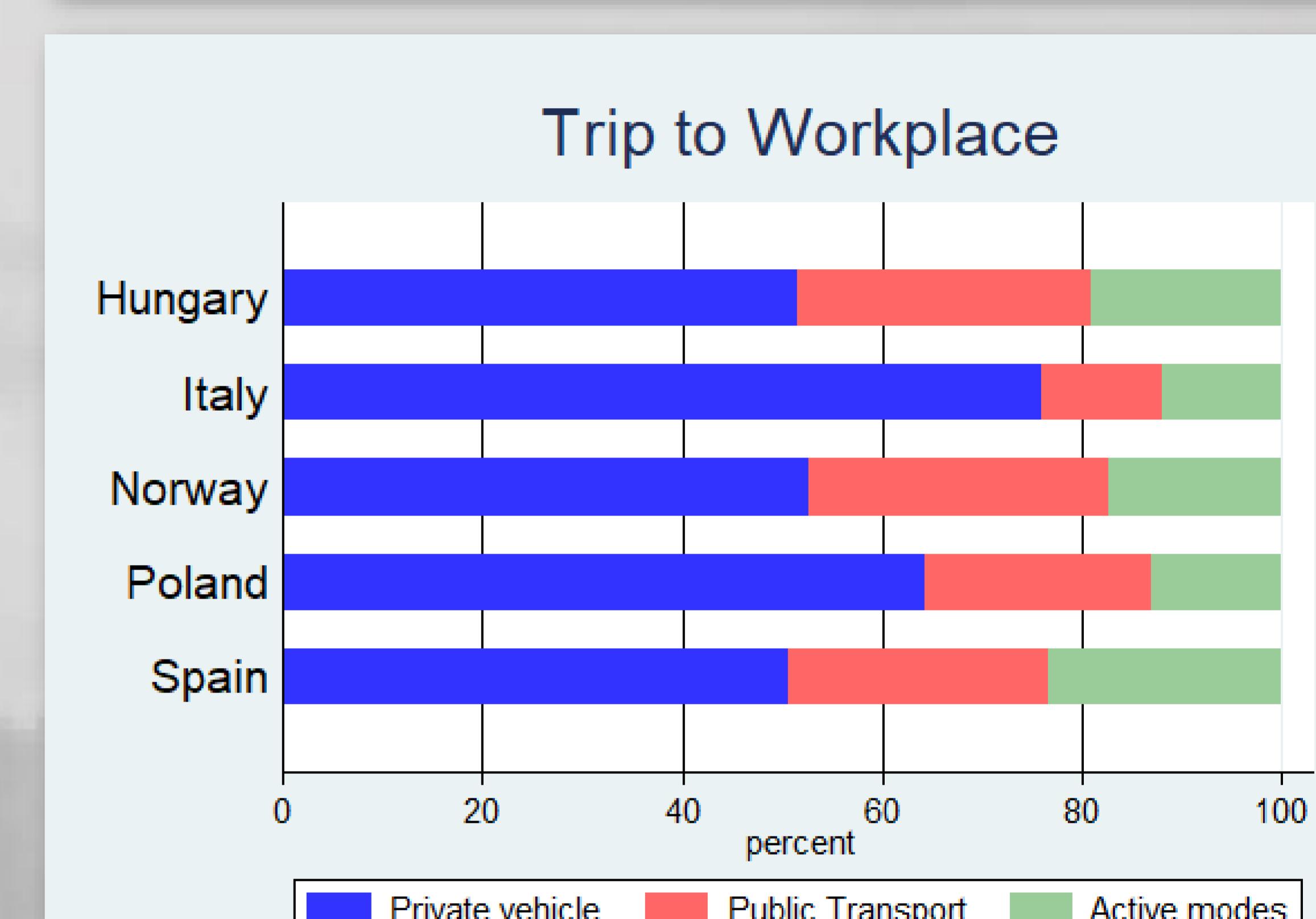
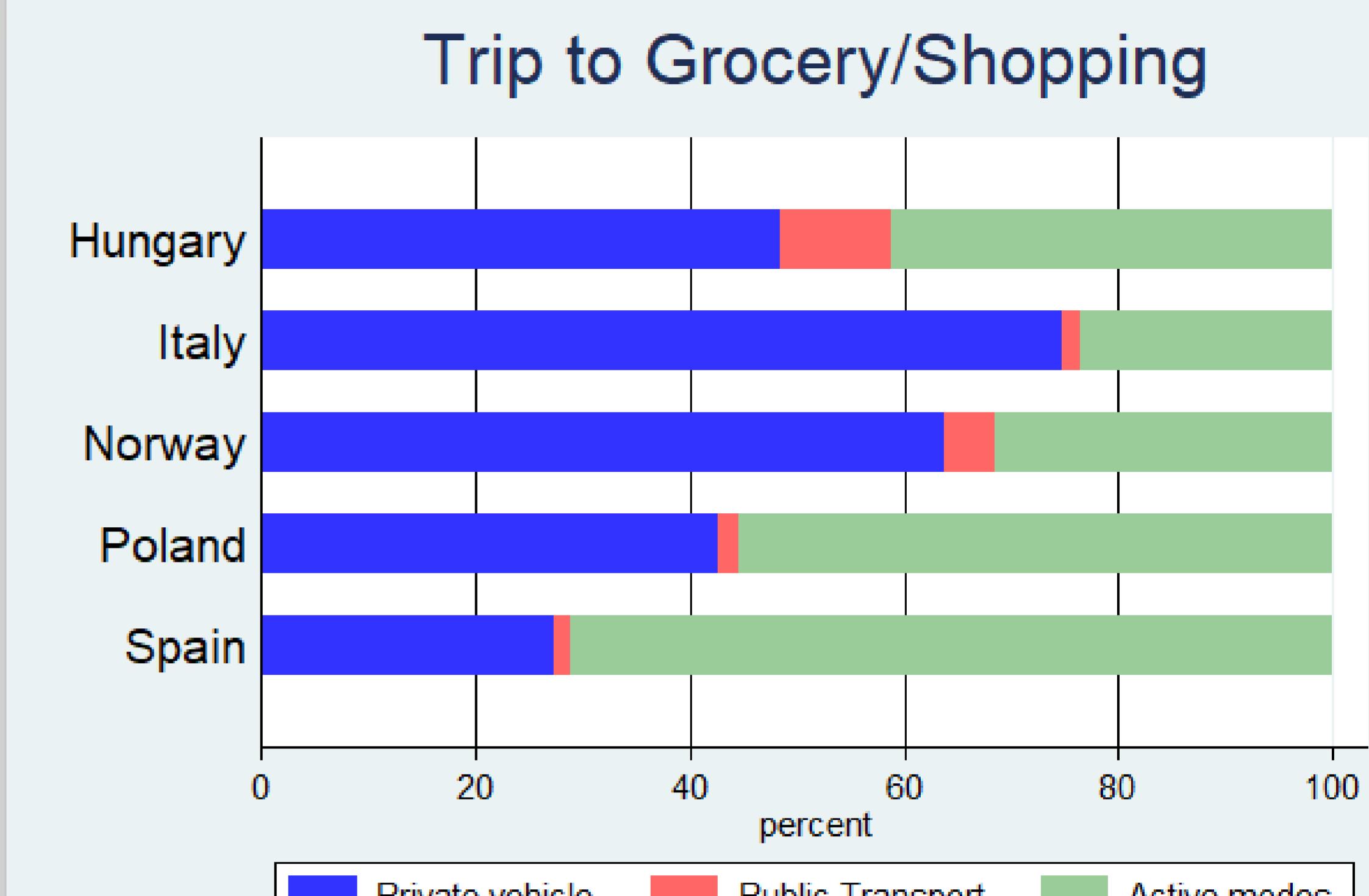
4 PRELIMINARY RESULTS

- Overall, the impact of the factors on the two destinations is quite different
- Households seem to act consistently with their preferences
- Environmental concerns and environmental attributes of the mode affect travel mode choice
- Socio-economic factors highlight groups which might be target of specific policies, such as households with children and fulltime workers

5 NEXT STEPS

- Develop separated Urban and Rural Models
- Include availability of alternatives measures [e.g. fuel costs, public transport costs, geographical information]
- Create latent class based on attitudes and perceptions towards different policy measures, transport related problems and transport infrastructure

MODAL SPLIT BY COUNTRY



INFLUENCE ON CHOICE PROBABILITY

Trip to Workplace			Trip to Grocery			
	Private Vehicle	Public Transport	Active modes	Private Vehicle	Public Transport	Active modes
Environmental Concern	↓ 6%	↑ 6%		↓ 6%		↑ 5%
<i>Trip Characteristics</i>						
Leaving from Home	↓ 16%	↑ 16%		↓ 8%	↓ 4%	↑ 13%
Frequency				↓ 4%		↑ 3%
Distance	↓ 0.2%	↑ 0.4%	↓ 0.2%	↑ 8%	↑ 0.5%	↓ 9%
<i>Attributes</i> (stated as Very Important in the Likert scale)						
Cost	↓ 15%	↑ 15%		↓ 7%		↑ 6%
Comfort	↑ 10%	↓ 10%		↑ 13%	↓ 2%	↓ 11%
Flexibility	↑ 12%	↓ 12%				
Privacy	↑ 7%	↓ 7%				
Air Quality Impact				↓ 7%		↑ 7%
CO2 Em. Impact	↓ 11%	↑ 11%		↑ 5%		↓ 5%
Reliability						
<i>Infrastructure Satisfaction</i>						
Parking presence	↑ 8%	↓ 8%		↑ 6%	↓ 2%	↓ 4%
PT Satisfaction	↓ 24%	↑ 24%		↓ 9%	↑ 3%	↑ 6%
<i>Socio-economic factors</i>						
Highly Educated				↑ 4%		↓ 4%
Age	↑ 0.5%	↓ 0.5%		↑ 0.1%		
Fulltime Worker	↑ 12%	↓ 11%		↑ 9%	↓ 2%	↓ 7%
Female	↓ 13%	↑ 13%				
Children						
1 Child				↑ 9%	↓ 2%	↓ 7%
>1 Children	↑ 6%	↓ 6%		↑ 12%	↓ 3%	↓ 9%
Living in City	↓ 12%	↑ 12%			↑ 2%	
Comfortable living	↑ 10%	↓ 10%		↑ 13%		↓ 11%