

National routes to change transport culture

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Summary

Sustrans is the civil engineering NGO responsible for co-ordination of the UK National Cycle Network and other national programmes such as Safe Routes to Schools and Safe Routes to Stations.

In 1994 we proposed a national network of cycle routes, as a way to support local authorities in the development of more sustainable transport policies. The week of Vélo Mondial, we are celebrating the launch of the first 8,000 km of this Network.

During the project it became clear that the potential economic benefits of this project are huge. It also became clear that we had not done enough to monitor usage and to evaluate those economic outputs. We are now taking steps to correct this.

The paper identifies the key areas of economic benefit, gives broad indications of the potential scale of those benefits, and appeals for more study from the people best qualified to assess and quantify them.

A conventional presentation gives examples of the presenter's work and encourages the audience to follow them. This may be your only chance to hear a presentation which recommends "don't do what we did, do what we say".

National routes to change transport culture

The UK National Cycle Network, co-ordinated by Sustrans, is an important practical project to promote cycling in a backward country. It will make a big difference to how the ordinary person sees the bicycle. During its development, however, we have recognised that we must do more to monitor and calculate the economic benefits of the Network.

Political decisions are generally taken on economic grounds. There are strong economic arguments for cycle promotion and for long-distance cycle routes in particular:

- a new tourism sector, valued at billions of Euro in Europe alone
- on-road cycle infrastructure makes roads safer, cutting the cost of road casualties
- it encourages public health and fitness, saving money from health budgets
- it reduces the costs of pollution from motor traffic
- it is cheaper than most other transport infrastructure

This paper hints at how much some of those benefits might be worth, and encourages anyone working to promote cycling to monitor and evaluate better than we have done. "Don't do what we did, do what we say!"

1. Launch of the UK National Cycle Network

Vélo Mondial is not the only important event this week in the field of cycle promotion. We in the UK are launching our National Cycle Network at the same time.

1.1. Events to celebrate the opening of the Network

A million people across England, Scotland, Northern Ireland and Wales are celebrating the first 8,000 km of the Network. Groups of cyclists have already left the four capitals of the United Kingdom – London, Edinburgh, Cardiff and Belfast – carrying sections of a 4 metre ceramic map of the UK with the Network superimposed, to be assembled in the main square of Birmingham, our central city, on June 21st.

On that day every metre of the Network – including those still in the planning stage - will be ridden by local groups. Then, on the weekend of the 24th-25th the public as a whole will take part in a huge variety of events on the Network. There will be at least 1,500 stories about the National Cycle Network in the media this month.



celebrations at the National Cycle Network launch

1.2. History of the National Cycle Network project

We first proposed a national network of cycle routes in 1994, in response to the Royal Commission on Environmental Pollution, which described the growth in motor traffic as “possibly the greatest environmental threat facing the UK”. The original proposal was for 8,000 km of traffic-calmed streets, roads with less than 1,000 vehicles a day (quiet by UK standards) and traffic-free paths, due for completion in 2005. Of those 8,000 km, 3,200 were to open in 2000 – “2,000 miles for the year 2000”.

As the first routes opened, local communities and public authorities began to demand additional national routes to run through their areas. This week’s official opening is no longer 3,200 km but 8,000, equivalent to the full length of the original plans, but five years ahead of

schedule. By 2005, according to current plans, the Network will measure 16,000 km – but by that time no doubt more routes will have been proposed.



construction team at work on the National Cycle Network

1.3. A practical project to help achieve official targets for cycling

With over 300 press features a month, the project provides a supportive media background for local authority cycling projects, and for work to take road space away from the car. In this way it should help to achieve the targets in the Government's National Cycling Strategy – to quadruple cycle use between 1996 and 2012. It may be an example for countries where cycling is not officially recognised, and a model of how practical projects can encourage local authorities to more sustainable transport policies.

2. The need to offer economic justifications

However, we now recognise that we failed to include adequate monitoring from the start of the project.

Investment in cycle infrastructure does not take place in a vacuum; authorities must choose how to invest scarce resources. The advantages of promoting cycling are now quite widely recognised, but as with other forms of investment we must offer quantitative proof that every invested has produced a return, in jobs created, lives saved, long-term cost savings or better quality of life.

2.1. Cost benefit forecasts for the National Cycle Network

The original National Cycle Network proposal included some quantitative forecasts. We measured cycling and walking journeys on our existing traffic-free routes, and predicted how many people might use a national network. However, we were not able to give economic values for the improvements in public health, the reduction in pollution caused by people leaving their cars, or the lower number of road accidents.

A project planning study carried out by David Davies Associates forecasted that the Network could generate 650 full-time jobs in route design and construction, and 5,000 jobs in tourism and other services.

3.1. First estimates of employment generated by cycle tourism

Although the economic benefits from cycle tourism have not yet been measured as accurately as one might wish, a 1999 study by ACK Tourism Development Services estimated today's UK market at 1.05 billion. The 1994 forecasts used a tourist industry figure of 66,000 per job; rounding to 80,000 for 1999 would show 13,125 jobs in the UK dependent on cycle tourism, yet the marketing of holidays on the National Cycle Network is only just beginning. It seems the original forecasts may have been too low.



cycle tourists on the National Cycle Network

3.2. Cycle tourism potential at European level

This exciting picture of economic opportunity is reinforced by the study of the European cycle tourism market carried out for EuroVelo by the Centre for Alternative and Sustainable Transport. CAST predicted that cyclists in Europe might spend 21,5 billion a year by 2020. The European Travel Commission identified the proposed EuroVelo network as "... the first outstanding new European tourism resource development in decades... capable of generating a whole new tourism market, as well as bringing jobs to the rural areas where they are so badly needed"

Today's cycle tourists are sophisticated customers who appreciate the culture and society through which they travel. Their mode of holiday transport is virtually pollution-free. Importantly, they support small locally owned businesses, which use local materials and labour and retain the business profits in the local economy. Cycling tourism is clearly more beneficial than conventional tourism by car and plane.

3.3. Veloland Schweiz; a good example of quantitative monitoring

Success should be measured; an excellent example is that of the Veloland Schweiz foundation, manager of the Swiss national cycle routes, which monitored use of the routes and their economic impact from the first day. The foundation was able to report that tourism revenue in the first year was more than ten times the investment in signing and co-ordinating the routes.

4. Road casualties; an economic cost as well as a social evil

The economic cost of road accidents to the economies of car-dominated countries is enormous. In the UK, many pedestrians and cyclists have been driven off the roads by a mixture of laissez-faire policing and anti-pedestrian town planning measures. Despite this, over 120,000 people were killed or injured on minor roads in 1997, one for every 2,7 km of road.

4.1. Road casualties per km of minor road in UK

The economic values officially attached to road casualties in the UK are regarded by many people as insultingly low, but if we accept them for this calculation, they average 55,000 per casualty (weighted mean). Casualties thus cost 21,000 per kilometre of minor road in the UK.



our society pays a high price for car-based mobility

4.2. Potential cost savings through traffic-calming

In time, all of the urban streets in the Network – 424 km - will be traffic-calmed to National Cycle Network standards. Each 1mph (1.6kph) speed reduction reduces accidents by 5%; a reduction of only 5mph in average speeds would save just over 60 casualties a year, worth over 3 million, on those 424 km alone. We must be cautious about claims that lives will be saved by the creation of new cycling infrastructure, but these figures appear to indicate a life

saved every two and a half years on the urban minor road sections. The casualty cost savings of the completed Network could run to many 10s of millions.

4.3. Cost savings possible at European level

No economic justification should be required to tackle our terrible road casualty problem, but applying UK valuations to the wider European picture gives an astonishing result.

The Secretary General of the European Conference of Ministers of Transport has said, “It is not a source of pride to admit that in the 39 countries of the ECMT more than 2 million people are injured and 100,000 killed in road accidents annually.... There is an urgent need to tackle this problem comprehensively and with determination across the continent”. At UK valuations these casualties would cost 265,000,000,000. Each year.

5. Cycling as health promotion

The health benefits of cycling have not been studied sufficiently to support detailed predictions of the economic benefits possible from a programme to provide more cycling routes. Once again we are forced to make educated guesses based on comparable data from other fields.



bicycle travel is an efficient and inexpensive way to keep fit

5.1. People of all ages cycle where circumstances permit

It is to a Briton quite astonishing that 25% of journeys made by Dutch people over 65 years old, are made by bicycle. In the UK no age group gets close to that figure, except in certain cycle-friendly cities.

5.2. Exercise programmes for health represent good value for money

The health promotion sector seeks simple, cost-effective ways to reduce illness and infirmity and to allow people to lead fuller lives. Provision of a twice-weekly exercise class for people in the UK over 65 would cost around £500 per life-year gained. The cost of provision, £130 per person per year, would equal £1,200 million in total, enough to create a great deal of cycle infrastructure in one year. Can we show that the investment cost in cycling sufficient to create one additional life-year is less than £500?

6. Problems in valuation of transport pollution

There is a lack of robust statistical information about the costs of pollution generally and from transport specifically. Valuation of climate change is particularly inexact; all we can say for sure is that the costs of new diseases, changing rainfall patterns and drought, extreme weather events and sea level rise are likely to be enormous. There are however some statistics available on the direct impact of air pollution on health.

6.1. Air pollution in the UK is a major killer

Some 3,000 people in the UK die prematurely each year from road transport air pollution, according to the British Lung Foundation. The total health costs arising from road transport air pollution are some £18 billion. It is not necessarily the case that, say, a 10% reduction in pollution would reduce costs by 10%; however, it would be worth reducing pollution by 10% to find out!

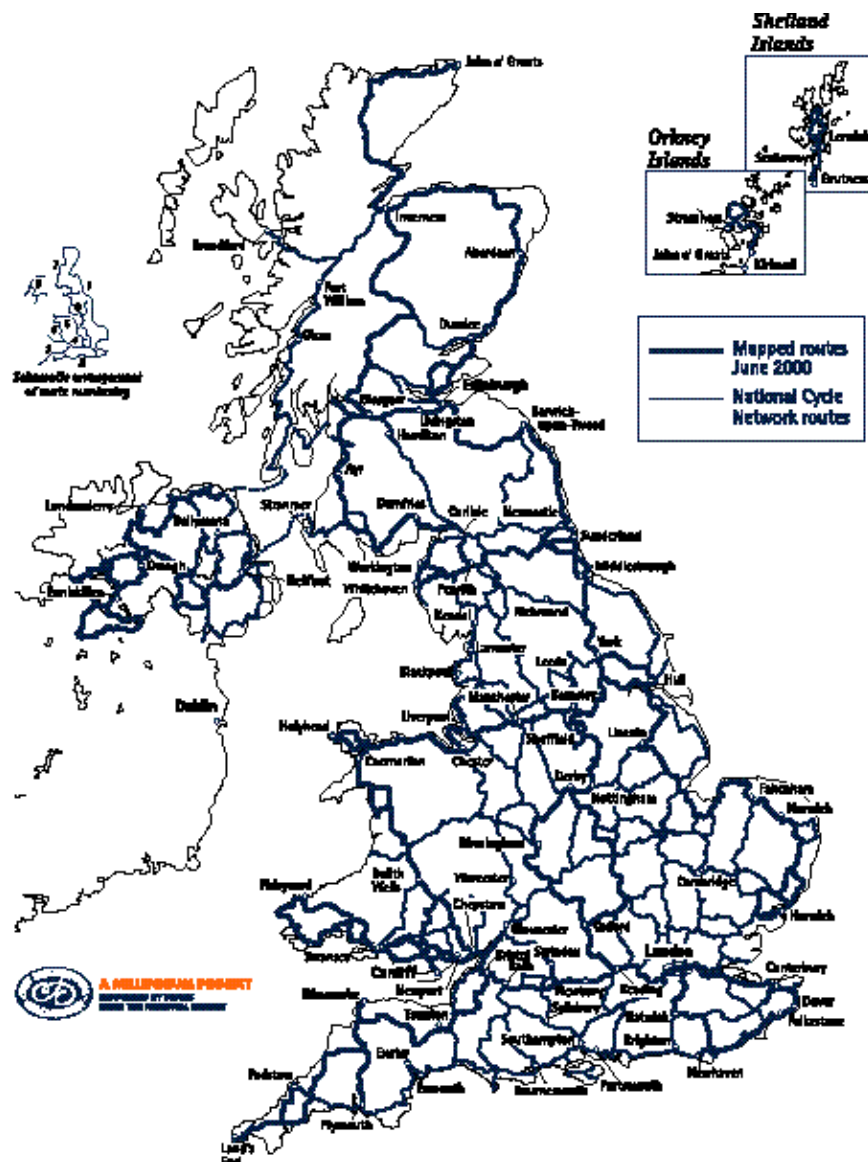


cycle monitoring equipment is now being installed all over the UK

7. Conclusion

In the UK, we were slow to measure the economic benefits of cycle promotion, including the National Cycle Network, as a way to change transport culture. We are now installing cycle counting equipment all over the UK, surveying travellers on the Network and assembling the data needed to model the future economic benefits of our project. As we say, better late than never.

However, I hope that others will learn from our mistake and include detailed monitoring from the project planning stage. We have a tantalising flavour of the economic arguments; our message will be more easily accepted if we can offer them quantitatively. Our objectives may be environmental and social, but it is their economic value which will be most convincing to others.



the UK National Cycle Network will comprise 16,000 km by 2005

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