SPAC

Centre for Sustainable Livelihoods
November, 2019

Policy Brief

Part 2: Findings from ongoing EPA research project on 'Sustainable Production and Consumption (SPAC): The Influence of Social Norms'

Opinion piece: Consumer views on incentives to promote public transport use in Ireland

Objective

- Survey and explore consumer views to incentives that contribute to the transition towards sustainable consumption with a focus on transportation mode to shopping.

- Observe attitudes towards incentives to promote public transport in Ireland.

- Analyze views and opinion to promote use of public transport in Ireland.

- Identify partial areas for environmental and public transport policy interventions.

Questions

- Which group favours suggested incentives the most?

- Which groups are most likely to accept suggested policy incentives to encourage the use of public transport?

THE OVERVIEW

Food production and consumption activities have a value chain that draw from agricultural activities to production, storage, processing, wholesale, retail and packaging activities, to food preparation, consumption and waste activities. These involve transportation at every stage of activity, resulting to emissions that increase with population, economic and income growth when conducted inefficiently and in non-environmentally friendly manner. Along the food production supply chain, consumers participate in regular shopping activities using different modes of transportation. Influencing decisions within these stages contributes to sustainable activities of responsible consumption and production activities.

Likewise, the absence of suitable environmental and public transport policy interventions impacts the transition rate towards sustainable consumption. In contribution to this challenge, a case study was undertaken through a survey exercise targeted at Irish residents, to identify some of the key areas for the environmental and social transport policy interventions. A resulting questionnaire was distributed randomly through social networks and Linkedin InMail adverts. From July 7 to December 4, 2019, a sample size of 423 respondents ranked their views to 4 suggested incentive methods to promote their use of public transport on a Likert scale from 'Poor (won't work)' to 'Excellent':

1. A fee or congestion charges on cars driving into city centre during working hours.
2. A fine to the bus operator for unjustifiable delays per minute.
3. A re-usable timeframe ticket per route/area. E.g. Reusable 2-hour ticket on different buses in same area.
4. A delay receipt for commuters as proof at work (issued by the transport operator).

The individual incentives were tested in models against groups of socio-demographic factors. The socio-demographic questions represented the independent nominal variables for tested models by age group, gender, household size, education status, monthly income and regular mode of transport to the shop and monthly income. This brief presents observations from the group of transport mode based on responses on transport to shop over the past 12 months showing data distribution shares of walk (7.6%), bicycle (3.8%), bus (22.2%) and private car (66.4%). The top 5 County representation of respondents are Cork (63.2%), Dublin (11.8%), Galway (3.4%), Tipperary (3.4%) and Kerry (3.1%).
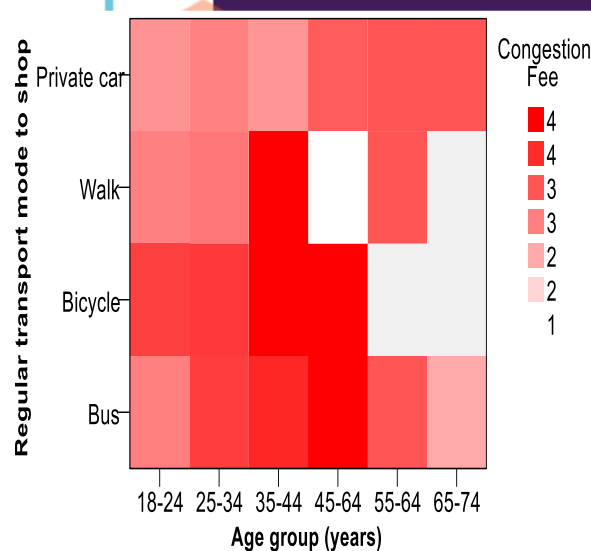

Figure 1: Preference for congestion charge by transport mode and age group
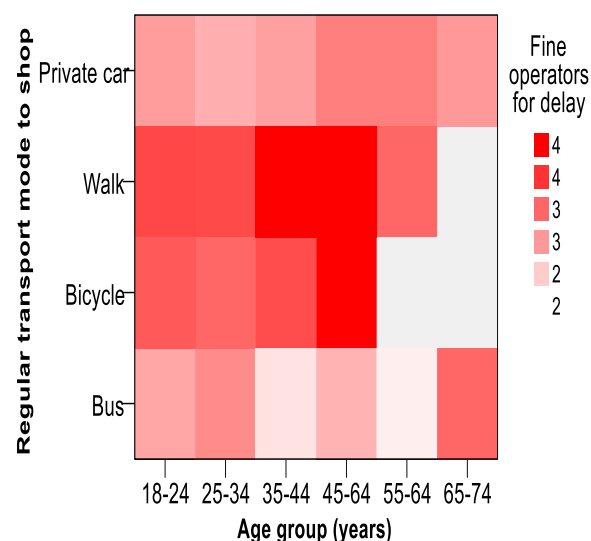

Figure 2: Preference for operator fine by transport mode and age group

Figures 1 – 4 show the mean intensity of preference towards the suggested incentives by transport mode and age group. From a general observation, Figure 1 suggests younger consumers that use bus, bicycle and walk to shop have higher preference for incentive 1. Similarly, Figure 2 suggests younger consumers that use bus and bicycle have more preference for incentive 2. Figure 3 suggests majority of the consumers, except age groups '65-74', favour incentive 3, while Figure 4 tilts more towards consumers that walk and cycle, to have preference for incentive 4.

EXTRACTS FROM SURVEY SAMPLE

To suggest more validated and insightful observations, a statistical technique of ordinal regression analysis is used to determine the level of acceptance for the 4 incentive approaches to encourage the use of public transport. It considered common standards to validate the dataset and interpreted results. These involved observations of model fitting information, goodness of fit, parameter estimates, cell information and test of parallel lines to accept or reject related hypotheses. The methodology also involves the use of a reference group and in this case, the automatic rank selection by model is used for the socio-characteristics. For example, 'age group' coding with 1 for lowest and 6 for highest age group. For transport modes, the private car users are used in comparison to the alternative transport modes to shop, as the largest population share in data.

The resulting statistical findings produced positive significant observations for the respective transport modes summarised in Table 1 showing the group of transport mode users more likely to respond to respective incentives, if introduced. This also implies a negative response from car users in comparison to the three other transport modes. That is, car users are less likely to be as much in favour of these incentives.
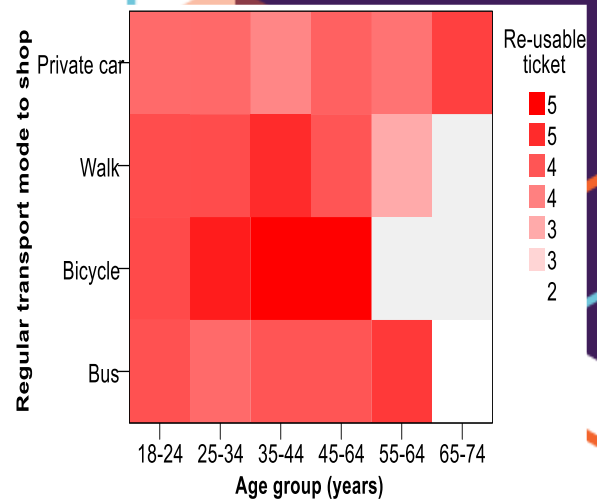

Figure 3: Preference for reusable ticket by transport mode and age group
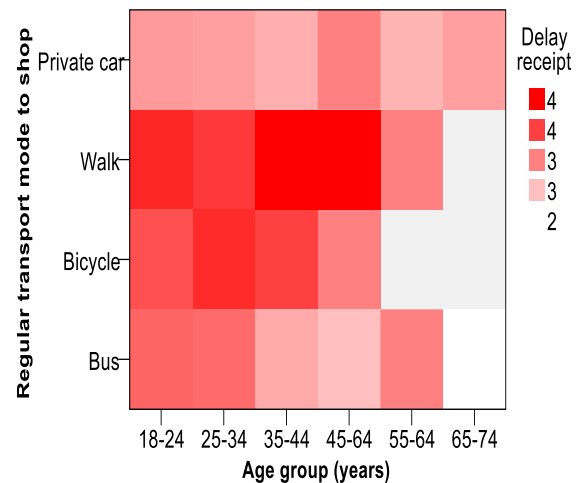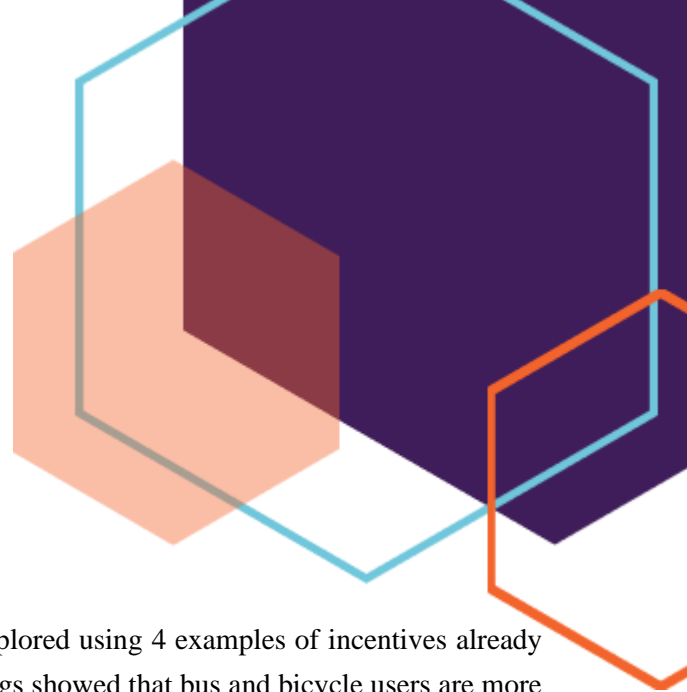

Figure 4: Preference for commuter delay receipt by transport mode and age group

Table 1: Consumer view to promotion of public transport

Regular shopping transport mode in last 12 months	1 Congestion fee or charge on city cars	2 'Delay' fine to the bus operators	3 Reusable 2-hour ticket on different buses in same area	4 Delay receipt issue for commuters for proof at workplace
- Transport mode users more likely to favor incentive policy 1-4. -(↑): Increasing probability in policy support due to 1 additional user in X transport mode	**Walk (0.645x)** **Bicycle (1.313x)**	**Bicycle (0.932x)** **Bus (1.076x)**	**Walk (0.392x)** **Bicycle (1.597x)** **Bus (0.666x)**	**Walk (0.430x)** **Bicycle (0.906x)** **Bus (1.143x)**

CONCLUSION
& POLICY POINTERS

Views and opinions to promote public transport in Ireland are explored using 4 examples of incentives already adopted in some EU-member states. From a survey sample, findings showed that bus and bicycle users are more likely to respond to presented incentives. However, these only represented 26% of the sample. Notably, the group of consumers that cycle, are supportive of all policy interventions, but with significantly higher preferences for the 'congestion fee city charge during work hours' and 'renewable 2-hour time frame bus ticket'. These suggest opportunities to attract consumers from the related groups. On the other hand, our findings suggest car users as the least interested in all incentives and as such, the least willing to support the tested approaches to promote public transportation. This can be driven by personal perception of the incentive impact as a car user. As the largest survey group, car users require more policy attention for incentives to use public transport. This is an identified problem and a research gap that should be addressed to achieve successful sustainable transport.

The suggestion and evaluation of these incentives contribute to policy options on identifying and attracting groups with the attitude and willingness to use public transport. Findings contribute to the discussion on sustainable transport driven by sustainable consumer behaviour. It connects the influence of consumer behaviour due to a presence of challenging and limited alternative transport modes and facilities. A larger dataset is suggested, prompting this as a pilot study for larger scenarios.

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