

# ***Inquiry into the Benefits of Cycling to the Economy***

***Comments by***

**Northern Ireland Environment Link**

**21<sup>st</sup> March 2014**

Northern Ireland Environment Link (NIEL) is the networking and forum body for non-statutory organisations concerned with the environment of Northern Ireland. Its 65 Full Members represent over 90,000 individuals, 262 subsidiary groups, have an annual turnover of £70 million and manage over 314,000 acres of land. Members are involved in environmental issues of all types and at all levels from the local community to the global environment. NIEL brings together a wide range of knowledge, experience and expertise which can be used to help develop policy, practice and implementation across a wide range of environmental fields.

These comments are made on behalf of Members, but some members may be providing independent comments as well. If you would like to discuss these comments further we would be delighted to do so.

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Northern Ireland Environment Link (NIEL) welcomes the opportunity to contribute to the Committee for Regional Development's Inquiry into the Benefits of Cycling to the Economy. NIEL, and the Transport Working Group it coordinates and supports, advocate best practice transport planning and appraisal approaches. We endorse the proper consideration of cross-sectoral benefits in a number of key areas (including health and wellbeing, economic development, environmental protection, energy security, social justice, mobility and integrated policymaking), which will naturally encourage the development of a more sustainable transport system.

By way of introduction, we would emphasise that cycling (and active travel in general) contributes to all 5 priorities in the Programme for Government (2011-15), and 20 of the 80 key commitments.

- **Priority 1: Growing a Sustainable Economy and Investing in the Future**

Cycling supports economic growth in many ways, from job creation in the construction and tourism sectors to improving access to workplaces and reducing absenteeism.

- **Priority 2: Creating Opportunities, Tackling disadvantage, Improving Health and Wellbeing**

In Northern Ireland 25% of households are without access to a car (40% in Belfast). Non-drivers can be excluded from accessing essential services such as jobs, education or healthcare. Making walking and cycling (as well as public transport) more accessible for the poorest communities is fundamental to addressing transport poverty and improving quality of life.

- **Priority 3: Protecting Our People, the Environment and Creating Safer Communities**

Regular physical activity in the form of cycling contributes to good physical and mental health. The Chief Medical Officers in the UK recognise that everyday active travel is one of the easiest ways for people to incorporate physical activity into their lives; it also reduces societal impact on the environment.

- **Priority 4: Building a Strong and Shared Community**

Cycling promotes increased physical recreation, and fosters a sense of inclusion and community. It can help to deliver landscape improvement schemes in public areas and promote private investment in towns and cities.

- **Priority 5: Delivering High Quality and Efficient Public Services**

Responsibility for local transport rests with a regional agency which presents challenges for delivery at city or town level. This is evident as Belfast City Council are now working with DRD to coordinate communications around new bus lanes in Belfast and may present issues around delivery of local transport targets within the 'One Plan' in Derry~Londonderry.

Specific responses to the terms of reference are below.

**Consider the structure and operation of the cycling network and its capability to deliver against Departmental and Executive objectives in respect of health, sport and the environment**

NIEL commends cycling successes such as the Comber Greenway, and encouraging works in progress (for example, the Connswater Community Greenway). Broadly speaking, cycling is on the increase in NI<sup>1</sup>, which brings benefits for health, sport and the environment. However, when compared to other parts of the UK, and especially to other areas of Northern Europe, it is clear that a lot more can be achieved in NI in terms of cross-sectoral policy objectives.

‘Retrofitting’ of the cycle network in many urban areas of NI has led to access and safety issues which discourage many from taking up cycling as a realistic mode of commuter transport (see Figure 1). Because of this retrospective installation of the network it is common to see, for example, cars parking across cycle lanes<sup>2</sup>. Likewise, the green cycle boxes at traffic lights (which took considerable investment) are often ignored by drivers of motorised vehicles<sup>3</sup>. Many of these issues stem from a car-dependant culture, where awareness of cyclists is poor. As a result, many potential cyclists are discouraged from using our current cycling network through fear of personal injury. Belfast only has 2.5km of protected, purpose-made, cycling network (compared to approximately 80km ‘on-road’).



Figure 1. Approximately 60% of people in Belfast don't cycle because of fear of personal injury<sup>4</sup>

Creating the appropriate cycling infrastructure is crucial to realising the economic and social benefits that cycling can bring to Northern Ireland. NIEL promotes the need for creation of green infrastructure networks in towns and cities throughout Northern Ireland – such infrastructure brings

<sup>1</sup> <http://nigreenways.wordpress.com/2013/12/19/slowly-but-very-surely/>

<sup>2</sup> <http://nigreenways.wordpress.com/2013/03/05/belfasts-cycle-network-is-a-car-park/>

<sup>3</sup> <http://nigreenways.wordpress.com/2013/02/25/green-cycle-boxes-whats-the-point/>

<sup>4</sup> <http://nigreenways.files.wordpress.com/2014/03/danger.png>

not only the obvious benefits associated with cycling (for example, physical and mental health, reduction in transport GHG emissions) but also wider societal boons such as flood alleviation (through slowing down the rate of rainfall infiltration into land) and environmental/potentially economic benefits from increased carbon sequestration and storage in the urban envelope. These benefits may, at first, seem unconnected to cycling, but NIEL would encourage such cross-sectoral, multiple-benefit policy objective, thinking. The wider societal benefits of green infrastructure are summarised below:

Table 1: Benefits of green infrastructure networks in urban areas (adapted from Gomez-Baggethun & Barton 2013<sup>5</sup>).

Functions and components	Benefits to society	Examples
Recreation and educational values	Recreation and cognitive development	Urban parks provide multiple opportunities for recreation, meditation, and pedagogy
Active travel commuting	Health, economic	Urban greenways providing fast and safe commutes for cyclists
Energy conversion into edible plants through photosynthesis	Food supply	Vegetables produced by urban allotments and peri-urban areas
Percolation and regulation of runoff and river discharge	Flood alleviation	Soil and vegetation percolate water during heavy and/or prolonged precipitation events
Photosynthesis, shading, and evapotranspiration	Urban temperature regulation	Trees and other urban vegetation provide shade, create humidity and block wind
Absorption of sound waves by vegetation and water	Noise reduction	Absorption of sound waves by vegetation barriers, specially thick vegetation
Physical barrier and absorption on kinetic energy	Moderation of environmental extremes	Storm, floods, and wave buffering by vegetation barriers; heat absorption during severe heat waves
Removal or breakdown of xenic nutrients	Waste treatment	Effluent filtering and nutrient fixation by urban wetlands
Carbon sequestration and fixation in photosynthesis	Climate regulation	Carbon sequestration and storage by the biomass of urban shrubs and trees
Movement of floral gametes by biota	Pollination and seed dispersal	Urban ecosystem provide habitat for birds, insects, and pollinators
Habitat provision for animal species	Animal sightings	Urban green space provide habitat for birds and other animals

### Identify and quantify appropriate measures of the Department and Executive success or shortfalls against the stated objectives

NIEL suggests that active travel targets for NI are not currently ambitious – there are very good reasons (economic, health and environmental benefits) for NI to strive to become a leader in active travel. Simply ‘being in line’ with our UK counterparts (as per objectives outlined in DRD’s Active Travel Strategy) still leaves us falling short of European best practice.

<sup>5</sup> Gomez-Baggethun, E., Barton, D. N. 2013. Classifying and valuing ecosystem services for urban planning. *Ecological Economics* 86: 235 – 245

Car use is one appropriate measure of shortfall. Recent data has shown that car use continues to dominate daily travel (73% of journeys are made by car). The proportion of walking journeys has decreased from 19% in 2001-2003 to 16% in 2010-2012, with the proportion of car journeys increasing from 69% to 73%<sup>6</sup> over the same period. These trends are clearly moving in the wrong direction, and strategic thinking and marked action is needed to reverse them.

Monitoring the amount of people engaged in active travel (especially as a form of commute), and the demographics within that group, is an appropriate measure of progress and success. Figure 2 illustrates uneven uptake of cycling spatially across Belfast, reflecting deficiencies in the integration of land use and transport planning in Belfast (and NI in general). This issue should be urgently addressed to encourage and facilitate widespread uptake of active travel (for example, through denser urban regeneration, access to green infrastructure corridors into the city from suburbs). Furthermore, reasons for the uneven uptake of cycling between genders (Figure 3) should be investigated with appropriate measures implemented to address this imbalance.

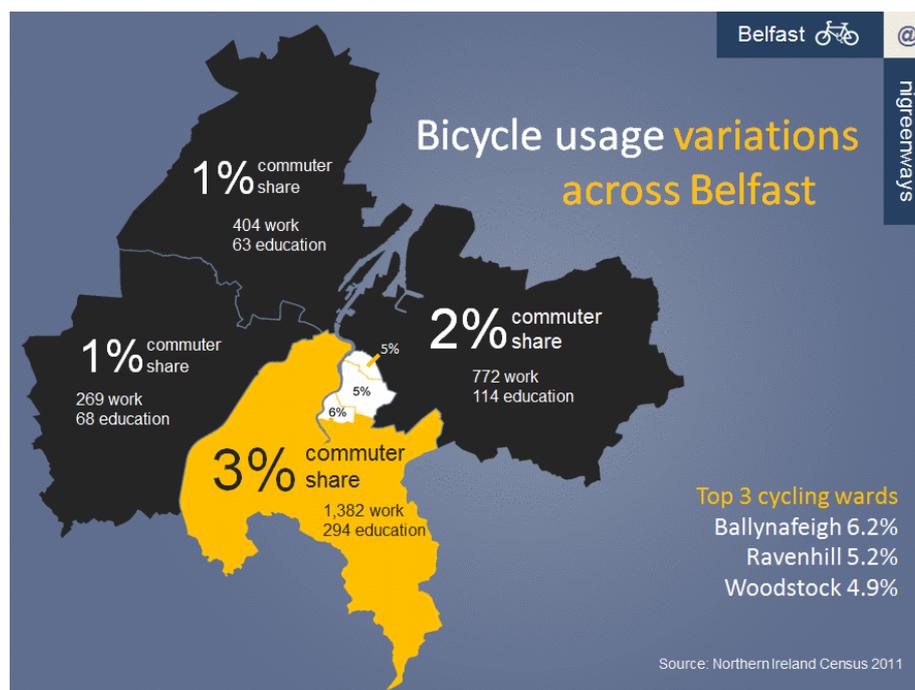


Figure 2. Bicycle user variation across Belfast<sup>7</sup>

<sup>6</sup> <http://www.northernireland.gov.uk/news-doe-060314-latest-environmental-trends>

<sup>7</sup> <http://nigreenways.files.wordpress.com/2014/03/nsewbelfast.png>



Figure 3. Uneven gender split in Belfast cycling that needs to be addressed<sup>8</sup>

Another measure of success is contribution to the economy. A report on the British Cycling Economy<sup>9</sup> (2011) estimated that cycling contributes £2.9 billion to the UK economy (through, for example, cycling-related sales, employment, work performance, savings to the Health Service). NIEL would suggest that NI is, proportionally, being outperformed by other areas of the UK in this respect (even as the UK is being outperformed by some other Northern European countries). However, learning outcomes can be derived from the UK experience (particularly related to the economy and health). Health benefits save the economy approximately £128million in reduced absenteeism. Regular commuter cycling particularly has been shown to reduce the risk of cardiovascular problems<sup>10</sup>, premature death<sup>11</sup> and obesity<sup>12</sup>. Promoting physical activity is one of the DHSSPS pillars for tackling obesity in Northern Ireland (a hugely costly problem, and one currently on the increase). True cross-Departmental working and funding to encourage active travel can deliver real and measurable benefits for Northern Ireland.

The environmental commitment of the NI Executive to reduce greenhouse gases (GHG) by at least 35% on 1990 levels by 2025, and our progress toward that target, is a clear measure of success in terms of sustainable transport (reduction in GHG is a policy objective of DRD's *New Approach to Regional Transportation*). Transport (especially private car use) is a key contributor to GHG

<sup>8</sup> <http://nigreenways.files.wordpress.com/2014/03/female1male5.png>

<sup>9</sup> [https://corporate.sky.com/documents/pdf/press\\_releases/2011/the\\_british\\_cycling\\_economy](https://corporate.sky.com/documents/pdf/press_releases/2011/the_british_cycling_economy)

<sup>10</sup> Hamer, M. & Chida, Y. 2008. Active commuting and cardiovascular risk: a meta-analytic review. *Preventative Medicine* 46: 9-13

<sup>11</sup> Matthews, C. E., Jurj, A. L., Shu, X. O., Li, H. L., Yang, G., Li, Q., Gao, Y. T., Zheng, W. 2007. Influence of exercise, walking cycling, and overall non-exercise physical activity on mortality in Chinese women. *American Journal of Epidemiology* 165: 1343-1350

<sup>12</sup> Wen, L. M., Rissel, C. 2008. Inverse associations between cycling to work, public transport, and overweight and obesity: findings from a population study based in Australia. *Preventative Medicine* 46: 29-32

emissions. Growing cycling as a commuter mode of transport is one way in which emission reductions can be achieved. Figure 4 demonstrates that NI is currently projected to fall short of its 2025 GHG reduction target. NIEL would again encourage cross-Departmental working on this issue to enable NI to meet GHG emission targets.

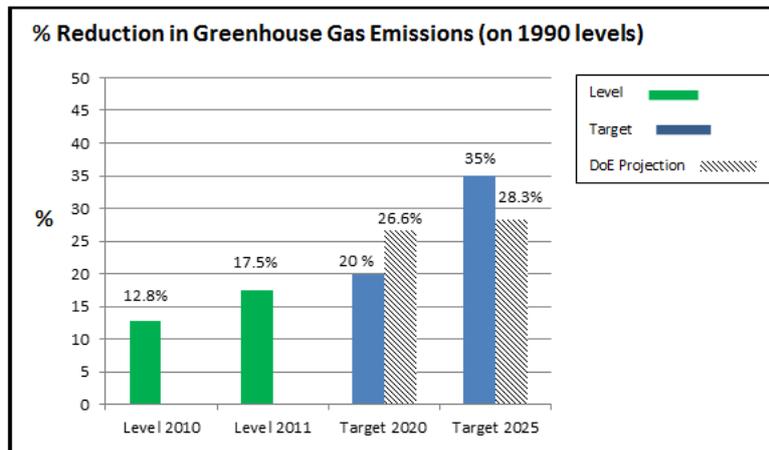


Figure 4: GHG emission reduction in NI (against 1990 levels) – observed levels, targets and DoE projections.

Creating a long-term, sustainable, culture shift begins with educating, informing and ingraining good habits in young people. Therefore, the percentage of our children cycling to school is another likely measurement of success and trajectory of progress. Figure 5 highlights the small percentage of children cycling to school in NI in comparison to the UK and other European countries, perhaps reflecting the inappropriateness of the cycling network for use by children and the safety concerns of parents. Improvement in this area must be seen if NI is going to make real progress in adopting cycling as a viable mode of commuter transport in the long-term.

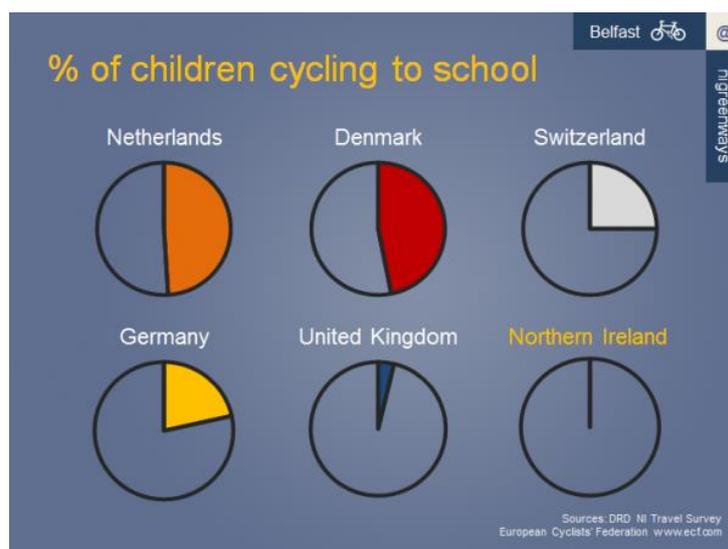


Figure 5: % of children cycling to school in NI, UK and European leading countries<sup>13</sup>

<sup>13</sup> <http://nigreenways.files.wordpress.com/2014/03/schoolcycle.png>

### Analyse opportunities available to best achieve future objectives

The shortfalls outlined above represent opportunities for Northern Ireland. For a society which is currently hesitant towards cycling, improved safety in the cycling network is vital to unlocking this potential – the British Cycling Economy report suggests that “latent demand for cycling could amount to around £516million of untapped economic potential for the UK”. However, major improvements need not mean major investment. Economic appraisals of cycling investment demonstrate that investment in cycling is much better value for money than traditional spending on motor transport. For example, the Department for Transport in England and Wales evaluated three greenways linking to schools and reported cost benefit ratios of up to 1:38<sup>14</sup>.

Traditionally NI has suffered from Government under-investment in cycling<sup>15</sup>. The level of investment is particularly striking when compared with other European countries such as the Netherlands - see Figure 6. Recommendations to increase cycling in the UK (and deliver associated benefits to the economy, environment and health) can be seen in a recent report by the All Party Parliamentary Cycle Group<sup>16</sup>; it recommends government funding for cycling of £10 per head per year (increasing to £20).



Figure 6. Government investment in cycling (per head of population)<sup>17</sup>

<sup>14</sup> Patterson, S. 2009. Active Transport. In: Gallagher, S. & Christie, S (eds), Sustainable Transport Report. Northern Ireland Environment Link: 7-8

<sup>15</sup> <http://aims.niassembly.gov.uk/questions/printquestionssummary.aspx?docid=160190>

<sup>16</sup> <http://allpartycycling.files.wordpress.com/2013/04/get-britain-cycling1.pdf>

<sup>17</sup> <http://nigreenways.files.wordpress.com/2014/03/spend1.png>

## **Develop a short list of recommendations or reforms for short term (1-2 years), medium term (3-4 years), and longer term (5 years +)**

### **Short- to medium-term**

- More dedicated (and safer), purpose-built, cycle lanes in urban areas, particularly in the form of green infrastructure networks. We commend the model of Connswater Community Greenway, and would urge the funding and development of similar green infrastructure corridors that run from suburbs to city centre in other areas.
- Established intra-urban bike rental systems at appropriate pick-up/drop-off points.
- Awareness/safety campaign for drivers *and* cyclists.
- Adopt mode-shift targets (aimed at reducing journeys by car year on year).
- Reduce car parking in the city centre.
- Roads Service and other central government bodies such as DSD, and Councils need to work together to develop infrastructure that will encourage active travel. For example, complete connected networks of on-road and off-road routes are required. While DRD will be main funders for this activity, other sources such as SIF, DSD, Lottery and Council grant can add value.
- Community and marketing programmes – it is important that DRD works at town level with Local Government and third sector experts. Local plans with local forums (involving local Councillors to ensure communities have a voice) should be established to coordinate programmes.
- In Derry-Londonderry the 'One Plan' has targets for active travel such as 6% of trips to be by bicycle by 2020. There is a need for a local forum to coordinate delivery of this target.

### **Long-term**

Land use and transport planning must be integrated more fully - for example, more compact redevelopment is required in cities and towns to increase walkability and encourage cycling, with development focussed around public and active transport nodes. Urban sprawl to accommodate population growth (as evidenced in many global cities such as Mumbai or Mexico) results in increased car usage with negative consequences, such as air pollution and more road traffic accidents. However, lessons from successful cities (e.g. Freiburg) show that compact urban areas can have a positive impact on human health and safety, with vehicles making more frequent stops and typically travelling at slower speeds. Cities with lower average car speeds and less complex intersections are safer for cyclists and pedestrians, and contribute to reduced energy usage and pollution. Compact urban design can also encourage physical activity. Dense cities such as Amsterdam, New York, and Copenhagen offer residents more opportunities to cycle or walk<sup>18</sup>. A recent study has shown that every time Copenhagen invests in a new cycle track, it results in a 10%

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<sup>18</sup> <http://insights.wri.org/news/2013/09/boom-and-bus-how-public-transport-can-curb-road-deaths-our-cities-grow>

reduction in cars<sup>19</sup>. Table 2 (prepared by the NIEL Transport Working Group) summarises the ‘ways forward’ for active and sustainable travel in urban areas in NI.

Table 2. Recommendations for sustainable and active travel in the short, medium and long term

	<b>Short term; practical; inexpensive 2015</b>	<b>Medium term</b>	<b>Long term; ideal; visionary – 2030</b>
<b>Strategic Planning and Costings</b>	<p>Develop new costing and policy programmes designed to deliver sustainable transport for long term</p> <p>Devise new cost/benefit analysis based on carbon reduction and plan to halt fossil fuel use for transport by 2030</p> <p>Interventions are required across all sectors and populations, however there is a real need to prioritise measures at disadvantaged areas first</p> <p>Reduce speed limits across road network and ensure enforcement (reducing carbon as well as improving safety for cyclists and pedestrians)</p> <p>Government should take a lead in promoting active transport commuting for its employees</p> <p>Ensure transport policies are subject to Health and Environmental Impact Assessments</p> <p>Ensure the Regional Development Strategy facilitates the necessary infrastructure to maximise a sustainable transport system</p>	<p>Support research and development of alternative and new technologies which incorporate climate change, safety and health as key drivers</p> <p>Develop a rating system and taxation schemes that encourage active and sustainable and active travel and discourage (incrementally more so) use of private cars, and those less efficient proportionately more so</p>	<p>No fossil fuels used for transport</p> <p>The infrastructure should be in place so all journeys can be made by active and/or public transport</p>
<b>Active Transport – walking &amp; cycling</b>	<p>Link up all cycle ways to provide connected web around Belfast, preferably with connected green infrastructure corridors</p> <p>PR campaign to promote the links between sustainable travel and other sectors, including environment, health and social. Active travel can impact on travel patterns, access to services, exercise and social connectedness</p> <p>Reduce pavement parking through proper enforcement</p> <p>Increase active travel safety through driver and cyclist education</p> <p>Promote Safer Routes to School and safer streets for children</p>	<p>Expand active transport network to make it the focus and priority of all transport, not cars</p> <p>Majority of journeys to school not by private car</p> <p>Link up all cycle ways to provide a connected web around Belfast</p>	<p>Most journeys &lt; 5 km by active transport</p> <p>Infrastructure fully in place to allow this</p>
<b>Land use planning and transport</b>	<p>All new developments must include active transport facilities and their promotion</p>	<p>Plans in place to change settlement patterns and design all new developments around minimising transport needs</p>	<p>Settlements designed around, for example, sustainable transport; local services</p>

<sup>19</sup> <http://www.upworthy.com/meanwhile-in-a-small-kingdom-called-denmark-the-citizens-were-happy-healthy-and-on-time-to-work-2>