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Roisin Kelly
Committee Clerk
Regional Development Committee
Room 406
Parliament Buildings
Stormont, Belfast, BT4 3XX

Dear Ms Kelly

Evidence to Regional Development Committee Inquiry into Sustainable Transport

Please find enclosed a submission that I would like to be considered as part of this inquiry. This submission raises a number of issues in relation to how a sustainable development strategy can be achieved and also what the current problems are in relation to the development and achievement of a strategy for sustainable transport in Northern Ireland. These issues have been grouped around a number of key headings that relate to the Committee's terms of reference for this inquiry.

Yours sincerely,

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Evidence to the Regional Development Committee Inquiry into Sustainable Transport

Transport infrastructure is important for the development of regional economies but at the same time transport choices and strategy can have a significant impact on the environment, society, health and lifestyle. Importantly, it is also central to debates about how to create livable environments in our towns and cities. The current reviews of the Regional Transport and (RTS) Development Strategies (RDS) offer an opportunity for the development of a modern and sustainable transport system. This means that future strategy and investment decisions must be 'future proof'. It is widely acknowledged that the current policy framework as specified in the RTS and RDS has achieved significant new investment in transport infrastructure which has addressed decades of underinvestment. Although the RTS and RDS aimed to achieve mode shift from the private car to public transport, cycling and walking, it is quite clear that this has not been achieved, despite rising numbers of passenger journeys on the rail and bus system. In addition the land use planning system has allowed the proliferation of development outside existing settlements. These are often locations that cannot be served by an adequate public transport system.

The emphasis in funding within the strategy has been on roads and this bias is likely to continue unless checked. The Programme for Government and Investment Strategy published in 2008, commits the region to continuing high levels of investment in roads. Currently funding is estimated for the period 2008/09 to 2017/18 to be at £2,645 million for roads and for the same period at £725 million for public transport. Clearly highway improvements can make environmental improvements including improvements to air quality and also journey time savings yet these patterns of investment reinforce existing patterns of travel and reliance on the car. It is widely accepted that investment in new roads generates new traffic and can, in the medium to longer term, undermine the investment that has been made as a result of rising traffic levels and congestion. In general terms, the emphasis in terms of road investment must increasingly be about management of existing capacity rather than the creation of new. This is especially important given Northern Ireland's poor greenhouse gas emissions performance compared to the rest of the UK. A recent report by Northern Ireland Environment Link has highlighted the divergence in emissions data when Northern Ireland is compared with the rest of the UK. Northern Ireland's per capita greenhouse gas (GHG) emissions of 12.83 tonnes per annum compares badly with the UK average of 10.48 tonnes. This difference is principally due to transport, while domestic transport emissions in the UK increased by 9% over the period 1990 to 2006, in Northern Ireland the increase for the corresponding period was 51% (NIEL, 2009).

Conventional transport planning has emphasised speed and capacity that has been to the detriment of slower green modes and public transport. It has also underestimated the environmental and wider societal costs associated with the current range of transport choices and patterns of provision. This conventional approach to transport planning has produced car dependent communities which in turn have produced patterns of disadvantage especially amongst those on low incomes, women, the elderly and disabled. These user groups have been shown to experience lower levels of car access, and as a result experience poorer levels of access to a variety of goods and services (Hine and Mitchell, 2003). These patterns are especially pronounced in rural areas and outer metropolitan/urban areas. Increased public transport use can conversely reduce the need for expensive road infrastructure, reduce greenhouse gas emissions and urban air and noise pollution.

1. Transport trends in Northern Ireland

Evidence from the Travel Survey for Northern Ireland shows clearly the need for change. Over the period 2002-2007 aggregate data suggests that miles travelled by car have changed little and that car ownership and licensing holding have changed little. On the face of it, it also suggests that the share of journeys per person per mode have also not changed to any great degree (DRD, 2008). Data published from the Travel Survey however does not disaggregate this data by trip purpose and mode

so unless special tabulations of the data are requested, then it is not clear what proportion of miles travelled by car are accounted for by commuting and other more optional types of activity. This type of information would be important if any new strategies being developed embraced the idea of reducing vehicle miles travelled (VMT) through the use of targets as it may be easier to target and achieve mode shift for these more optional types of journeys than commuting trips. The role of VMT targets are discussed later in this submission.

There is clear evidence that the numbers of bus and rail passengers have increased over the period 2002-2009 as a result of the investment and funding that has been made available under the RTS. It is not clear however how much of this expansion in passengers is based on car users shifting to public transport. This suggests that increased public transport use may be due to its ability to attract trips made by those with travel concessions (for example older people, school children), new users who previously did not use public transport at all, but may also reflect the ability of public transport to attract new users who do not drive or own cars, and the introduction of the rebranded Metro network. Evidence regarding the attraction of car users to public transport is limited or non-existent in the Northern Ireland context. It also clearly demonstrates the need for a step change in policy. If public transport is to attract more car-borne trips and if mode shift is seen as a serious policy objective then it is clear that policy needs to adopt a different framework to the management of transport demand particularly in urban areas.

Given the dominance of the car in the commuting market and the expansion of travel to work areas in Northern Ireland, significant changes will be required to achieve changes in mode share for other modes. Studies suggest that car users are more responsive to pull factors that would attract them to public transport. These pull factors not only relate to lower fares but also other types of service improvements such as travel information and regular departure times. For shorter trips of under 5 miles made by car users, evidence suggests that it is not only these factors that are influential but also security and improved cycling and walking infrastructure (Mackett, 2001). However, to obtain a reduction in car use would not only require a significant investment in public transport but also the introduction of other measures such as high parking charges (Wardman, Hine and Stradling, 2001; TRL, 2004). Evidence from international reviews of elasticity studies also suggest that fuel price rises and reductions in income will also have a large effect. Nonetheless, changes in the demand for public transport with regard to fares result in significant changes in demand (TRL, 2004; Goodwin et al, 2004; Litman, 2009a) (see for example Table 1), although it is clear that the effect is widely variable depending on journey type. Commuting trips by car owners for example have a high value attached to them so estimates of changes in behaviour will be larger than for other trip types. Another consideration in assessing the relevance of these types of measures is the geographical setting, and other time-space factors which will influence the degree of response to changes in price.

Table 1 Public Transport Fare Elasticities (Gillen, 1994)

Factor	Elasticity
Overall transit fares	-0.33 to -0.22
Riders under 16 years old	-0.32
Riders aged 17-64	-0.22
Riders over 64 years old	-0.14
People earning <\$5,000	-0.19
People earning >\$15,000	-0.28
People without a car	-0.10
Car owners	-0.41
Work trips	-0.10 to -0.19
Shopping trips	-0.32 to -0.49
Off-peak trips	-0.11 to -0.84
Peak trips	-0.04 to -0.32
Trips < 1 mile	-0.55
Trips > 3 miles	-0.29

In rural areas, undeniably the car plays an important role in enabling access to goods, services, and schools yet there are still opportunities for reducing the reliance on the car and reducing miles travelled by car. The growth of the rural population in Northern Ireland has also created higher traffic levels on rural roads. The reduction of car travel in rural areas will necessitate the development of policy approaches that provide more travel choices including greater co-ordination of rural transport bus operations with community transport operations and educational transport provision than exists at the present time. More investment in safer routes for cycling and walking is required. Evidence from safer routes projects suggests that the mode share of walking and cycling can be expanded where physical improvements are made (e.g. cycling lanes, space re-allocation). Economic appraisal of local walking and cycling schemes has shown that significant benefits (principally health benefits) can be achieved by investing in these types of schemes. Benefit to cost ratios have been shown to be significantly higher than for roads and public transport schemes at 20:1 for investment in walking and cycling compared to 3:1 that can be found for roads and public transport schemes (SUSTRANS, no date).

2. Reducing car dependency

In Belfast and other urban areas in Northern Ireland car use is at high levels. Larger settlements are clearly where greater opportunities exist to provide improved public transport operations, introduce traffic restraint and management measures. Evidence from successive population censuses 1971 to 2001 have shown an expansion in the share of work trips made by car into Belfast of 27% and a 23% reduction in those made by public transport. Private Non-Residential (PNR) parking has also expanded by 55% over the period 1975 to 2001 (NIEL, 2009). Significant changes in public policy are required to reduce levels of car dependence. There is a growing evidence base for the implementation of demand management measures. In many cases, these have consisted of packages of policy measures. In Northern Ireland it is also clear that future land use planning decisions need to be focused on increasing density and focusing development in existing urban areas and also reducing average journey lengths. Evidence from the Travel Survey for Northern Ireland indicates that 234 journeys per person per year are made by car for journeys of between less than 5 miles. This represents around 54% of all car trips. It is precisely this range of trips distances in urban areas that can be targeted by public transport, walking and cycling initiatives.

In many other cities, both medium sized and world cities, demand management policies have been implemented with some success. While in many cities public transport investment has lagged behind and as a result car ownership and use have increased. There are now numerous examples of policies aimed at improving travel choice and reducing car use. Invariably these include a mixture of 'carrots' (public transport improvements, park and ride and improvements to pedestrian and cycling networks), and 'sticks' (parking policy, reallocation of road space and controls on vehicle access). Nottingham (-1.8%), Perth (Australia) (-4%) and Rome (-7%) are examples of cities where car mode share has been reduced. Each of these cities has implemented traffic restraint policies, new public transport investment and service enhancements. Policies have also included the implementation of policy aimed at reducing urban sprawl, transit orientated development including the focusing of new development around suburban stations, and higher densities. Perth has also implemented a work place parking levy whilst Nottingham and Rome have implemented travel plans. In addition Rome has reduced city parking and reallocated these spaces at park and ride sites in combination with access controls Commission for Integrated Transport, 2005a; 2005b; NIEL, 2009).

If we look at world cities a number of these have also managed to reduce car mode share: London, New York, Paris, and Barcelona. This reduction in car dependency has been achieved through a package of policy measures. As with the smaller city examples, these strategies have included investment in public transport and integrated ticketing, removal of car parking and the reallocation of

road space in favour of greener modes. These transport policies have also benefitted from city centres with relatively high land use densities, a mix of people and jobs and high quality pedestrian facilities.

3. Mobility management and vehicle miles travelled (VMT) reduction targets

Transport strategy in Northern Ireland would benefit from the introduction of clear mode shift targets and/or vehicle miles travelled reduction targets. Indeed these targets should be seen as a key way in which sustainable transport strategy can be monitored in terms of any impact on transport choices. There is a strong case for the introduction of VMT reduction targets and/or mode share targets in Northern Ireland. VMT targets should be seen as central to the development of a sustainable transport strategy because they force a shift from car dependent transport systems towards transport systems that are multi-modal. It can be argued that these can be justified on the following grounds, that they:

- provide strategic guidance for individual policy and planning decisions. A fundamental principle of good planning is that individual short-term decisions support strategic long-term goals.
- can help integrate policies and planning practices, reducing conflicts and inefficiencies.
- help create a more diverse and efficient transportation system that better responds to future travel demands.
- encourage policy makers to correct existing practices that stimulate VMT growth (such as unpriced roads, generous and free vehicle parking, and dedicated roadway funding that cannot be used for alternative modes), and implement mobility management strategies, many of which are justified on efficient and equitable grounds (Litman, 2009b, p2)

In the US there are several examples of these targets now in use in California, Washington State and Yolo County.

The adoption of mode shift targets that are realistic and reflect current transport needs and the range of trips and trip patterns present in a region that with the exception of several larger settlements and cities is predominantly rural in nature and has lower population densities should be seen as an important way in which the effect of policy intervention can be assessed and evaluated. Data from the Northern Ireland Travel Survey (DRD, 2008) indicates that 4,739 miles per person per year were travelled by car in 2007. If a target to reduce the number of motorised trips by car was introduced say a 5% reduction per annum, this would result in significant reductions. In year 1 this could result in a reduction of 237 miles per person at best or at worst would slow down the growth in car trips. This reduction could be achieved through the introduction of a package demand management measures (not necessarily road pricing) and improved public transport for example. This reduction could also be partially achieved by the adoption of flexible work practices which are now easier for business to operate with ICT access.

4. Achieving sustainable transport policy in Northern Ireland

In order to develop a clear sustainable transport policy there are a number of improvements that can be made. Transport policy is clearly currently at the cross-roads in terms of the need to now achieve reductions in carbon emissions and achieve lasting changes in travel behaviour balanced against a requirement to maintain existing infrastructure for the purposes of trade and the economy. Associated with these developments is clearly the ongoing need to continue to reduce the fossil carbon content of transport fuel and increase the fuel efficiency of vehicles, but we also need to reinvent transport policy with new objectives in mind. Using the Spatial Development Strategy Framework outlined in the RDS can an annual 5% reduction in motorised trips by car be achieved? Possibly, it does not necessarily mean reductions in levels of our personal mobility but a change in the way we behave and make our travel choices. However to ensure that some steps are taken in this direction we need to urgently address the following issues:

1. adopt mode shift targets/vehicle miles travelled reduction targets – aimed at reducing the % carborne trips.
2. integrate land use and transport (increase urban population densities and reduce job density).
3. focus development around public transport nodes
4. reduce car parking in city centres and introduce other demand management measures as necessary.
5. encourage walking and cycling and the development of high quality networks for these modes.
6. Strengthen public transport in rural and urban areas - increase public transport speeds and reliability, and lower fares.

This submission represents the views of the author and the opinions expressed in it do not necessarily reflect the views of the University of Ulster.

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