

Changing the way we travel

Infrastructure and our everyday transport choices

CEDAR

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A UKCRC Public Health Research Centre of Excellence

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Evidence Brief 15, June 2017

Fully referenced and linked at
www.cedar.iph.cam.ac.uk/resources/evidence

Enabling people to walk, cycle and make greater use of public transport has benefits for health and the environment. But what do we know about the effectiveness of changing the way we travel by improving the places we live in?

CEDAR reviews and studies

There are many ways to intervene to change travel behaviours. As well as our evidence reviews, at CEDAR we have evaluated three interventions in this area: cycling initiatives, new routes for walking and cycling, and a new transport system that supports walking, cycling and public transport.

Town-wide initiatives to promote cycling

Using data from the English Census, we assessed the impact of 18 town-wide cycling initiatives (*Cycling Demonstration Towns* and *Cycling Cities and Towns*).

We compared areas that received funding for their initiatives with those that didn't. All towns used a mixture of capital investment (e.g. cycle lanes) and revenue investment (e.g. cycle training), tailored to each town. We found:

- Among 1.3 million commuters in the 18 intervention towns, the proportion of adults who cycled to work rose from 5.8% in 2001 to 6.8% in 2011.
- Walking to work also increased significantly compared with comparison towns, while driving to work decreased and public transport use was unchanged.
- These effects were observed across all levels of area deprivation.
- There was evidence of larger effects in towns which placed greater emphasis on workplace cycling initiatives.

High quality routes encourage walking and cycling

The *iConnect* study used self-reported data on walking, cycling and physical activity to assess the impact of new, high-quality, traffic-free cycling and walking routes in Cardiff, Kenilworth and Southampton.

Brief in brief

- A large part of our weekly recommended amount of physical activity can be achieved through active commuting.
- There are many ways to intervene to change travel behaviours – including cycling initiatives, new 'active' routes, and wider changes that include public transport as well as infrastructure for active travel.
- Changes in behaviour can often take time to happen, but all these initiatives have shown some success.
- Travel behaviour is complex, so it is unlikely that small scale environmental changes alone will result in substantial increases in walking and cycling – systemic change is required across a number of sectors.



Photo: Chandira Prasad

The People's Bridge, Cardiff – evaluated in the iConnect study.

1700 residents who lived within 5km of the new routes were surveyed before and after the opening of the infrastructure in 2010, 2011 and 2012.

Evaluation after one year indicated no effect, suggesting more time might be needed to see any changes. But after two years, we found on average across all sites:

- People living near to the new routes increased their total levels of physical activity, compared to those living further away.
- There was no evidence that people taking up more walking or cycling over time compensated by reducing other physical activity.
- The new routes not only encouraged people to take up walking but also encouraged those people who were already walking to do more.

Interviews highlighted a range of factors that might explain patterns of use of the new routes, including their visibility, design and scale, as well as the contrast they presented with existing infrastructure.

A new transport system

A new state-of-the-art guided busway was opened in Cambridgeshire in 2011. We took the opportunity to assess its impact on travel in Cambridge.

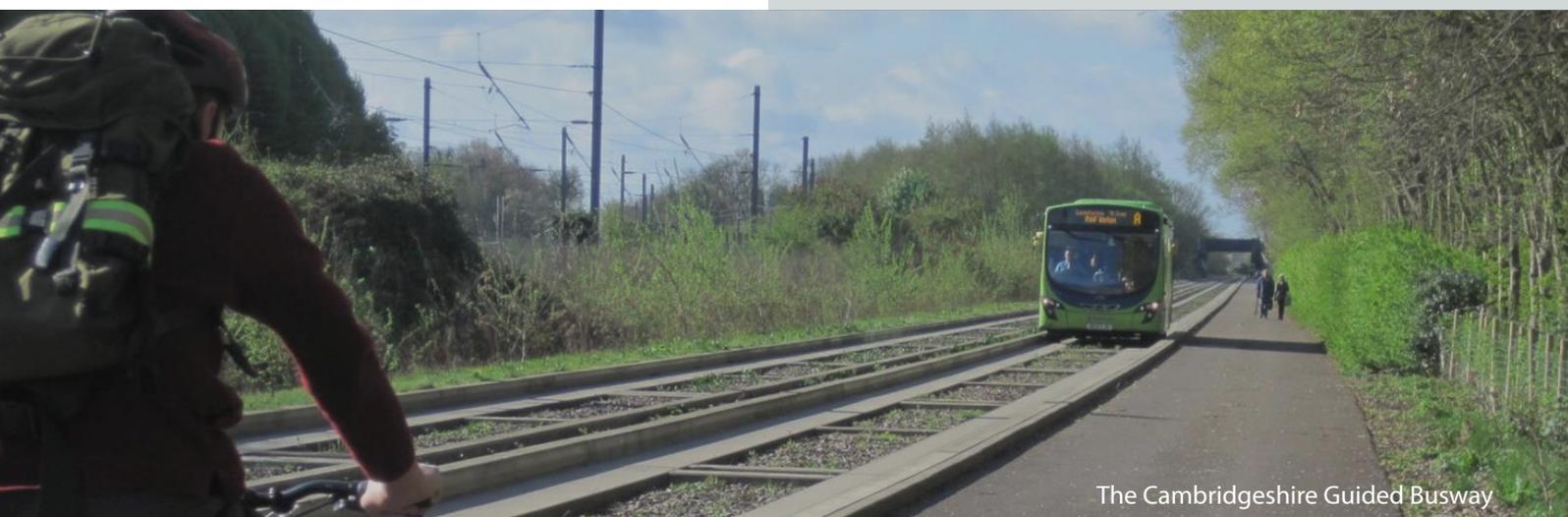
Whether or not the busway proved to be a supportive environment for being active on the commute varied for different individuals. For example, people's existing travel choices affected how they viewed and responded to new infrastructure.

Nevertheless, overall we found:

- Those who lived closer to the busway were more likely to increase their walking or cycling time on the commute, even if this was only for part of the journey. They were also more likely to report a reduction in the share of trips made by car.
- As with *iConnect*, we found no evidence of corresponding reductions in recreational activity.
- Commuters who included walking and cycling as part of their journeys through the use of off-site car parks or park-and-ride sites reported an average of 12 minutes of walking or 17 minutes of cycling to and from work per day.
- On average, more than half of the weekly recommended amount of physical activity recommended was achieved through the commute alone, even among those who lived a long way from work.

Implications for policy

- Infrastructure to support active travel is an important part of a strategy for achieving physical activity and health gain in the population.
- Public transport and active travel can coexist rather than compete in a sustainable, health-promoting transport system.
- Active travel can be incorporated into commuting irrespective of the total length of the journey. Supporting these 'mixed mode' journeys – for example, via park-and-ride sites or bicycle parking at train stations – is an underused strategy.
- Some changes, e.g. improving pedestrian routes, may promote walking but not reduce car trips. Others, e.g. changing parking provision, may be more effective in reducing car trips. This is important when considering impacts on congestion and air quality.
- Travel behaviour is complex, so it is unlikely that small scale environmental changes alone will result in substantial increases in walking and cycling.
- It does not necessarily follow that individual solutions have to be complex, as long as they are part of wider and concerted action.
- A comprehensive public health strategy to promote physical activity through active travel would need to address many wider factors such as housing, planning and employment policy.



The Cambridgeshire Guided Busway

Key references and resources

- A fully linked referenced version of this Evidence Brief can be found at www.cedar.iph.cam.ac.uk/resources/evidence
- *Effectiveness and equity impacts of town-wide cycling initiatives in England: A longitudinal, controlled natural experimental study.* Soc Sci Med, 2013 www.sciencedirect.com/science/article/pii/S0277953613004826
- *Fit for Life – Independent research into the public health benefits of new walking and cycling routes*, Sustrans www.sustrans.org.uk/sites/default/files/images/files/Sustrans%20Fit%20for%20Life.pdf
- *Health impacts of the Cambridgeshire Guided Busway: a natural experimental study.* Public Health Res 2016 www.journalslibrary.nihr.ac.uk/phr/volume-4/issue-1
- *Cycling and Walking Investment Strategy*, Department for Health, 2017 www.gov.uk/government/publications/cycling-and-walking-investment-strategy



EB15 v.1.0 15/06/17