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# **Road Pricing and Older People: Identifying Age-Specific Differences between Older and Younger People's Attitudes, Social Norms and Pro-Social Value Orientations to Road Pricing**

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**ABSTRACT**

The implementation of road pricing schemes is likely to be an inescapable measure in the future of managing road transport demand in highly congested environments. Since public acceptability is the 'Holy Grail' of charging policy-making, revealing the special attitudinal issues of older people may help the identification of some of the potential social dilemmas of road pricing. In an ageing society, where older people have a growing influence in politics in general, and potentially in the acceptability of road pricing in particular, their attitudes to road pricing are of particular interest because they face specific types of risk of transport-related social exclusion. Moreover, older people favour, more than any other age groups, what is positively valued for society – a process termed as 'pro-social value orientation'. Hence in a transport context, older people may be more likely to express positive or negative attitudes to the acceptability of road pricing depending on whether they believe it would be good or bad for others, or society in general. Family and friends may also have a particular influence on older people's evaluations about their intentions and choices - thus the importance of studying the influence of 'social norms' on older people's attitudes to road pricing. The paper will develop a thorough theoretical and empirical understanding of these issues, based on the findings of a primarily quantitatively-assessed survey of 491 post-back responses combined with secondary data analysis. This will lead to the identification of age-specific differences of public attitudes to road pricing. All in all, some support is provided for the view that attitudes to road pricing do vary with age as pro-social value orientations, social norms and their influence on attitudes also do.

## INTRODUCTION

Globally, the human population shows an increasingly ageing demographic structure. In 2000 approximately 600 million people were aged 60 and over and by 2050, that number is estimated to be close to two billion. Furthermore, older people are more likely to vote than younger people (Goerres, 2007) at least for the developed countries, so their views can be influential on social policy in general, and on the acceptability of road pricing in particular.

Nevertheless, older people often face the danger of social exclusion on transport grounds; certainly more often than other age groups (Gaffron et al., 2001). An inadequate transport system of low accessibility can create obstructions in the completion of older people's physical needs (Older People's Steering Group, 2004). Transport provides a vital link to family, friends and the wider community - an imperative lifeline to maintaining independence (DfT, 2001a). Research has shown that a lack of mobility can prevent older people from participating in social activities and lead to low morale, depression and loneliness. It can also impact upon others, such as carers, social services and health agencies (DfT, 2001a). Thus, the implementation of a radical transport demand measure could be perceived by some older people as a threat to their social inclusion; especially if this will not be introduced and communicated in an appropriate way.

Road pricing, is perhaps the most discussed transportation demand measure worldwide; a charging tool aiming to control car usage usually by charging road use of a determined area during peak traffic hours. The revenue generated can provide the funding basis of future transport investments that otherwise could not be realized. Even though road pricing is a measure that has been proved to be effective and seems to be an inevitable solution in the future of managing road transport demand, suffers from low public acceptability (Jakobsson et al., 2000; Fujii et al., 2004; Ison & Rye, 2005; Schade & Baum, 2007). This low acceptability is a result of the public resistance to 'taxing' a service that used to be offered for free (King et al., 2007). Since the political support of pricing measures is often affected by the perceived lack of public acceptability (King et al., 2007) the implementation of road pricing schemes cannot be easily realized. In order for road pricing to become more acceptable and thus easier to implement, it must be introduced and communicated in such a way that the public and especially those groups in society that are the most vulnerable to social exclusion -like older people- won't feel that their freedoms will be threatened.

Thus understanding the attitudes of older people to road pricing could be of critical importance in order to identify those cases in which road pricing schemes constitute a suitable solution. Despite that, it has been recently recognized that there are still significant gaps in this research area (DfT, 2007a). Since there are indications that older people have distinctive characteristics that differentiate them from the rest of the population (discussed below), there are reasons to believe that they might have different attitudes to road pricing.

The current road pricing literature does not discuss the way older people's attitudes to road pricing develop. Undoubtedly, the social dimension is an imperative parameter in the process of shaping attitudes to road pricing. The present paper explores the connection between attitude development and two significant elements of this social parameter - social norms and

the pro-social value orientations. This connection has not been studied in depth before in the context of road pricing.

Older people favour, more than younger people (Midlarsy, 1991; Rushton, 2004), what is positively valued for society and ascribe more importance to collective consequences – a process described as ‘pro-social value orientation’. Hence in a transport context, older people may be more likely to express positive or negative attitudes to the acceptance of road pricing, depending on whether they believe it would be good or bad for others, or for society in general. Family, friends or generally people they recognize as most important to them may also have a particular influence on older people’s evaluations about their intentions and choices. Social norms are standards of behaviour that are based on widely shared beliefs about how individual group members ought to behave in a given situation (Horne, 2001). Since there is evidence suggesting attitudinal dependence on social influence (Oliver & Bearden, 1985), it is possible that some older people will build their attitudes based on social norms, and perhaps more specifically, based on what the people most important to them believe about road pricing.

The present research does not seek to contribute towards justifying the case for or against road pricing, but instead the importance of attitude and norm orientations if it does. More specifically, the paper briefly presents some important findings from a literature review on ageing and older people that meant to introduce the group on focus. This is followed by the clarification of the way the concept of attitudes will be approached and a critical summary of the existent age-specific research findings regarding the public attitudes to road pricing. Finally, the paper develops an understanding of these attitude-related issues, based on the results of a primarily quantitatively assessed survey and a secondary data analysis.

## **AGEING AND OLDER PEOPLE**

Typically, the group of ‘older people’ has been defined by a chronological age of 60 or more years of age. The British Department for Transport’s age eligibility criterion for concessionary fares also uses 60 years of age and over (DfT, 2008). Hence this study will concentrate on older individuals as defined in this way. Older people are not a homogeneous population (Siren & Hakamies-Blomqvist, 2004). Indeed, older people are a highly diverse group; there are different ages of growing older, different minority groups, different lifestyles, beliefs and attitudes (Gilleard & Higgs, 2005).

The present and future generations of older people may demonstrate very different dynamics (Rosenbloom, 2001; Alsnih & Hensher, 2003) from the times when they were viewed as an economic burden, a group for whom financial support should have been strictly rationed and controlled (Phillipson, 1982). These days many older people are both physically active and engaged with society. In a transport context, it has been argued that car usage currently declines with age, older people drive quite a lot and are now much more dependent on cars (Rosenbloom, 2001; Alsnih & Hensher, 2003), a trend that could very well continue in the future. Eventually this might affect their attitudes to road pricing.

Furthermore, older people consist a group with distinctive characteristics that differentiate them from the rest of the population. These people are likely to have complex mobility needs (DfT 2001a; Alsnih & Hensher, 2003), physical vulnerability (DfT 2001b; Musselwhite, 2006), lower incomes (DfT, 2001a, 2001b), cognitive limitations in their ability to readily process complicated information (Kovalchick et al., 2004), less effective linkage with technology (DfT 2001a), progressive loss of feeling independent (Orimo et al., 2006) and greater reliance on others for lifts (DfT, 2001a; Raje, 2003). They could also enjoy greater time flexibility (ONS, 2005), and be more cost-conscious cutting back or going without a car (Dominy & Kempson, 2006) than younger people whilst having the privilege of concessionary fares. For these reasons, it has been hypothesised for the means of this work that older people may have different attitudes to road pricing than those of younger people.

Nonetheless, it should be noted that these distinctive characteristics may not apply to the whole elderly population, but some of these do apply to many older individuals and may well differentiate the way these people shape attitudes to road pricing. Some of these factors are primarily age-related like health problems, physical vulnerability and cognitive limitations but others are more ambiguous - e.g. pro-social values, social norms, relationship with technology and cost-consciousness. These relationships may be age-related, life cycle events, cohort effects or a combination of those.

## **ATTITUDES AND AGE-SPECIFIC ATTITUDINAL DIFFERENCES**

For the present project an attitude will be defined as a predisposition to respond in a favourable or unfavourable manner with respect to a given attitude object (i.e. road pricing). There are several theoretical viewpoints about the nature and operations of attitudes (Olson & Maio, 2003). Most of them agree that attitudes may encompass affective, behavioural and cognitive responses. More specifically:

Behavioural responses are the action component; it consists of the predisposition to act in a certain way toward the attitude object. For instance,

‘If road pricing is introduced, I will use more often public transport services.’

Cognitive responses are the mental component consisting of beliefs and perceptions that one has about the attitude object. For example,

‘Road pricing is a fairly unproven transport application.’

Affective responses are the emotional component that refers to the feelings and emotions one has towards the attitude object. For example,

‘I feel that my ability to keep a car on the road might be threatened by road pricing.’

This research concentrates on attitudes from the affective and cognitive perspective as a concept reflecting public acceptability, and does not focus as much on attitudes as factors shaping intentional behaviours, which is a very different research field.

Even though older people have been recently the focus of much attention, no research effort has focused exclusively in the socio-psychological links between older people and road pricing; all the existent surveys about attitudes to road pricing so far treated this only as a peripheral issue. Notwithstanding some findings from national road pricing attitudinal surveys and studies regarding specific local pricing applications no obvious answer has been

provided on whether older people's attitudes to road pricing differ significantly from those of younger people.

In particular, the London findings (Accent, 2004, 2005) suggested that generally older people are more positively oriented to road pricing than younger individuals, whilst other research studies suggested exactly the opposite (DfT, 2004; Scottish Executive, 2006) or that there is no real difference between older and younger people's attitudes to road pricing (DfT, 2006). Moreover, attitudes to a relatively new and rather unproven idea, such as road pricing, are not the outcome of a static process but of a dynamic one that changes through time, perhaps as people become more familiar with the concept of this policy (DfT, 2007b). This can be clearly reflected by the changes in the mean level of support for road pricing by different age groups for the proposed London scheme extension observed from one year to the next in a repeated survey (Accent, 2004, 2005). Moreover, no research findings have been reported regarding the way older people's attitudes are shaped; and specifically how older people's attitudes can be influenced by their social norms and their pro-social value orientations.

## **RESEARCH METHODOLOGY**

The research consisted of a literature review on ageing and road pricing, a secondary data analysis of three attitudinal datasets and a primarily quantitative survey examining age-specific differences in public attitudes to road pricing. The survey was also set to compare older people's social norms and their potential to believe that road pricing could be a pro-social measure with those of younger people.

The study area chosen for data collection is Bristol; a city that has been among UK cities planning a road pricing scheme. Two methods were possible: doorstep interviewing or the post-out and post-back of questionnaires. Telephone interviewing and interviewing at a public place were deemed unsuitable due to the complexity of information required and the necessity to avoid sampling bias. Another alternative - an online survey - could have produced a sampling bias to older people since many elderly voluntarily exclude themselves of using the Internet. The posted questionnaire method was chosen due to the difficulties inherent in interviewing a large number of participants in residences spread across the study area. To encourage participation in the survey, a pre-notification letter describing the project and the reason it was being conducted was provided to respondents. The use of likely financial incentives through the means of a prize draw was also employed to attract participation.

The questionnaire consisted of twenty-one questions, four of them being compound. Five levels of compliance varying from strongly agree to strongly disagree were used throughout the survey. The questionnaire contained six transport related parts, referring to: the respondents' daily travel experience; their views on congestion and road pricing; their opinions about other people's attitudes about road pricing (social norms); their pro-social values in the road pricing context; the potential influence of social norms on their attitudes; and the role that Government and the media play in the way society views road pricing. There was also a final section containing questions regarding the demographic characteristics of the respondents.

## SECONDARY DATA ANALYSIS FINDINGS

Three existing datasets regarding public attitudes to road pricing (as a principle, as a future option or as a specific local scheme) all containing age information about the participants were analysed. None of the corresponding studies delivered an analysis primarily set to assess the effect that age had on the way respondents viewed road pricing and whether older people had different attitudes than younger people. The first two datasets referred to the proposed charging scheme of Edinburgh while the last one was nationwide. The datasets were provided as raw data and most of the research findings presented herein are original. The secondary data analysis was used not only to benchmark the results of the primary analysis but also as a means to conduct a more complete evaluation of the age-specific differences between the attitudes of older and younger people.

The first database analysed (referring to the work presented in Gaunt et al., 2007) contained data about the public acceptability of the unrealised charging scheme in Edinburgh. The data were collected immediately after the referendum of 2005. A total of 365 responses were eligible for the purposes of this analysis. In order to produce a competent quantitative analysis eliminating statistical errors this sample was split into four age groups: 16 to 35, 36 to 55, 56 to 75 and 76 and over. The main age threshold of 60 that has been used for the primary analysis was not used as a border in any of Gaunt et al. age groups' specifications. Overall, the results of seven questions were relevant to the scope of this paper and were analysed for age-specific differences. The small number (25) of responses of people aged 76 and over in some cases constituted a limitation of this dataset.

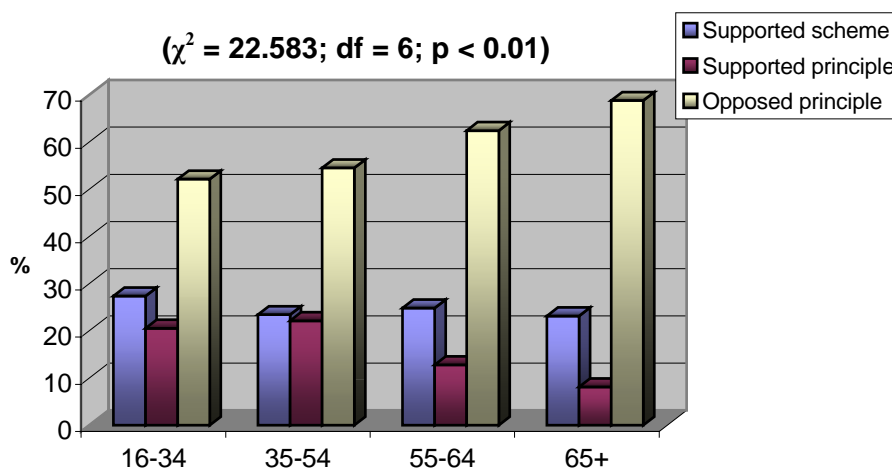
A database of 1,002 responses (referring to the work presented in Scottish Executive, 2006) built to help examining the reasons for the rejection of the Edinburgh scheme was also analysed. The respondents were categorised in four age clusters. The age clusters corresponded to people aged 16 to 34, people aged 35 to 54, people aged 55 to 64 and people aged 65 and over. The data of seven questions referring to research themes very relevant to the scope of the present work were analysed for age-specific differences. All of them were statistically significant with the exception of one (regarding the need for reducing car use in Edinburgh). Ageing was therefore associated with the way the respondents of this particular study viewed the proposed road pricing scheme.

The database referring to the Office for National Statistics Omnibus Survey of November 2005 – which was of national scale - examined respondents' views about road congestion and alternative methods of charging for road use. This data resource refers to a sample of 1147 respondents. Six age clusters were used in the analysis of the results (16 to 24, 25 to 44, 45 to 54, 55 to 64, 65 to 74 and 75 and over). Although the clustering may differ from the primary data analysis, it provides a detailed understanding of the way answers varied by age group.

According to the analysis of the Omnibus database people aged 65 and over and people aged 16 to 24 were the people most likely to consider road pricing as a measure that would not have an impact on their daily routine. Older people in general and those aged 75 and over in particular were the individuals most likely to give a 'don't know' answer, be uncertain or be neutrally oriented to questions directly or indirectly referring to road pricing. People aged 65 and over were the people most likely to disagree with the notion that 'car use needs to

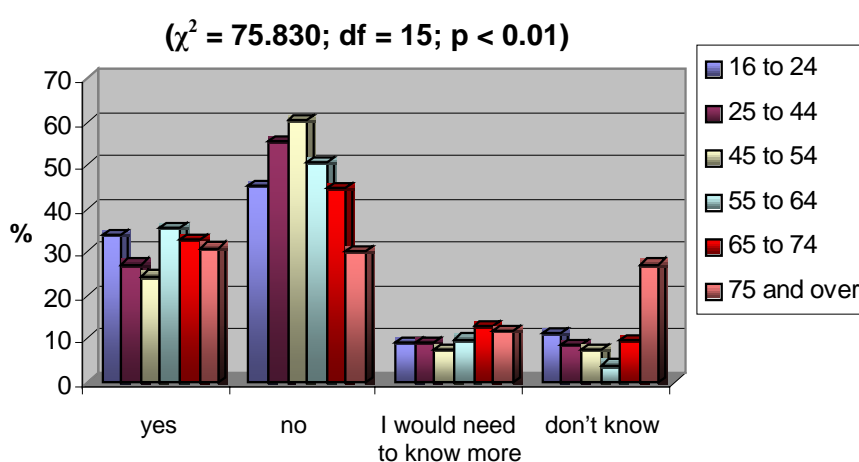


become more expensive'. There were indications that people aged 65 and over were the ones most likely to oppose road pricing as a principle (see Figure 1).

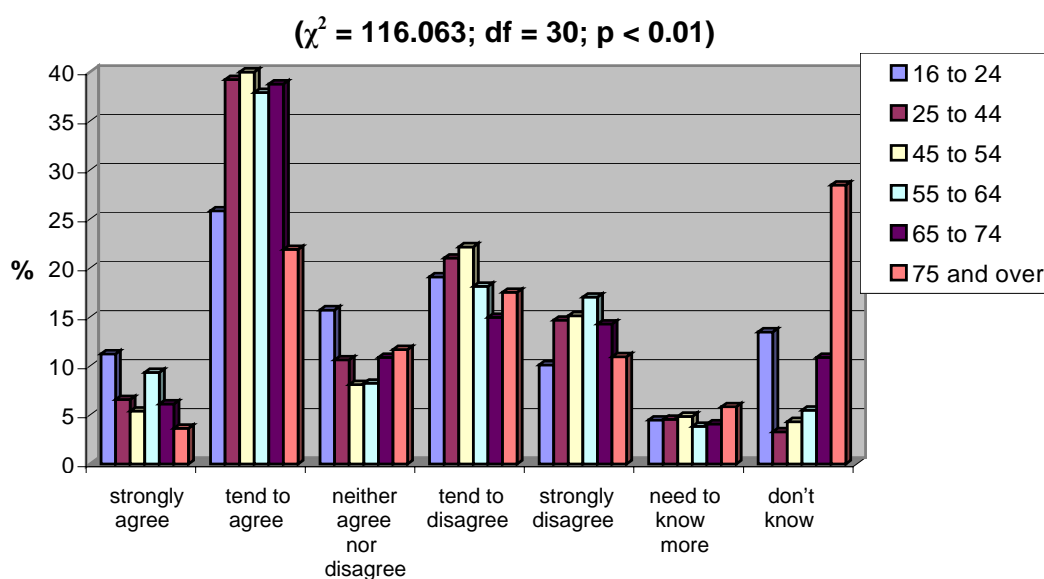


**FIGURE 1: Scottish Executive Database: Attitudes to the Proposed Road Charging of Edinburgh**

Nevertheless, people aged 65 and over according to the secondary data analysis of the Omnibus database were the people least likely to consider road pricing as a potentially unfair or ineffective measure. According to the Scottish Executive's dataset analysis on the other hand, this was not the case for the effectiveness finding – in the context of the unrealised scheme of Edinburgh at least. Figure 2 refers to the age-specific 'perceived fairness' findings of the secondary analysis of the Omnibus database. Older people's opposition to road pricing was suggested to be lower than that of younger people if 'there would be no overall increase in the amount of taxation paid by motorists' (see Figure 3) or 'as long as the money raised was spent on roads and transport'. This result perhaps indicates that older people may have a substantial pro-social behaviour potential but this is entirely different from confirming the hypothesis that older people are more likely than younger people to appreciate the potential pro-social nature of road pricing.



**FIGURE 2: Omnibus Database: Is This Type of Charging Fair?**



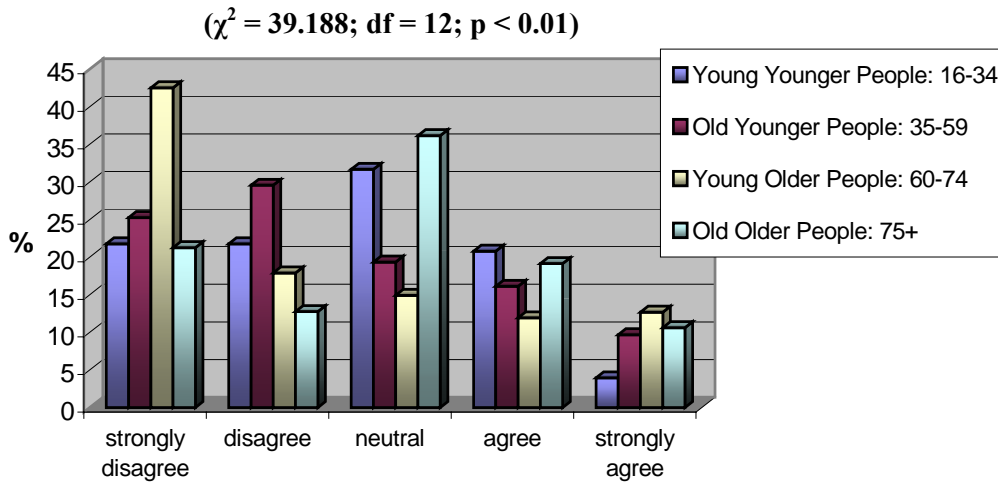
**FIGURE 3: Omnibus Database: I Would Accept Road Pricing if There Was No Additional Taxation**

No conclusion could be drawn about the social norms around road pricing and their possible influence on people's attitudes because there were no data collected in any of these datasets referring to social norms. Overall, the secondary analysis provided tentative confirmation that attitudes to road pricing do vary with age.

## PRIMARY DATA ANALYSIS FINDINGS

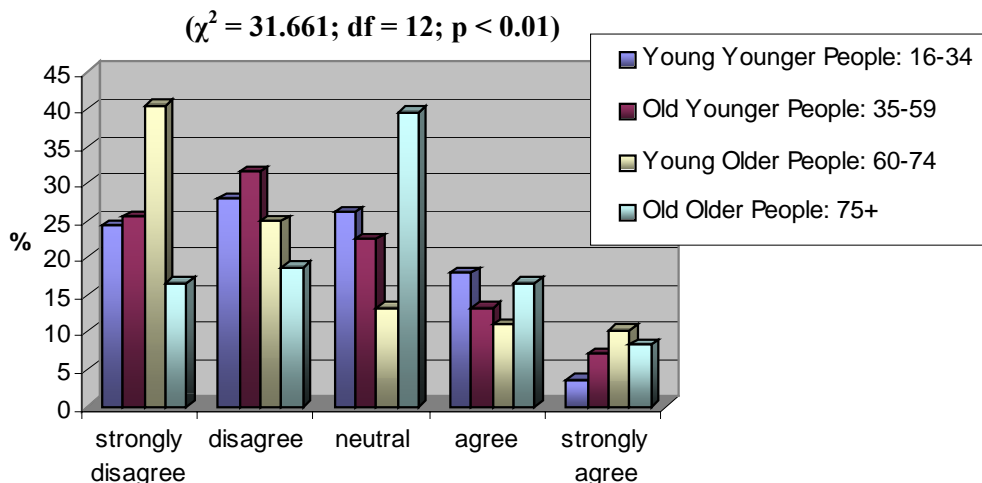
The questionnaires were distributed by post to 2025 homes randomly chosen from a de-personalised Bristol City Council list and to 275 members of Bristol's Older People's Forum. There were 491 useable responses: 184 from people aged 60 and over (48 aged 75 and over). Older people and pensioners were over-represented in the sample but this was an intentional feature of sampling to allow the results of age-specific comparisons to be statistically significant for the older age groups. The sample was split into four main age groups for the analysis purposes: *young younger people* (16 to 34), *old younger people* (35 to 59), *young older people* (60 to 74) and *old older people* (75 and over).

People aged 60 to 74 were the individuals most likely to be negatively oriented to road pricing; they were far more likely than any other age group to strongly disagree with the notion that road pricing could be good, fair or effective in reducing road traffic. They were also the people least willing to accept road pricing even if hypothetically better alternatives to the car were in place. Nonetheless, people aged 60 to 74 (and especially those aged 60 to 64) were the respondents most likely to strongly agree with the perceived goodness and fairness of the idea of road pricing. All in all, people aged 60 to 74 expressed more polarised views from the other age groups choosing more often the options indicating a 'strong' opinion. People aged 60 to 74 were also the people most likely to be annoyed by traffic congestion so much that they would try to avoid it. Figure 4 illustrates the five levels of compliance of the four age groups with the notion that road pricing is a good idea.



**FIGURE 4: Road Pricing is a Good Idea**

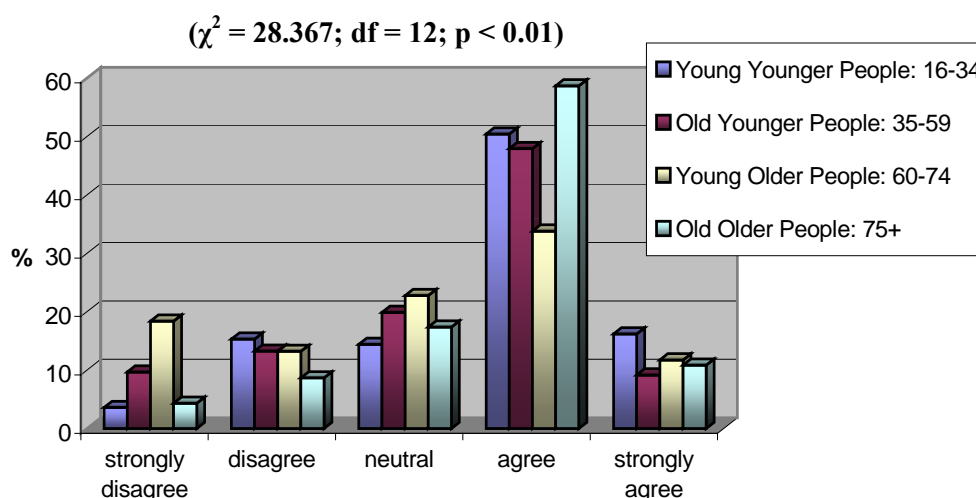
People aged 75 and over expressed significantly different attitudes overall to road pricing than the ones of people aged 60 to 74; specifically more positive. People aged 75 and over were the people most likely to express neutrality to any question regarding road pricing something entirely compatible with the findings of the literature and the secondary analysis. More importantly though, these people were also the most sympathetic age group to this measure -together with the people aged 16 to 34 - when referring to the measure’s potential goodness or fairness. They were also very likely to be troubled by road congestion; more likely at least from the people aged 16 to 34. All these age-specific findings of the primary analysis that have been summarized so far, need to be reported in the note that the two oldest age groups self-reported that were less likely to drive or face traffic congestion in a daily basis than younger people did. Older people, on the whole, tended to believe more often than younger people that they would not be affected by road pricing; both financially and time-wise. Figure 5 illustrates the five levels of compliance of the four age groups with the notion that road pricing is fair.



**FIGURE 5: Road Pricing is Fair**

There were four statements set to measure pro-social value orientations in the survey. These examined whether the respondents would accept road pricing if this was a measure that could be actually helping future generations, making people's journeys quicker (see Figure 6), improving local transport alternatives and reducing the environmental damage. People aged 60 to 74 were the people most likely to express some form of disagreement with these statements. This result may look controversial considering that older people are more pro-social than younger people but a possible explanation to this is that individuals aged 60 to 74 failed to believe that road pricing could be actually helping future generations, making people's journeys quicker, improving local transport alternatives or reducing the environmental damage. This means that people aged 60 to 74 failed to acknowledge the pro-social potential of road pricing. Trust, therefore, could be an underlying driver of opposition – trust in that road pricing could be delivering some benefits for society.

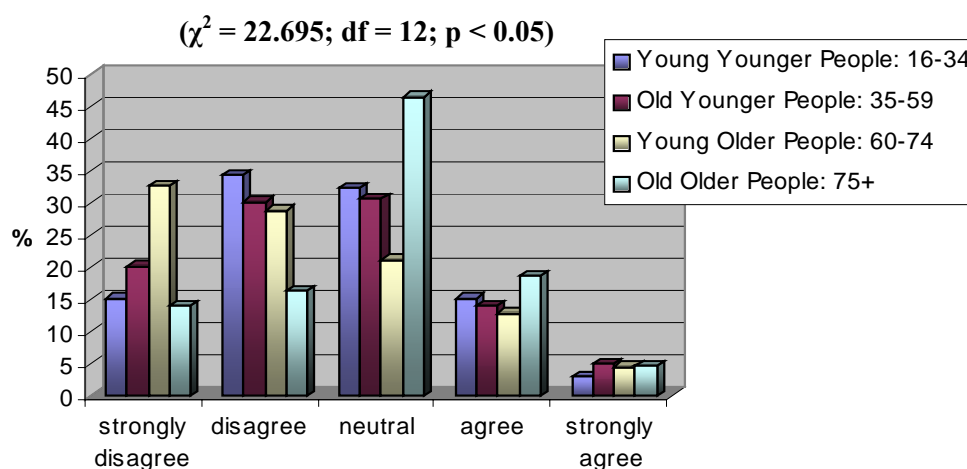
This result could explain in some degree why people aged 60 to 74 were the ones most likely to disagree with road pricing; because they could not see it as a pro-social measure. People aged 75 and over were much more likely to ascribe pro-social values to road pricing than people aged 60 to 74 and people aged 35 to 59. Their levels of 'agreement/strong agreement' with the four statements were similar with those of individuals aged 16 to 34. It could be suggested that people aged 75 and over, seeing the pro-social potential of road pricing were more sympathetic to it. On the whole, the people that were in disagreement with the pro-social related statements were mostly the ones disagreeing that road pricing could be a good or a fair project.



**FIGURE 6: I Would Accept Road Pricing if This Would Make Most People's Journeys Quicker**

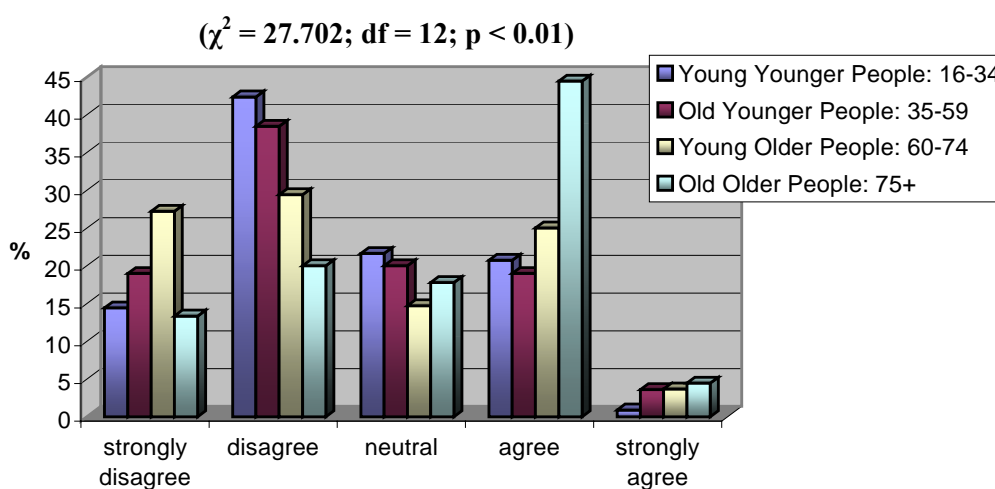
People aged 60 to 74, according to this work, were the people most likely to strongly disagree that those people important to them would consider road pricing an effective, fair or good measure (see Figure 7). Older people aged 75 and over were not that likely to do so. When the respondents were questioned about the potential of the people most important to them to accept road pricing if this would help improving the local provision of alternatives to car, older people and especially those aged 60 to 74 were more likely to consider that their

significant others would not accept the measure than younger people did. People aged 60 to 74 were the ones most likely to believe that people important to them would not be affected by road pricing followed by people aged 75 and over.



**FIGURE 7: I Believe That My Significant Others Consider Road Pricing a Good Idea**

Older respondents and especially the ones aged 75 and over considered their significant others' agreement with road pricing more important to them as a criterion for accepting this measure than younger people did (see Figure 8). This indicates that perhaps social norms influence more the attitudes of older people than the attitudes of younger people.



**FIGURE 8: I Would Accept Road Pricing if My Significant Others Agreed That It Was a Good Idea**

The latter findings suggest what older people's social norms around road pricing are compared to the ones of younger people and how much these could influence their attitudes to road pricing.

Ordinal regression analysis was another statistical tool employed for the means of this work. When combined with a series of other parameters like issues of fairness, social norms and their potential influences, pro-social value orientations, possible monetary and time impacts, even demographics (such as the type of household), the age effect on attitudes to road pricing was overshadowed by these other parameters.

## **CONCLUSIONS AND FURTHER RESEARCH**

This research provides empirical evidence that attitudes to road pricing vary with age. Some of these results allowed the development of an initial understanding of the issues behind these differences and more importantly the way the attitudes to road pricing can be affected by pro-social value orientations and social norms. Some of the key findings reported in this paper are:

- The attitudes of older people to road pricing regarding its likely fairness and goodness are different than the attitudes of younger people. Furthermore, older people are not a homogenous group when expressing attitudes to roads pricing; there are distinctive age-specific differences even between them.
- People aged 60 to 74 are the people with the most negative attitudes to road pricing over all, while people aged 75 and over are the people most likely to be sympathetic or neutral to this measure.
- People aged 60 to 74 comprise the group of people least likely to appreciate the pro-social character of road pricing, whilst people aged 75 and over, together with the people aged 16 to 34, are the people most likely to ascribe pro-social values to road pricing.
- People aged 60 to 74 are the people most likely to consider that their significant others have negative attitudes to road pricing. People aged 75 and over are the people most likely to consider that their significant others have positive attitudes to road pricing.
- Older respondents considered the agreement of their significant others with road pricing to be more significant as an acceptance criterion than younger people did. This was particularly the case for older people aged 75 and over. This finding indicates that the 'social norms' influence is stronger on the attitudes of older people to road pricing than on those of younger people.

In terms of potential for policy intervention, revealing the special attitudinal issues of older people may help in understanding and responding to some of the potential social dilemmas of road pricing. In particular, older people aged 60 to 74, despite being the individuals least likely to support road pricing, have a considerable potential - bigger than that of younger people - to view favourably a policy that could potentially benefit the people most important to them and/or society as a whole. For the time being, these people are less likely to ascribe pro-social values to road pricing than any other age group, therefore their pro-social value orientation does not play a centre role in the way their attitudes to road pricing develop. This tendency not to believe in the pro-social character of road pricing is due to their lack of trust in the measure and the motives behind its potential introduction. Lack of trust could partly be

an issue of limited information or a one-sided exposure to the bad publicity that road pricing has received so far.

Authorities with serious plans to implement road pricing or any similar transport demand measures such as tollways, need to create promotional campaigns with a specific focus on the pro-social nature of road pricing, especially when targeting older people. Possible beneficial outcomes like the potential of making people's journeys quicker, helping the improvement of the local transport system, reducing environmental damage and allowing future generations to enjoy a better life, might be the topics of such communications. This strategy may help older people and especially those aged 60 to 74 to re-assess the potential pro-social value of road pricing and become more positive towards it. On the other hand, since pro-social values and social norms are interrelated, an effective pro-socially oriented campaign could also reshape to some extent the social norms regarding road pricing, making them more favourable to this measure: something that could eventually influence attitudes to road pricing.

A further step towards this direction could be the actual involvement of older people and especially of those aged 60 to 74 with the proposed plans regarding the introduction of road pricing schemes, through the means of consultation. A consultation procedure that will emphasize the pro-social potential of road pricing could have similar results to that of a promotional campaign.

More important than suggesting any specific promotional campaign or consultation process, though, is the knowledge generated for policy-makers that many older people see road pricing currently as a non pro-social measure. The implication for professionals is the need for them to design pro-social - and thus more acceptable - road pricing schemes.

Nonetheless, before any further policy implications can be proposed, these research results need to be generalized into a wider context - Bristol is only one case study - and be validated by more research designed for this purpose. Further work around this research theme, is planned to take place in the immediate future through the means of a second research phase with a qualitative focus building on the findings reported herein. This forthcoming study is set to examine in-depth the attitudes of older people to road pricing by looking into the socio-psychological links between ageing and road pricing that could describe in some degree the attitude shaping process. This was something that could not have been fully captured by this survey-based approach.

## **ACKNOWLEDGEMENTS**

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## REFERENCES

1. Accent (2004). *Proposed Revision to the Mayor's Transport Strategy: A Western Extension to the Central London Congestion Charging Scheme – Report on Public Consultation*. For Transport for London.
2. Accent (2005). *Western Extension to the Central London Congestion Charging Scheme Report on Public Consultation and Attitudinal Survey: Report on Public Consultation and Attitudinal Survey*. For Transport for London.
3. Alsnih, R. & Hensher, D. (2003). The Mobility and Accessibility Expectations of Seniors in an Aging Population. *Transportation Research A*, 37, 903–917.
4. DfT (2001a). *Older People: Their Transport Needs and Requirements - Summary Report*, British Department for Transport, London.
5. DfT (2001b). *Older Drivers: A Literature Review*. British Department for Transport, London.
6. DfT (2004). *Attitudes to Road Pricing*. British Department for Transport, London.
7. DfT (2006). *Experiences of Congestion and Attitudes to Road Pricing*. British Department for Transport, London.
8. DfT (2007a). *Rapid Evidence Assessment – Understanding the Distributional Impacts of Road Pricing*. British Department for Transport. London.
9. DfT (2007b). *Public Acceptability of Road Pricing*. British Department for Transport, London.
10. DfT (2008). *Concessionary Bus Travel: Frequently Asked Questions*. British Department for Transport, London.
11. Dominy, N. & Kempson, E. (2006). *Understanding Older People's Experiences of Poverty and Material Deprivation*. Research Report No 363. Department for Work and Pensions. Leeds.
12. Fujii, S., Garling, T., Jakobsson, C. & Jou, R. J. (2004). A cross-country study of fairness and infringement on freedoms as determinants of car owners' acceptance of road pricing. *Transportation*, 31, 285–295.
13. Gaffron, P., Hine, J. P. & Mitchell, F. (2001). *The Role of Transport in Social Exclusion in Urban Scotland: Literature Review*. Scottish Executive, Edinburgh.
14. Gaunt, M., Rye, T. & Allen, S. (2007). Public Acceptability of Road User Charging: The Case of Edinburgh. *Transport Reviews*, 27 (1), 85 – 102.
15. Gilleard, C. & Higgs, P. (2005). *Contexts of Ageing: Class, Cohort and Community*. Polity Press. Cambridge.
16. Goerres, A. A. (2007). Why Are Older People More Likely to Vote? The Impact of Ageing on Electoral Turnout in Europe. *British Journal of Politics and International Relations*, 9 (1), 90-121.
17. Horne, C. (2001) *Sociological Perspectives on the Emergence of Norms*. In Social In Hechter, M. & Opp K. D. (Eds.), *Social Norms*. 3–34, Russell Sage Foundation.
18. Ison, S. & Rye, T. (2005). Implementing Road User Charging: The Lessons Learnt from Hong Kong, Cambridge and Central London. *Transport Reviews*, 25, 1-15.
19. Jakobsson, C., Fujii, S., & Garling, T. (2000). Determinants of Private Car Users? Acceptance of Road Pricing. *Transport Policy*, 7, 153-158.
20. King, D., Manville, M. & Shoup, D. (2007). The Political Calculus of Congestion Charging. *Transport Policy*, 14, 111-123.



21. Kovalchick, S., Camerer, C., Grether, D., Plott, C. & Allman J. (2004). Aging and Decision Making: A Comparison Between Neurologically Healthy Elderly and Young Individuals. *Journal of Economic Behavior & Organization*, 58, 79-94.
22. Midlarsky, E. (1991). *Helping as Coping*. In M. S. Clark (Ed.), *Prosocial Behavior*, 238-264. Newbury Park, CA: Sage.
23. Musselwhite, C. B. A. (2006). Prolonging Safe Driving Behaviour Through Technology: Attitudes of Older Drivers. *26th International Congress of Applied Psychology*, Athens, Greece. 16<sup>th</sup> – 21<sup>st</sup> July 2006.
24. Older People's Steering Group (2004). *Older People Shaping Policy and Practice*. Joseph Rowntree Foundation.
25. Oliver, R. L. & Bearden, W. O. (1985). Crossover Effects in the Theory of Reasoned Action: A Moderating Influence Attempt, *Journal of Consumer Research*, 12(3), 324–340.
26. Olson, J. M. & Maio, G. (2003). *Attitudes in Social Behavior*. In T. Millon & M. Lerner (Eds.), *Handbook of Psychology: Personality and Social Psychology*, 5, 299-325.
27. ONS (2005). *The United Kingdom Time Use Survey*. British Office for National Statistics. London.
28. Orimo, H., Ito, H., Suzuki, T., Araki, A., Hosoi, T. & Sawabe, M. (2006). Review Paper: Reviewing the Definition of “Elderly”, *International Journal of Geriatrics Gerontology*, 6, 149-158.
29. Phillipson, C. (1982). *Capitalism and the Construction of Old Age. Critical Texts in Social Work and the Welfare State*. MacMillan Press LTD. London.
30. Raje, F. (2003). The Impact of Transport on Social Exclusion Processes with Specific Emphasis on Road User Charging. *Transport Policy*, 10 (4), 321–338.
31. Rosenbloom, S. (2001), Sustainability and Automobility Among the Elderly: An International Assessment. *Transportation*, 28, 375-408.
32. Rushton, J. P. (2004). Genetic and Environmental Contributions to Pro-Social Attitudes: A Twin Study of Social Responsibility. *Proceedings of the Royal Society*, 271, 2583–2585. London.
33. Schade, J. & Baum, M. (2007). Reactance or Acceptance? Reactions Towards the Introduction of Road Pricing, *Transportation Research Part A*, 41, 41–48.
34. Scottish Executive (2006). *Evaluation of Edinburgh Residents' Attitudes to the Proposed Road User Charging Scheme*. Transport Research Series. Edinburgh.
35. Siren, A. & Hakamies-Blomqvist, L. (2004). Private Car as the Grand Equaliser? Demographic Factors and Mobility in Finnish Men and Women Aged 65+. *Transportation Research Part F*, 7, 107-118.