

Case study summary

Sustrans: Connect2 UK

“Sustrans is changing the culture and perception of cycling. By extending the National Cycle Network into the heart of our communities, the Connect2 programme will help to take cycling from the fringe to the mainstream.”

Ashden judging panel.

Historically, the UK has lagged behind many European countries in providing dedicated cycling routes, with cycling accounting for just 2% of journeys. The low proportion of cycling trips contributes to road congestion and CO₂ emissions, with adverse economic impacts and missed opportunities to improve public health and quality of life.

Sustrans is a charity that implements and promotes solutions to make cycling and walking practical and attractive alternatives to car travel. It was founded in 1977 by a small group of cycling enthusiasts in Bristol and has since grown into a national organisation. Connect2 built on Sustrans’s work to create the National Cycle Network by extending it into 84 towns and cities.

- In 2007, Sustrans won a £50m lottery grant to extend the National Cycle Network to the heart of towns and cities across the UK. An additional £124m match funding was secured from local authorities and other organisations.
- The new links encourage motorists to switch to cycling and walking for short journeys by connecting housing to employment areas and community facilities.
- Six schemes have been fully assessed. On these routes, two million journeys per year are made by walking and cycling, representing increases of between 63%-263%.
- 32% of cycling/walking journeys on these six routes were previously by car
- Greenhouse gas savings across the 84 new routes are estimated to be over 70,000 tonnes/year CO₂.
- The schemes are notable for ‘doing the difficult bit’ – such as building bridges over roads and railways – and so act as a catalyst for further development of local cycling/walking networks.
- The programme has left a legacy of best practice design, including challenging traditional ‘risk averse’ approaches.
- Many schemes have delivered wider social and economic benefits.
- Community involvement has been a feature of the project, from selection of schemes to raising funds and monitoring the upkeep of the new facilities.
- Sustrans continues to win significant funding to keep developing new cycling/walking routes.
- In 2012-13, Sustrans employed 500 staff and had a turnover of £57m.

2013 Ashden Award winner

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Key facts

84 new dedicated cycling/walking links built in towns and cities across the UK

Four million people live within one mile of the new links

Estimated annual CO₂ savings of at least 70,000 tonnes

Location



“It is a great example of how moving to a green transport network can help improve community, health and the local economy.”

Norman Baker MP, Parliamentary Under-Secretary of State for Transport



Sustrans Connect2 routes extends the National Cycle Network into towns and cities across the UK, with large sections segregated from traffic

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Case study

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Background

Historically, the UK has lagged behind many European countries in providing high quality cycling routes. A lack of both infrastructure and cycling culture has resulted in cycling accounting for just 2% of journeys in the UK, compared to 27% in the Netherlands, 19% in Denmark and 10% in Germany. The low proportion of cycling journeys in the UK contributes to high levels of road congestion and CO₂ emissions, with adverse impacts on the economy, and missed opportunities to improve public health and the quality of life in urban areas.

Sustrans is a charity that implements and promotes solutions to make cycling and walking practical and attractive alternatives to car travel. Sustrans has been campaigning to address these issues for many years, with some notable successes in progressively developing local and national cycling/walking routes and promoting their use. Its most significant achievement has been the creation of the National Cycle Network after winning a lottery grant in 1995. In 2007, it won a further £50m of lottery funding to connect the national network to the hearts of towns and cities.

The organisation

Sustrans was founded in 1977 by a small group of cycling enthusiasts in Bristol, and now employs nearly 500 staff throughout the UK. Its ambition is to help towns and cities across the UK to achieve cycling levels equivalent to the best in Europe within the next 20 years.

Sustrans's income is largely from grants and varies according to their availability from central and local government and other sources. In 2012/13, its income was £57m.

The Connect2 programme

Sustrans invited local authorities and landowners to submit dual purpose cycling/walking schemes for Connect2 support, act as partners in their delivery, and generate significant additional investment. All schemes had to be designed to encourage motorists to switch to cycling and walking for short journeys, overcome local barriers to cycling, and had to demonstrate significant local support. The schemes connect to the existing National Cycle Network and often existing local cycling routes, maximising their benefits by providing new sustainable travel options within communities and linking communities together through the national network.

How much did the programme cost?

Match funding took the Connect2 budget to £174m, covering 84 schemes. Each scheme was designed to meet a specific need, so size and project costs varied considerably. They ranged from £0.5m to upgrade a canal towpath in Sale to £11m to replace the 1920s Shoreham Harbour footbridge and improve walking and cycling links into the town. On average, Sustrans contributed around 28% of the cost of each scheme, with the remainder provided by local authorities and other partners.

Getting motorists out of cars

Connect2 schemes are typically up to five miles long and connect housing to employment and key community facilities such as shops, doctors' surgeries and schools. In this way, they focus on short, essential journeys where there is high potential for a shift from driving. Key features of the new links include off-road sections built on property such as canal paths, disused rail lines and agricultural land, with connections to on-road cycle lanes or quiet roads. In this way the new routes make cycling and walking a pleasant and safe alternative to driving.

"I have to travel to meetings around the district and the new path means I can now ride to Midford in under 30 minutes instead of using my car. I can also get to town by avoiding loads of traffic in a much shorter time."

Alice Barnes, Bath



Local cyclists celebrate the opening of the Bath Connect2 scheme (above and below)



Catalysing further development of cycling networks

Connect2 schemes have been designed specifically to overcome major barriers to developing local cycling networks. This included providing bridges across roads, rivers and rail lines to enable direct, unbroken cycle journeys and maximise the potential for future development of cycling networks. By 'doing the difficult bit', the Connect2 routes are a catalyst for further investment in local cycling infrastructure. An impact has already been achieved with several Connect2 schemes extended beyond their original scope.

Community involvement

Community involvement has been a constant feature of all Connect2 schemes. Local authorities bidding to partner with Sustrans had to demonstrate that schemes had significant community support, would meet specific local needs and so attract significant use. The initial public support was entrenched by a variety of techniques, such as including local cycling bodies, community organisations, schools and businesses on scheme steering groups, and in many cases involving the community in attracting additional funding.

In Bath, the Connect2 scheme's support group raised £200,000 by persuading artists to paint more than 100 model pigs (King Bladud, the legendary founder of Bath was a swineherd) which were displayed around the city and auctioned. There are many other examples of community groups raising funding for local Connect2 schemes and assisting in raising awareness by promoting them to schools and businesses as alternative ways to travel.

Community involvement was also stimulated through public art. Each Connect2 scheme features a portrait bench with sculptures of local characters voted for by the community. The success of the community engagement has been evident at the opening ceremonies held for each scheme, some of which have been attended by several thousand people.

Best practice design

Standard 'risk averse' designs for road crossings have been challenged in order to provide the most attractive routes for cyclists. Where appropriate, guardrails, traffic islands and staggered crossings which force cyclists to dismount have been removed and a number of innovative, 'clutter free' road crossings have been built. Other notable design features in some schemes include bollard-segregated cycle lanes on major roads and dispensation for cyclists to travel both ways on one-way streets. Road marking is used to make this clear.

How are routes maintained?

After the schemes were built, ownership was transferred to a local authority partner in the vast majority of cases. As a condition of each Connect2 scheme being built, Sustrans required that the partner sign a memorandum of understanding (MoU) that it would be properly maintained for 40 years. Although not carrying the same legal weight as a contract, it is a notable strengthening of local authorities' duty to maintain cycling infrastructure. One of the prime purposes of the MoUs is to provide communities with a tool to hold local authorities to account if they renege on their obligations.

Achievements

All 84 Connect2 schemes had been completed in April 2013. The new routes cater for a catchment of one million pupils at 2,800 schools, and provide connections to 800 supermarkets, 1,000 doctors' surgeries and 3,000 places of worship. Overall, there are four million people living within a mile radius of the Connect2 schemes.

By April 2013, Sustrans had fully assessed six Connect2 schemes in terms of increases in cycling and walking journeys. Measurement is carried out by automatic cycle counters installed at key points, user surveys and manual counts. The analysis based on user surveys showed two million cycling/walking trips per year – typically a rise of between 63% and 263% depending on the scheme.

Sustrans' wider work

Sustrans is best known for its development of the National Cycle Network, which it began creating in 1996 with a lottery grant and has extended progressively, working with local authorities and central government. The network now covers 14,000 miles, a third of which is segregated from traffic, with the remainder on quiet lanes and streets. In addition, Sustrans is highly involved in local initiatives, working with councils to extend cycling infrastructure and encourage cycling and walking through promotional work. This included providing Bike It cycle training in over 1,400 schools in 2013 and working with businesses and community groups to encourage cycling by holding events across the country. Sustrans' research shows that in 2011 over two million more people were more physically active as a result of its work.



Conversion of disused railway tunnels has created a new walking and cycling route beneath the hills surrounding Bath, overcoming a significant natural barrier

"I live just around the corner from the new path. There is now a level route I can easily go on for either a quick half hour exercise or a fun cycle out to the pub at Midford with m family. I'll cycle so much more frequently as a result."
Helen Self, Bath



Sustrans Connect2 brings cycling to all in the community

Sustrans estimates that 32% of these journeys, or 720,000 per year, were previously made by car. This conservative estimate is based on a combination of the rise in the number of cycling and walking trips on the six routes and surveys showing that 30-60% of journeys on the routes are made by people who could otherwise have used a car.

Environmental benefits

Cycling and walking cut greenhouse gas emissions by reducing the use of fossil-fuelled vehicles. Sustrans estimates annual savings across the 84 new routes to be over 70,000 tonnes of CO₂ per year. The estimate is based on the use of Connect2 routes being comparable to walking/cycling increases on the National Cycle Network, with CO₂ saving calculations based on the Department for Transport's Webtag appraisal methodology.

Social benefits

Many Connect2 schemes have had a real impact on quality of life through providing significant improvements to local amenities. A large number of new links run through attractive countryside, which previously had limited or no access. In particular, canal paths and former rail lines which have been opened up as local cycle routes offer a pleasant new leisure experience for keen cyclists, children and families alike.

In most cases, the schemes have been accompanied by local landscaping improvements. In some instances local blights have been remedied by the schemes, for example by tidying up surrounding areas that were prone to fly tipping. In others, new 'play' facilities such as skateboard ramps have been built into the scheme. Social interaction and inclusion has been promoted through river crossings, which mean residents enjoy easier access to many local facilities. The schemes also have a legacy of wider community use in a number of cases, with some being used by schools in history and geography lessons.

Economic benefits

As well as providing new facilities for local communities to enjoy, some schemes have delivered significant specific economic impacts. In Padiham, Burnley, house prices rose by £10,000 following improvements associated with a local Connect2 scheme.

Other schemes are expected to become major tourism destinations in their own right. The Bath project, which opened up two former rail tunnels, is forecast to be used by a million people per year, many of whom will be drawn to the area by the unique experience of using the longest cycle tunnel in the UK and the chance to cycle in the surrounding countryside.

More broadly, the schemes have the potential to provide economic benefits through attracting commuters from their cars and reducing congestion on local roads. In Sale, the Connect2 upgrade has resulted in 120,000 commuter cycling/walking journeys per year on the route, compared to 10,000 previously. As a result, around 450 commuter car journeys per day have been taken off a major local road.

Health and safety benefits

Sustrans views Connect2 as a health intervention as much as a transport intervention. There is a substantial body of evidence to show that cycling and walking contribute to preventing obesity, coronary heart disease, diabetes and other illnesses. The National Cycle Network, which the Connect2 schemes are now part of, has been recognised by a 'Counteracting Obesity' Award from the World Health Organisation.

In addition, many schemes have been designed to overcome specific road safety dangers. For example, the scheme in Bristol provides a route that bypasses a gyratory system where cyclists have been killed. All Connect2 routes are designed to provide safe cycling by segregating cyclists from vehicle traffic wherever possible and connecting dedicated infrastructure to quiet roads where it would be considered safe for a 12-year old to cycle alone.

Revealing the true benefits of walking and cycling

Connect2 is expected to provide significant insights into the full spectrum of benefits provided by walking and cycling schemes. While central and local government generally undertake limited, if any, evaluation of the impact of walking and cycling investments, Sustrans rigorously assesses all schemes where it has a leadership role. As a large scale programme over five years across a wide geographic area, Connect2 provides an unprecedented laboratory to test the wider economic, transport, social and health benefits of walking and cycling interventions.

To date, Sustrans has used the DfT Webtag appraisal methodology to assess the benefits of its projects. Modelling techniques apply a monetary value to the social, economic, health and transport benefits derived from investments. An overall benefit:cost ratio (BCR) is then calculated. The first Connect2 scheme (in Sale) analysed using Webtag showed a 4:1 BCR – a level considered 'very high' by DfT ratings.

However, despite the positive result from Sale (which is in line with Sustrans's previous project assessments), Sustrans considers that Webtag underplays the benefits of cycling and walking investments, especially in comparison to road scheme appraisal. For example, the benefits of cycling schemes are assessed over a 10-year period, compared to up to 60 years for road schemes. Nor is Webtag yet able to incorporate the full range of health benefits associated with cycling.

Sustrans believes new techniques being developed by its Research and Monitoring Unit and the iConnect academic study of the Connect2 schemes, which Sustrans facilitated, will deliver a truer indication of walking and cycling schemes' benefits. For example, iConnect aims to evaluate the full impacts of CO₂ reduction and health improvements and, at a broad strategic level, economic benefits. The findings are expected to provide a new evidence base to inform government policy.

The future

Sustrans is drawing up business cases for further new interventions to stimulate additional use on all 84 schemes in partnership with local authorities and other organisations. Solutions are expected to include workplace engagement with employers to promote the new routes, personalised travel planning, additional infrastructure and public campaigns.

In some cases, the Connect2 projects have created a new mood in favour of cycling in local areas. A Warwickshire County Councillor described the Kenilworth Connect2 project as 'game changing' in creating a more positive attitude towards cycling in the town. New routes which would previously have been opposed may now be developed as a result.

Following the completion of the Connect2 programme in April 2013, Sustrans continues to commit significant resources to its wider promotional programmes and expand its work to develop cycling infrastructure in partnership with local authorities. New funding from the UK and Scottish governments has provided Sustrans with a budget of £57m for 2013/14. Refinements to Sustrans's approach to project design, engineering and community engagement that were established during Connect2 are being applied to maximise community support and ensure high quality infrastructure is provided.

The direction of UK and Scottish government policy suggests Sustrans and local authority partners will have significant further opportunities to bid for funding to further develop local cycling/walking networks.



Sustrans make the opening of a new scheme a community celebration so as many as possible hear about it

“The enthusiasm of people for this project is amazing. Sometimes I walk into town and it takes me an hour because so many people are coming up to me who are not just interested but enthusiastic beyond belief.”

Frank Tompson,
Chairman Bath Two Tunnels Group

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