



DISCUSSION PAPER ON

DRIVERS AND BENEFITS FOR ACTIVE TRAVEL

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1.0 Introduction

The objective of this discussion paper is to present a synopsis of the drivers for and the benefits of active travel.

The focus of the discussion will be on the following key benefits:

- Health
- Environment
- Economy
- Society

2.0 Summary of Benefits

- “Walking and cycling are good for our health, good for getting us around, good for our public spaces and good for our society. For all of these reasons we need to persuade more people to choose to walk and cycle more often.”¹
- Walking and cycling make a contribution to delivering a number of wider government objectives.²
- Walking and cycling are also vital means of travel. In themselves, they are viable modes of transport for many of our trips. Nearly a quarter of all our trips are one mile or less - a generally walkable distance and over 60% are less than 5 miles an easy cycling distance. In addition, walking and cycling provide the vital links to our public transport systems and a 'no-emissions' alternative to motor vehicles.
- Increasing walking and cycling levels will also improve our public space and the social interactions we have. Both modes allow us to stop and

chat or just say 'hello' in a way which it is difficult to do when closeted in the car. As such, they improve our sense of community. They also provide for more pleasant and sustainable public spaces and serve to support local facilities

3.0 Summary of Drivers

The overarching framework for government policy on the North of Ireland is provided by the Programme for Government (PfG). A statutory requirement, it sets out the Executive's agreed policy priorities and key targets. In line with that, the Programme for Government 2008-2011, ***Building a Better Future***,³ identifies five strategic priorities, with *Growing the Economy* the Executive's top priority. Underpinning that framework of priorities, however, are the two cross-cutting themes of ***A Shared and Better Future for All*** and ***Sustainability***. Those themes reflect both the Executive's commitment to the principles of sustainability and the relationship and inter-dependence of economic, social and environmental policy and progress.

3.1 Health Drivers

- People in the lowest socioeconomic groups are least likely to be physically active, most likely to be overweight, and often live in the poorest quality environment, which can include limited safe active travel facilities. Therefore, improving opportunities for active travel for these groups can significantly help tackle these inequalities and also reduce the health care burden.
- Employment and income are key factors for health and wellbeing, as they largely determine people's living conditions. Improving active travel can help improve people's living conditions and reduce these inequalities, both by improving access to employment, and potentially by reducing expenditure on transport, which typically is proportionally higher for people on lower incomes.

3.2 Environmental Drivers

- Mobility and transport have become central to our social and economic well-being. Yet our increasing dependency on the car has a significant impact on the environment and as a consequence our quality of life, in urban areas and suppresses walking and cycling in rural areas.
- Heavy road traffic can result in poor air quality, unacceptable noise levels, a weakened sense of neighbourhood and local community, a loss of valuable living space and suppression of walking and cycling through real and perceived fear of traffic as land is utilised for transport infrastructure. Individually and collectively these have the potential for significant impacts both on the local population and the wider environment.
- The challenge for decision makers is to find ways of tackling congestion, poor air quality, ill-health, road safety, carbon emissions and unpleasant urban space simultaneously.⁴

3.3 Economic Drivers

- As prosperity increases, so too does the importance of speed, comfort, reliability and safety in transport choices, with the willingness to pay for these. As a consequence, there is tendency for increased prosperity to be closely associated with higher levels of car ownership and dependency. A key question which arises, however, is the degree to which the realisation of that relationship and increased car dependency at local level has been facilitated by the direction of transport policy over recent decades. The significant investment in roads infrastructure and the perceived priority afforded to the private car within that investment for example has occurred during an era when the relative costs of car ownership and use have declined in comparison to public transport. This raises the question as to whether a reorientation of policy is required to support modal shift.

- In the medium term it is likely that fossil fuel prices will increase as global demand increases and global reserves deplete.^{5a} A modern transport system embeds core resilience to fuel shortages.
- There are a number of implications here with regard to transport. Firstly, the availability of walking and cycling infrastructure is often cited directly as a key issue with regard to social, recreation and leisure amenities. Beyond this, however, is the positive or negative impact transport can have on quality of life within localities. High density car use, for example, and heavy road traffic can reduce air quality, lead to unacceptable noise levels and heightened concerns with regard to safety. In addition, by creating physical barriers it can lead to a weakened sense of neighbourhood and local community, while reducing the availability of valuable living and amenity space particularly in urban areas, with estimates that around 6% of land in urban areas is utilised for roads and parking.⁴ In Metropolitan Belfast the transport land take is higher because of the provision for parking of single occupancy cars.^{5b}

3.4 Social Drivers

- From a social perspective, the negative impacts of car dependency on reduced physical activity and increased obesity are well documented⁵ and reflected in the increased calls for a focus on active travel to deliver health and social benefits. More widely, however, transport, by facilitating mobility and access to educational, employment, social and recreational opportunities is of critical importance in any effort to address exclusion. To some degree this is reflected in the fact that many initiatives aimed at promoting social inclusion include schemes to encourage certain groups to travel and engage more outside their areas.⁶ More importantly, however, is the fact that poor access to services and limited transport provision has often been identified as a key feature of deprived or excluded communities and a contributory factor towards exclusion.⁷

4.0 Evidence Base

The Active Travel Strategy for England states that “Walking and cycling make a contribution to delivering a number of wider government objectives and this will be the same locally:-

- Improving people’s health and wellbeing through more active lifestyles;
- Maximising access to jobs and services without increasing congestion;
- Reducing carbon emissions from transport and supporting our climate change targets;
- Reducing harmful emissions and improve local air quality;
- Making for more attractive, safer places and communities, and ensuring greater access for everyone to local services;
- Promoting enhanced mobility and independence for vulnerable groups such as older people and those with disabilities or limiting long-term conditions.

4.1 Health Benefits

- 4.10 Walking and cycling offer the opportunity to build moderate, pleasant exercise into people's routines. This kind of exercise can help us to counteract problems of overweight and obesity as well as coronary heart disease, stroke, diabetes and cancer in addition to improving mental wellbeing.
- 4.11 The Northern Ireland public health strategy, “Investing for Health” was published in 2002.⁸ It contains a framework for action which is based on multi-sectoral partnership working amongst Departments, public bodies, local communities, voluntary bodies, District councils and social partners.
- 4.12 The key aims of the strategy are to improve life expectancy across the population and to reduce health inequalities. The Strategy has a particular focus on the most disadvantaged in Northern Ireland. A review of this strategy is currently underway.
- 4.13 In 2004 a task force was set up by the Ministerial Group on Public Health to carry out research in response to concerns over the rising

levels of overweight and obesity in children and young people. The Department of Health, Social Services and Public Safety (DHSSPS) published its report “Fit Futures: Focus on Food, Activity and Young People” was published in December 2005.⁹

4.14 The vision of Fit Future is:-

“In the Fit Future, children and young people, of all ages, and from all sections of our society will be motivated and supported to access a range of readily available, quality, enjoyable opportunities to be active and eat healthily”.

The research for this report identified that due to children’s sedentary lifestyles there was an increased risk that obesity levels in children would rise and described this as a “health time-bomb”. The report stated that:-

- Obesity reduces life expectancy by approximately 9 years;
- Obesity significantly increases the risk of NI’s biggest killer diseases, coronary heart disease and cancer;
- Being obese dramatically increases the chances of being a diabetic and for the first time type 2 diabetes has been diagnosed in a significant number of children.

It also states that “obesity is in many ways the only visible part of a public health iceberg, caused by changes in our eating habits and our activity levels”.

Obesity: The tip of the iceberg

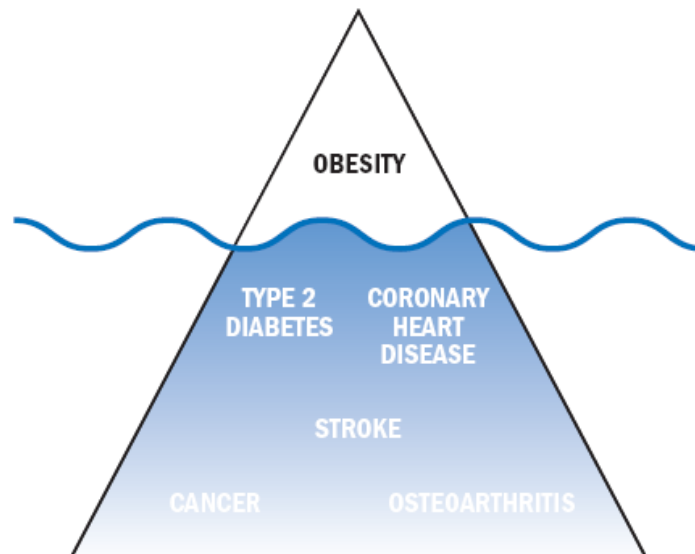


Figure 1

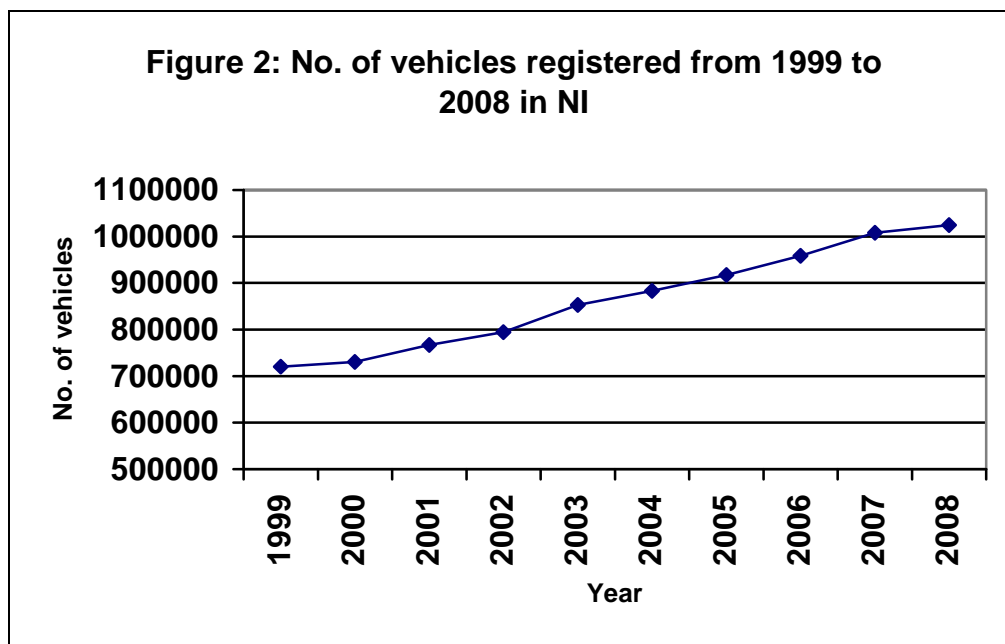
- 4.15 The Northern Ireland Health and Wellbeing Survey was published in 2007.¹⁰ It reported that 23% of all people aged 16 and over can be classed as sedentary and only 30% of all people take above the recommended level of physical activity of at least 30 minutes per day on 5 days a week. There is strong evidence from various research sources that current levels of air pollution are damaging to health in the short and long-term. The Friends of the Earth state that:-
- “The health of up to one in five people in the UK is particularly at risk from air pollution. These include young children, pregnant women, the elderly and people suffering from heart and lung diseases”.**¹¹
- 4.16 Exhaust fumes from cars emit Carbon Monoxide (CO), Carbon Dioxide (CO₂), Nitrogen Dioxide (NO₂) Benzene and Particulate Matters (PM₁₀). Road transport is also the main cause of Ozone (summertime smog). It does not come directly from vehicles but it is created by chemical reactions between other nitrogen oxides and hydrocarbons. Researchers have demonstrated that these gases can have an adverse effect on health.

- Nitrogen dioxide – this may aggravate asthma symptoms. It can cause a tightening of the chest and reduces lung functions. It can make the airways more sensitive to allergens such as house dust mites. By disrupting the body's natural cleansing mechanisms, it may increase the body's susceptibility to viral infections.
- Carbon monoxide – this slows reflexes, impairs thinking and causes drowsiness by reducing the oxygen-carrying capacity of the blood. It can increase the likelihood of exercise-related pain in people with coronary heart disease.
- Benzene – this is a known carcinogen which can cause leukaemia.
- Ozone – this irritates the mucus membrane of the respiratory system, causing coughing, choking and impaired lung function, particularly in people who exercise. Other symptoms' include headaches, eye/nose/throat irritation and chest pain on deep breathing. It can make the airways more sensitive to allergens such as pollen. It can also impair defences against bacteria and viruses. (www.foe.co.uk)
- In NI 182,000 people have asthma and 36,000 of these are children

4.17 People in the lowest socioeconomic groups are least likely to be physically active, most likely to be overweight, and often live in the poorest quality environment, which can include limited safe active travel facilities. Therefore, improving opportunities for active travel for these groups can significantly help tackle these inequalities (and also reduce the health care burden). Also, employment and income are of course key factors for health and wellbeing, as they largely determine people's living conditions. Improving active travel can help improve people's living conditions and reduce these inequalities, both by improving access to employment, and potentially by reducing expenditure on transport, which typically is proportionally higher for people on lower incomes.

4.2 Environmental benefits

4.20 Road Transport plays a key role in the economy of the country and the lives of its people but it has a profound impact on the quality of life and the environment. Increased reliance on the car has raised issues concerning these impacts and the efficient functioning of the economy. In NI the number of vehicles registered from 1999 to 2008 has increased by 29.7% from 720,645 to 1,024,396.¹²



- Increases in cars causes an increase in pollution. In Northern Ireland Transportation is the second largest contributor to air pollution with power generation being the first. Also, more deprived areas are most likely to have poor air quality – increasing the active travel share can contribute to reducing this inequality.
- The Air Quality Strategy for England, Scotland, Wales and Northern Ireland (1997) establishes a strong framework for tackling air pollution and its aim is to protect human health and the environment from pollutants.
- By 2007 total greenhouse gas emissions from road transport in the North of Ireland had increased by 47% on the 1990 baseline, with CO₂

emissions from road transport increasing by 49% during the same period. As a consequence, by 2007 road transport accounted for 22% of all greenhouse gas emissions and 29% of CO₂ emissions compared to 13% and 19% respectively in 1990.¹³ “Emissions from road transport represent 30.3% of the 2007 NI Carbon Dioxide (CO₂) total and this emission has risen by 49% since 1990, compared to an 11.0% increase for the UK over the same period. Cars represent the most significant source of CO₂ emissions from the road transport sector, contributing approximately 58% of CO₂ from the sector in 2007. HGVs contributed 34% of total Northern Ireland road transport CO₂ emissions in 2007, which is significantly higher than the UK average figure of 21.6%.¹⁴

- Road transport also contributed 2.0% of total Northern Ireland N₂O emissions in 2007. The 1990-2007 inventory indicated that this proportion was 7.2% in 2007. Estimates of N₂O emissions from road transport have been reduced for recent years within the latest inventory cycle, due to revisions in emission factors for some vehicle types. The overall increases in road transport emissions reflect a parallel increase in vehicle km travelled by road transport in Northern Ireland during this period, where a 60% increase has been reported from 1990 to 2007.¹⁴

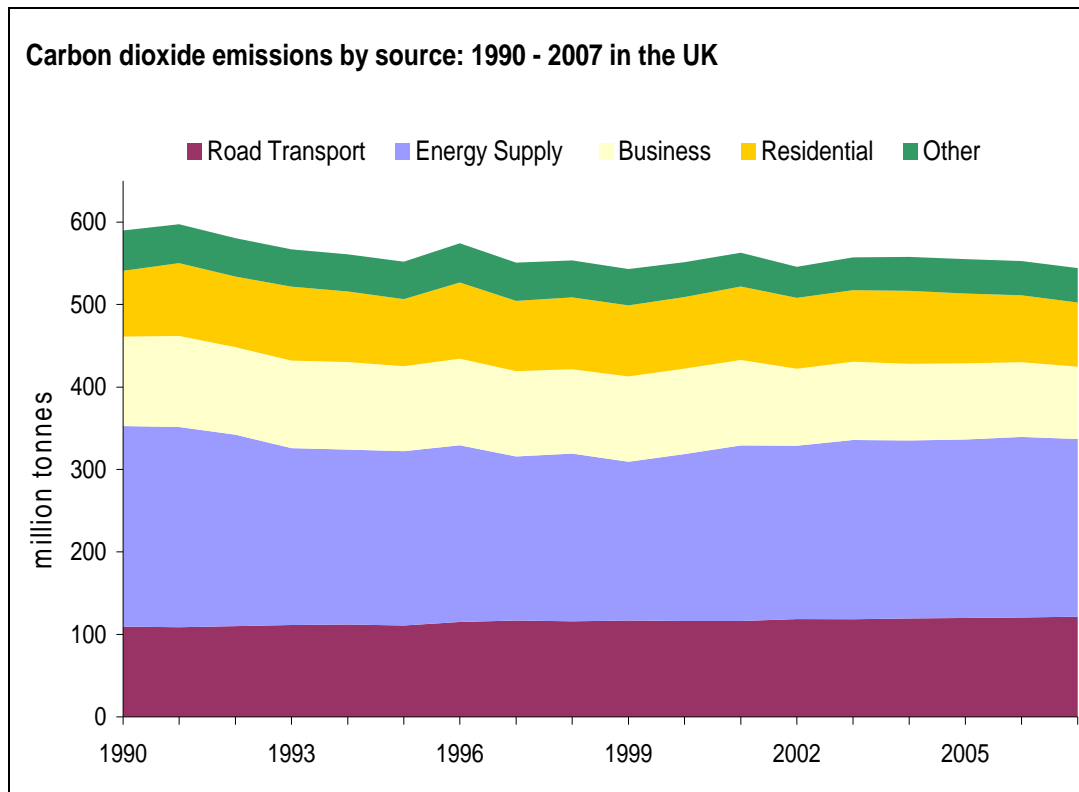


Figure 3

Source: AEA Energy and Environment

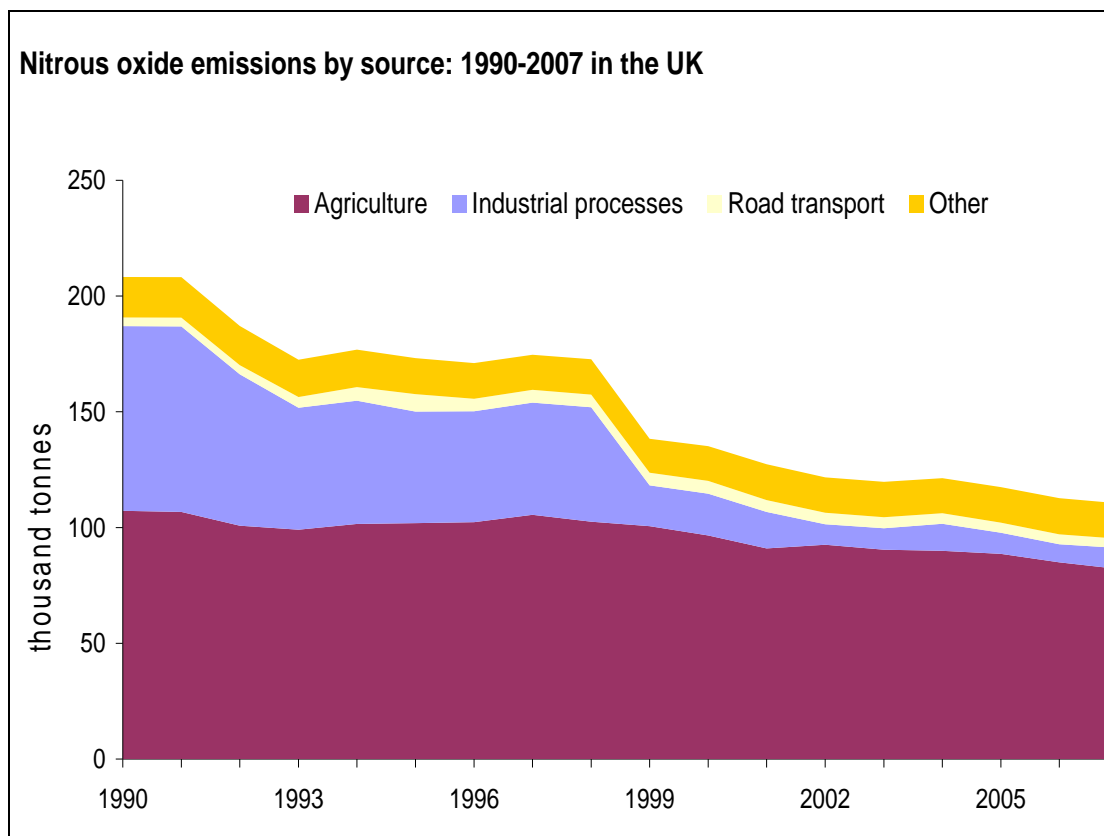


Figure 4

Source: AEA Energy and Environment

4.3 Economic Benefits

4.31 Background

Transport is a major part of the economy and has significant costs, including “hidden costs” such as the land used for roads and parking, congestion, health costs.

- The impact the transport system has on the economy can be described by the level of connectivity, congestion and accessibility.
 - Connectivity – the quality of the transport network in providing access between places that people want to travel to, measured by travel times and journey reliability;
 - Congestion – temporary impairment of connectivity during periods of high demand or when system capacity is temporarily reduced e.g. by a collision;
 - Accessibility – the degree to which key services and employment can be easily reached by everyone including those with disabilities or no access to private cars.
- Health costs - rising obesity levels were described as being a “potential financial time-bomb” as the economic cost of obesity in England was £3.3 - £3.7 billion/year of which £1 billion was directly attributable to the costs of treating obesity and its consequences. In NI the DHSSPS estimated that physical inactivity and obesity cost the taxpayer £500m.
- In NI the cost attributable to lack of physical activity includes over 2,100 deaths per annum, equivalent to over 18,000 life years lost and 1.2 million working days lost each year.
- The Clinical Resource Efficiency Support Team (CREST) estimated that by just stopping the year on year increase in levels of obesity would save the DHSSPS £210million in the next 20 years.
- In NI the treatment of asthma is estimated to cost the NHS £1 billion/year.¹⁵ Pollution from traffic is greatest at roadsides where the traffic flows are high; therefore congestion can cause a build up of air pollution.

- The Eddington Transport Study ¹⁶ estimated that congestion costs the UK £7-8 billion of GDP per annum rising to £22 billion by 2025 if left unchecked. A PA Consulting report published in 2008 predicted that congestion costs in the North of Ireland are approximately £250m per year¹⁷
- Economic assessments demonstrate the excellent value for money arising from spending on walking and cycling. ^{17a}

4.4 Social Benefits

- Creating activity-friendly environments has a great potential for improving the health of the most disadvantaged groups. Residents of highly walkable neighbourhoods have been found to be more active and have lower body weights than their counterparts in less walkable neighbourhoods, as do those living in areas with high land-use mix. ¹⁸
- People living in walkable, mixed use neighbourhoods also have higher levels of social capital compared with those living in car-oriented suburbs. Those living in walkable neighbourhoods are more likely to know their neighbours, participate politically, trust others, and to be socially engaged. In contrast, low density urban sprawl is associated with roughly 20% lower community involvement.
- The impact of the built environment on social capital and social cohesion was illustrated very clearly in a pioneering study from the 1970s. Researchers looked at three streets of very similar design in the same community in San Francisco, differentiated by motor traffic volumes and speeds driven (light, moderate, and heavy traffic). They found that residents of a 'light traffic' street had significantly more friends and acquaintances than either the 'moderate' or 'high traffic' streets. While the 'light traffic' street was defined as friendly, with 'everyone knowing each other', the 'moderate' street was reported as less friendly and 'heavy traffic' street as not at all friendly. ¹⁹

5.0 Conclusion

The TSNI 2006-2008 shows that 63% of all journeys made in Northern Ireland are less than 5 miles. Sustrans have stated that they believe that the time is right to give people the means to make their short journeys, without using a car. To do this it recommends:

- **Encouraging people to change their travel behaviour**
- **Creating safe, attractive walking and cycling conditions**
- **Increasing public transport usage by improving, integrating services and reducing fares**
- **Ensuring that planning policy and practice reduce the need to travel**

5.01 The Department for Regional Development supports the concept of active travel and has tasked the Active Travel Forum with considering the wider social, economic and health benefits of active travel, the key barriers, best practice and opportunities for alignment with existing policies and programmes.

This paper is aimed at informing the Forum and stimulating its discussion and consideration of the issues.

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