

# **PUBLIC ENGAGEMENT AND PARTICIPATION IN SUSTAINABLE TRANSPORT ISSUES**

**Professor Richard Laing<sup>1</sup>, Dr Elizabeth Tait<sup>2</sup> and Professor David Gray<sup>3</sup>**

<sup>1</sup>*Scott Sutherland School of Architecture and Built Environment / IDEAS Research Institute, Robert Gordon University, Aberdeen, UK.*

<sup>2</sup>*dot.rural, RCUK Digital Economy Research, University of Aberdeen, UK.*

<sup>3</sup>*Aberdeen Business School / IMAGES Research Institute, Robert Gordon University, Aberdeen, UK.*

## **ABSTRACT**

Currently, emissions from transport represent a quarter of Scotland's total. While the Scottish Government has identified a number of transport policies, which would contribute to Scotland's ability to meet its targets, action to significantly reduce greenhouse gas emissions from transport has been limited, poorly integrated with other areas of policy, and focused on narrow programmes. Drawing on best practice from cities across the North Sea Region, this paper considers how public engagement can be utilised within the development of holistic low carbon urban development. Consideration of regions where strategies have been successful reveals a context where transport is considered as part of wider urban design and urban development, thus ensuring that the potential benefits are directly related to concerns of planning, housing and behavioural change. The paper includes information and conclusions from a case study in Aberdeen, Scotland.

Keywords: participation, climate, regional, transport, urban.

## **INTRODUCTION**

In the coming years, urban areas across Europe will increasingly be required to respond to the challenges of climate change. To date, this has been reflected in numerous European directives and initiatives, including those within the Strategic energy technology plan (SET), the smart cities initiative and CIVITAS. Within these initiatives has been a recognition that decisions made in the planning and management of our cities will have direct and often complex implications for the environment. A central part of the underlying philosophy is an understanding that such complexity extends across the built environment, infrastructure, transport provision and human behaviour. The research reported in this paper considered how the development of sustainable urban transport strategy can benefit from the direct implementation of strategies to engage end users. Particular challenges relate to the balance between spatial planning, consumption and behaviour, and the development of new and extended urban centres. Indeed, it is clear that behavioural change will be central to

---

<sup>1</sup> [r.laing@rgu.ac.uk](mailto:r.laing@rgu.ac.uk)

<sup>2</sup> [elizabeth.tait@abdn.ac.uk](mailto:elizabeth.tait@abdn.ac.uk)

<sup>3</sup> [david.gray@rgu.ac.uk](mailto:david.gray@rgu.ac.uk)

meeting climate change targets, thus suggesting that participation of users at the design stage carries potential to greatly improve end results and modal shift.

In response to concerns about climate change, air quality and sustainable development in general, local governments around the world are facing challenges to develop and implement carbon reduction initiatives. The challenges they face are daunting for many reasons that are well documented in the literature. Barriers to policy implementation include: limited resources for developing new infrastructure and services, institutional and policy barriers, social and cultural barriers, legal barriers, unintended consequences and side effects (Banister 2005). There are, however, examples of best practice where cities have developed effective carbon reduction initiatives and numerous projects have been developed to try to transfer knowledge and best practice between local governments.

This paper draws on experiences from CARE North, an Interreg-funded initiative (IVB North Sea Region Programme) aiming to develop '*a comprehensive, strategic and practical approach to urban and regional transport accessibility in the North Sea Region*'. CARE North extends across 9 partners and 4 countries, and includes input from ICLEI, an association of local governments committed to sustainable development. The project was initiated in response to concerns about climate change and recognition of the need to reduce transport-related CO<sub>2</sub> emissions which continue to rise (despite per-vehicle emissions falling) and pose a significant threat to health. The northern European region is interesting in that, whilst there are partially shared climatic and cultural contexts (particularly in the Nordic and Celtic countries), the rate at which sustainable transport has been adopted across cities and regions varies greatly. For example, Bremen, Germany (see Figure 1) has implemented an extensive network of bicycle share hubs, which help to normalise the use of low carbon transport across the city. Coupled with an extensive tram network, use of the city centre for many is aided and defined by the ease with which pedestrians and cyclists are able to share the space with motor vehicles. An early pioneering city with regards to a shift towards walking and cycling was Copenhagen, Denmark, which today is arguably defined by its fully integrated walking, cycling and rail networks, including an expanding underground system (Figure 2). The success of such schemes lies in the demonstrable shift in modal share between walking/cycling, use of public transport and car use. Of great importance, also, is the manner in which the schemes have been designed to integrate with daily lives, rather than to demand radical shifts in lifestyle. Therefore, in addition to institutional and political challenges, there are challenges of public engagement that must be taken into account. Transport policies can be very controversial, especially if they attempt to change travel behaviour by restricting access or increasing cost. It is therefore considered essential that members of the public are engaged in the process of the development of such initiatives. 'Overcoming barriers to effective implementation requires interactive and participatory processes, so that intentions and outcomes of policy interventions to achieve sustainable transport coincide.' (Banister 2005)

However, as reported in the literature, there are great challenges of transferring carbon reduction initiatives between cities. Initiatives that are successful in one area will not necessarily be successful when transferred to other cities for many reasons. (Marsden et al. 2010) recommend that local governments need to develop a culture of learning from others which takes into account all aspects of the implementation of the initiatives but that that learning should 'be approached with scepticism about the full scale and transferability of benefits'.



Figure 1 – Bremen bicycle share scheme ‘hub’



Figure 2 – Entrance to new underground station, Copenhagen

## CONTEXTUAL REVIEW

### **Public engagement and participation**

A dimension related to the successful adoption of carbon reduction initiatives in local authorities is public participation and engagement. Local authorities have a statutory duty to consult citizens and public engagement through Community Planning Partnerships forms a core part of the Single Outcome Agreements between the Scottish Government and Local Authorities. Participatory initiatives are believed to help overcome public disengagement with politics (Dalton 2004). Public participation is believed to: increase the accountability and transparency of government institutions, broaden the base of political participation and create more active and engaged citizens (Smith 2009). Participative policies are also believed to play a role in educating the public and increasing civic awareness (Darier & Mehta 1998).

As well as having a positive impact on the legitimacy of policies and decision-making it is also argued that public participation initiatives such as 'planning for real' may have a positive impact on the policies themselves making them more suitable to the needs of the people than policies devised at the local authority level (Smith 2005). The role of participation is seen as being more than just creating effective policies, however. There is also a broader issue of engagement that is being sought to overcome the problem of the democratic deficit and apathy towards politics within the general public that is perceived to be occurring at the local level in order to make the institutions of government more responsive and legitimate (Chandler, 2000).

As demonstrated earlier in the paper, however, the aims of public participation go beyond policy development and also have educational and broader goals of engagement which cannot be measured in policy outcomes. In order to effect behavioural change it is argued that people must understand the impact that their choice in transport is having. (Bickerstaff & Walker, 2001) investigated the way that the public perceive air quality issues and found that people tend to have a highly localised view of air quality which draws on physical and spatial criteria as well as cultural and economic factors.

### **Policy context**

One of the big challenges for trying to analyse how transferrable a carbon reduction initiative will be from one local government to another is the policy context. There are multiple layers of interconnected government in the UK which all have a bearing on transport policy and are themselves influenced by European and International level treaties and laws. An excellent analysis of Multi-Level Governance for carbon reduction policies in the UK was conducted by Marsden & Rye, (2010) who identified the limited sphere of influence that local authorities have:

"The main policies for local carbon reduction which authorities have control over are parking allocations for new development, smarter choices and improvements to walking, cycling and public transport (bus) infrastructure." (Marsden & Rye 2010)

Financial restrictions place further limitations on local authorities' work which has an impact on their ability to implement carbon reduction policies, especially if these involve investment in infrastructure etc. There are strict rules on local authority spending and limitations are put on the raising of council tax. The Scottish Government, for example, has frozen council tax for the duration of the 2011-2016 parliamentary period in keeping with the SNP manifesto pledge (Bell 2011).

## **Urban context**

Everyone makes daily decisions about where to go, how to get there, and what to do when they arrive. The perceptions of quality and safety of the spaces involved will influence many of these decisions and activities (e.g. the safety and attractiveness of routes travelled to and from work or school etc.). Therefore, the quality of public space and urban streets is important. Oxford Brookes (ODPM 2002) note that typical concerns relating to public spaces may include unsafe streets and public spaces that foster anti-social behaviour, crime and the fear of crime; dirty streets and public spaces; and, unattractive and inaccessible parks, play areas and open spaces with poor provision for children and young people, older people and disabled people. Rather, the buildings are important specifically because of the manner in which, even at a small domestic scale, they serve to provide evidence of the history of the societies and cultures from which they emerged. Therefore, it can also be argued that the value of our cities extends well beyond concepts of financial value (e.g. in a cultural context, Shipley 2000), and that choices made regarding the relative positioning of the pedestrian within cities will greatly define the public realm (e.g. Gehl 1987, Gehl and Gemzøe 2006).

## **CASE STUDY: ABERDEEN**

Aberdeen is the third largest city in Scotland with a population of approximately 216000 people. The economy of the city has been boosted considerably by the North Sea oil and gas industry which has to a large extent insulated Aberdeen from the global economic recession and has contributed to Aberdeen having a very low unemployment rate and a higher than average wage rate for Scotland (Aberdeen City Council 2012). Car use in Aberdeen City is high with 42% of residents reporting that they use a car every day compared with the Scottish average of 33%.

The key policy document for understanding Aberdeen City Council's transport document is the Local Transport Strategy which sets out the vision for ACC's strategic plan for the city's transport infrastructure and services until 2012. The plan recognises that there are significant problems with congestion and air quality in Aberdeen (Aberdeen City Council 2008) but indicates a high level vision to develop a sustainable and accessible transport system, which a vibrant economy and minimises the impact on the environment. The strategy makes specific mention of carbon reduction initiatives including: reducing the need for council staff to travel, encouraging lift sharing, developing car clubs and encouraging the introduction of low emissions vehicles. The strategy is closely linked to the Air Quality Action Plan which aims to reduce the problem of poor air quality in Aberdeen City Centre (Aberdeen City Council 2011).

## **SURVEY AND RESULTS**

In order to study public responses to a range of local proposed initiatives, an online survey was run to gauge levels of support and reaction. The total response rate to the CARE-North questionnaire was 627 which could be considered a good response rate to a public engagement questionnaire.

It was found that the vast majority of respondents regularly travelled in to the city centre with 73.7% indicating that they worked in the City Centre, 32% indicating that they live in the city centre and 77.3% indicating that they travel in to the city centre

for shopping and or leisure reasons. Only 3.8% of respondents indicated that they never travel in to the city centre.

### **Mode of transport used by respondents**

In keeping with the high levels of car ownership within Aberdeen itself it was found that 86.1% of respondents reported having one or more cars in their household. It was found that travel by car was the most frequently reported mode of transport used by respondents for journeys in to the city centre across a range of activities including: travel to work/school/university, leisure activities during the day, leisure activities in the evening and shopping. The second most frequently reported mode of transport was walking followed by the bus. These results were also reflected when respondents were asked to rate the relative ease of travelling in to Aberdeen City Centre.

Respondents were asked whether they considered that Aberdeen City Council had a good active travel network including walking and cycling (promotion of active travel is one of the ambitions of the local transport strategy). The majority of respondents (52.5%) disagreed or strongly disagreed with this statement with only 2% strongly agreeing with this statement.

Respondents were asked to rate a range of factors to determine their relative importance in terms of influencing their decision to use public transport. The factors that were most likely to influence respondents' choice to use public transport were:

- Reliability of the service
- Frequency of the service
- Cost

Respondents were then asked to rank a series of factors in terms of how they dictated their choice of transport. In keeping with previous responses it was found that convenience was the main factor that influenced choice of transport, followed by reliability, time taken and cost. Environmental concerns were rated as the lowest concern amongst respondents.

To determine whether the local transport strategy matched with public beliefs about priorities for transport, respondents were asked to rate the importance of the priorities. It was found that all five priorities were rated as important or very important by a majority of respondents with 'Safe and Secure Transport' ranked highest followed by 'Minimise the environmental impact of transport'

### **Awareness of air quality issues**

Respondents were provided with information about the air quality issues in certain areas of Aberdeen and were asked whether they were aware of these issues. 36.7% of respondents indicated that they were aware of air quality issues with a further 27% indicating that they were partly or possibly aware. 36.2% of respondents indicated that they were not aware.

Respondents were then asked about how concerned they were with regards to their health or the health of their family about the level of pollutants. In total 48.1% of respondents indicated that they were concerned or very concerned about these issues.

Respondents were then asked about the extent to which they considered different issues were contributing to air problems. The factor that was considered to be of greatest concern was pricing of public transport, followed by congestion. Connectivity

of different modes of transport was also considered to be a significant factor as was the routes that public transport take.

### **Initiatives**

It was found that 64.7% of respondents indicated that they supported the idea of a low emissions zone in Aberdeen City Centre. Of those who supported the LEZ, 93.9% indicated that Lorries should be restricted/discouraged, 59.4% indicated that cars should be restricted, 20.3% indicated that taxis should be restricted and 19.3% indicated that buses should be restricted.

Respondents were asked whether they believed that the introduction of car clubs would reduce the number of cars in Aberdeen City Centre. Approximately 35% of respondents indicated that they believed they would, 32% indicated that they would not and 33.3% indicated that they did not know. 19.4% of respondents indicated that they would consider joining a car club.

Results from the survey are interesting at a local level, as they demonstrate a genuine interest in the impact of transport and choices on the environment, with broad public support for a range of initiatives. The earlier part of the paper, though, indicates that cities where initiatives have been implemented on a wide scale, that this has been integrated in a holistic approach to city development. Local policies to address issues of transport in the city and region are in place, and can arguably draw on such indicative public support to move from planning to implementation.

## **DISCUSSION AND CONCLUSIONS**

This paper has described contextual and applied research undertaken across the North Sea Region, with particular regard to the integration of public engagement and wider concerns over sustainable urban transport. The importance of understanding the relationships between urban development, and issues of transport, user choice and human contact has been studied previously (for example, van den Berg 2011, Marchal and Nagal 2005). Similarly, the subject of spatial development (e.g. development of new towns) and how this can integrate with and support sustainable choice with regards to transport (Dijst et al. 2002) will become increasingly important to strategies within Scotland in the coming years, as pressures increase on urban density. It will be important for cities such as Aberdeen to recognise that new housing must be integrated with viable sustainable transportation, as is the case in CARE North partner city Gothenburg, for example. The research ultimately calls for an holistic approach to urban development, which recognises the integrated importance of robust policy, user participation within design and strategic development and a recognition of the importance of behavioural change, in addition to the provision of new infrastructure.

## **ACKNOWLEDGEMENTS**

The research in this paper was part-funded through CARE North, a project supported by the Interreg IVB North Sea Region Programme ([www.care-north.eu](http://www.care-north.eu)).

## **REFERENCES**

Aberdeen City Council. 2008, Local Transport Strategy 2008-2012. Available: <http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?IID=16272&slD=2866> (Accessed: 2012, May 30).

- Aberdeen City Council. 2011. 2011 Air Quality Progress Report for Aberdeen City Council. *Environmental Protection*, (June).
- Aberdeen City Council. 2012, Behind the Granite. Available at: <http://www.aberdeencity.gov.uk/nmsruntime/saveasdialog.asp?IID=43542&slD=332>.
- Banister, D., 2005. *Unsustainable Transport. City transport in the new century*, Routledge.
- Bell, D. 2011, Council Tax Proposals in the Scottish Election 2011. Available at: <https://dspace.stir.ac.uk/bitstream/1893/3008/1/SEDP-2011-10-Bell.pdf>.
- Bickerstaff, K. and Walker, G. 2001, Public understandings of air pollution: the “localisation” of environmental risk. *Global Environmental Change*, 11, 2, pp.133-145.
- Chandler, D., 2000. Active citizens and the therapeutic state : the role of. *Policy & Politics*, 29, June, pp.3-14.
- Dalton, R., 2004. *Democratic Challenges, Democratic Choices: The Erosion of Political Support in Advanced Industrial Democracies*, Oxford: Oxford University Press.
- Darier, É. & Mehta, M., 1998. Virtual control and discipline: electronic governmentality in the new wired world. *The Information Society*, 14, 2, pp.107-116.
- Dijst, M., de Jong, T. and van Eck, J.R., 2002 Opportunities for transport mode change: an exploration of a disaggregated approach. *Environment and Planning B: Planning and Design* 29, 3, 413 – 430.
- Gehl, J., 1987. *Life Between Buildings: Using Public Space*. Van Nostrand Reinhold.
- Gehl, J. and Gemzøe, L., 2006. *New city spaces*. 2<sup>nd</sup> ed. The Danish Architectural Press, Copenhagen.
- Marchal, F and Nagel, K. 2005, Modeling location choice of secondary activities with a social network of cooperative agents. *Transportation Research Record*, No. 1935, 141-146.
- Marsden, G., Frick, K.T., May, A.D. and E. Deakin. 2010, Transfer of Innovative Policies Between Cities to Promote Sustainability. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2163, pp.89-96.
- ODPM (Office of the Deputy Prime Minister) 2002, *Living Places. Cleaner, Safer, Greener*, ODPM, London.
- van den Berg, P., Arentze, T. and Timmermans, H. 2011, Location-type choice for face-to-face social activities and its effect on travel behavior. *Environment and Planning B: Planning and Design*, 37, pp. 1057-1075.