

Safe, affordable and reliable transport systems: Civil engineering insights on UK government cycling and walking strategies

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Overview

Modal shift to active travel will play a critical role in meeting several UK government priorities, notably decarbonisation, reducing road congestion and improving air quality and health.

In April 2017, the government published its first Cycling and Walking Investment Strategy (CWIS1),¹ a £1.2-billion plan to encourage active travel. In March 2021, the government confirmed it will publish a second strategy (CWIS2), which is expected in April 2022.

In between these two strategies, the Covid-19 pandemic has led to an increase in walking and cycling as people switched from public transport use. The government made a £250-million emergency active travel fund available for local authorities to create higher levels of walking and cycling and alleviate congestion on roads. The government also published a new vision for active travel in its *Gear Change* report,² promising £2 billion of new investment in cycling and walking infrastructure and the creation of a national cycling and walking commissioner for England.

Purpose

This insight paper assesses the success of CWIS1 and additional measures to make space for walking and cycling during the Covid-19 pandemic and suggests principles for what measures should be in CWIS2. It draws on analysis and insights from ICE Fellows, industry experts and published evidence.

The first Cycling and Walking Investment Strategy

CWIS1 was published in 2017, with the aim of 'making cycling and walking the natural choice for shorter journeys in every urban and rural community in England'.³ It was supported by over £1 billion of government funding over five years, including £50 million for bikeability training for children; £101 million to deliver the Cycle City Ambition scheme; £85 million

¹ Department for Transport (2017) [Cycling and Walking Investment Strategy](#)

² Department for Transport (2020) [Gear Change – A Bold Vision for Cycling and Walking](#)

³ Department for Transport (2017) [Cycling and Walking Investment Strategy](#)

for Highways England to improve 200 sections of the road network in England for cyclists; and £80 million for local cycling and walking schemes through the Department for Transport's (DfT) Access Fund for Sustainable Travel.

Key measures in CWIS1 included:

- Guidance for local authorities to develop Local Cycling and Walking Infrastructure Plans (LCWIP) for their areas. This involves understanding existing and future travel patterns, and the barriers and enablers to increasing cycling and walking; identifying and mapping a recommended cycling network and core walking zones that would become the focus for infrastructure improvements; and creating a prioritised pipeline of infrastructure projects to support cycling and walking.
- Specific targets:
 - to double the total number of cycling stages⁴ made each year from 0.8 billion in 2013 to 1.6 billion in 2025
 - to increase walking to 300 stages per person per year in 2025
 - to reduce the rate of cyclists killed or seriously injured on England's roads, measured as the number of fatalities and serious injuries per billion miles cycled
 - to increase the percentage of children aged five to ten who usually walk to school from 49% in 2014 to 55% in 2025.

The government established an expert committee to advise on delivering CWIS1 and developing future phases of the strategy. A delivery unit within the DfT collates annual performance data for the committee to scrutinise.

What did CWIS1 achieve, and what needs improvement?

By 2018, walking had increased by 16% since 2015 to 347 stages per person per year, and cycling had increased by 2% since 2015 and 22% since the 2013 baseline to 1,006 million stages in total.⁵

Some 46 local authorities received support to prepare LCWIPs and have created network plans and project pipelines.⁶ In total, 33 plans had been delivered. The Bikeability programme saw record participation in 2018/19, with over 400,000 children trained to cycle confidently on England's roads.⁷

However, there were challenges for local authorities attempting to access funding. The guidance accompanying CWIS1 – Local Transport Note 1/20⁸ – was not published until July 2020. Local authorities had already had to submit bids by that date, meaning some schemes needed to be reconfigured to meet the new guidance. In addition, the funding scheme was complex, with local authorities having to deal with a variety of funding pots, each with different criteria and timescales.

While the strategy targets both walking and cycling, it has significantly more emphasis on cycling, despite walking being the most common mode of transport. For example, ICE interviewees suggested the target to increase the percentage of children aged five to ten walking to school from 49% to 55% lacked the necessary ambition, while the proportion of all children walking to school remained flat at 47% in 2020.⁹

⁴ A 'stage' is a unit of walking or cycling activity. The government's National Travel Survey refers to 'trips', and these refer to one or more 'stages'. A new stage is defined when there is a change in the form of transport. Counting cycle or walking stages rather than trips allows the DfT to include journeys that involve cycling or walking but where this is not the main form of transport (for example, cycling to a railway station to catch the train to work).

⁵ Department for Transport (2020) [Cycling and Walking Investment Strategy – Report to Parliament](#)

⁶ Ibid

⁷ Ibid

⁸ Department for Transport (2020) [Cycle Infrastructure Design](#)

⁹ Department for Transport (2021) [National Travel Survey Statistics](#)

In terms of funding, Sustrans has estimated that meeting the targets in CWIS1 would require around £8.2 billion in investment, but the government has pledged only £2 billion for walking and cycling between 2020 and 2025. Also, a lack of historical funding up to 2020 means many local authorities lack the skills or capacity to spend the money effectively.¹⁰

Covid-19: walking and cycling measures

Part way through the timescale of CWIS1, the government introduced new measures to increase walking and cycling during the Covid-19 pandemic. The government's encouragement and funding for pop-up cycle infrastructure to increase space for walking and cycling during the pandemic enabled local authorities to try out new infrastructure and experimental traffic orders.

In *Gear Change*, the government set out its ambition to 'kick off the most radical change to our cities since the arrival of mass motoring'.¹¹ A further £2 billion was promised to fund protected bike lanes, Low Traffic Neighbourhoods (LTNs), bus and bike corridors on main roads, vouchers for bike maintenance and free cycle training, as well as £250 million emergency funding for short-term projects.

Gear Change proposed significant changes to infrastructure intended to promote active travel, including the following:

- Bike lanes must be physically separated by wands or stepped kerbs and routes must be direct, continuous and serve the journeys people want to make. Road space should be reallocated away from cars where necessary.
- The government will no longer fund new cycle route provision consisting of painted markings or cycle symbols on busy roads, in spaces shared with pedestrians, such as at crossings, or on indirect routes.
- The creation of LTNs is encouraged, whereby residential roads are closed to through-traffic and have parking restrictions at school pick-up and drop-off times, while residents maintain access.

Gear Change is highly critical of most existing infrastructure, arguing it discourages cycling, wastes public money and reflects a belief that few people cycle and that cycles should not take meaningful space from motor vehicles and pedestrians. Existing infrastructure offers little protection for cyclists from motor traffic and often 'gives up' at points where any difficulty is faced, or inconvenience to motorists is risked.

Alongside *Gear Change*, the government published revised Local Transport Note guidance for designing cycle infrastructure (LTN 1/20).¹² This sets out major changes, including the following:

- Cycling must be treated as mass transit, with routes designed for large numbers of cyclists of all ages and abilities.
- Cyclists must be separated from volume traffic and pedestrians.
- Routes must join together and feel direct and logical to all users.
- Routes must take account of real user behaviour.
- Purely cosmetic alterations should be avoided.
- Barriers, such as chicane barriers and cyclist dismount signs, should be avoided.
- Surfaces must be hard, smooth, level, durable, permeable and safe in all weathers.
- Surface materials should be easy to maintain.
- Routes should be designed only by those who have experienced cycling on the road.

¹⁰ Sustrans (2016) [The Investment Required to Achieve the Government's Ambition to Double Cycling Activity by 2025](#)

¹¹ Department for Transport (2020) [Gear Change – A Bold Vision for Cycling and Walking](#)

¹² Department for Transport (2020) [Cycle Infrastructure Design](#)

The government said it would create a long-term cycling and walking programme and budget, similar to that for roads, ending the stop-go nature of previous funding and enabling local authorities to make long-term plans.

Local authorities will only receive funding for schemes that meet the standards set out in LTN 1/20, which is a welcome development. In addition, local highways schemes that are not primarily for walking and cycling will only receive funding if they deliver or improve cycling infrastructure to these standards.

The government will set up Active Travel England, led by a new national cycling and walking commissioner, to hold the budget and act as an inspectorate for scheme design and ensure good cycling and walking provision in all developments over a certain threshold. It will also provide expert advice for stakeholders, including local authorities and contractors.

All future government funding will be conditional on work starting and finishing by specified dates. Active Travel England will inspect completed schemes and ask for funds to be returned for any which have not been completed as promised or within the stipulated times. Experts interviewed for this paper welcome this approach as it is likely to drive up the standard of schemes.

Active Travel England will also inspect highway authorities and publish annual reports grading their performance on active travel and identifying particularly dangerous failings in their highways for cyclists and pedestrians. These assessments will influence the government funding an authority receives for other forms of transport.

Assessing *Gear Change* and LTN 1/20

Experts interviewed for this paper were generally positive about the measures introduced in *Gear Change* and LTN 1/20. Both *Gear Change* and LTN 1/20 recognise that infrastructure for cycling should be comfortable and attractive to encourage people to use it.

Interviewees expected several benefits from the new guidance. The stipulation that funding will only be provided if plans comply with the design guidance is a significant shift and should give local authorities less latitude to make mistakes, while also giving them leverage to make changes.

Equally, having Active Travel England as a statutory consultee in developments to ensure schemes comply with LTN 1/20 will prevent developers from keeping walking and cycling provision to a minimum and enable local authorities to insist on better standards. Interviewees did emphasise that guidance and investment is heavily focused on cycling, and that a pedestrian equivalent of LTN 1/20 would be beneficial.

Low Traffic Neighbourhoods (LTNs – not to be confused with the separate LTN 1/20 guidance) have also made a big difference, particularly with traffic on residential roads increasing significantly since 2009, almost doubling in London.¹³ By taking through-traffic out of residential roads, but maintaining access for those who need it, interviewees felt LTNs should not be seen as anti-car. They are also relatively low-cost.

The previous cycling design guidance, LTN 1/08, contained inappropriate measures such as shared space for pedestrians and cyclists even though the varying speeds of cyclists and pedestrians are potentially dangerous. The new guidance will not allow shared-space schemes.

However, interviewees were concerned that *Gear Change* contains very little support for walking. They also cautioned that lessons need to be learned from local opposition to Low Traffic Neighbourhoods to improve public consultation and local information campaigns.

¹³ The Guardian (2020) [‘Rat-running’ Increases on Residential UK Streets as Experts Blame Satnav Apps](#)

The DfT's *Decarbonising Transport* report, published in July 2021, reiterated the ambitions and funding commitments in *Gear Change* and set out a new commitment to deliver a 'world-class cycling and walking network in England by 2040'.¹⁴

The second Cycling and Walking Investment Strategy – what should it contain?

In March 2021, the government confirmed that it would publish CWIS2 'as soon as possible' after the 2021 Spending Review.¹⁵

Experts interviewed for this paper have highlighted several areas where the government could improve on measures already carried out or committed to.

1. Scope

CWIS2 should place a far greater emphasis on walking, with dedicated, separate investment. CWIS1 set a target to double the number of stages cycled – a similarly ambitious target should be set for walking.

While walking is the most common mode of transport, as it forms part of every journey, data available to local authorities on walking use is often very poor. Without better data, the DfT risks having no baseline on which to set targets or against which to assess outcomes.

Encouraging active travel should be considered more holistically, beyond the physical infrastructure required. This includes the impact of car dominance on walking and cycling rates; driver behaviour that negatively impacts cyclists and walkers, such as engine idling, parking on pavements and speeding; and providing more secure storage for bicycles, both in new buildings and retrofitted in existing ones.

Low Traffic Neighbourhoods also provide an opportunity to create child-friendly streets. It would be a positive move for CWIS2 to provide support for very low-speed roads (e.g. sub-20mph), streets which integrate play features and looking beyond walking and cycling as a linear form of travel from A to B to children moving, socialising and playing in a street context.¹⁶

2. Funding and resources

There are many different funding pots for walking and cycling, all of which have different criteria and timescales. The main issue here is that the short-term nature of funding leads to schemes which are deliverable in the short term, but may not result in the most appropriate packaging of schemes or the best ordering in terms of delivery of schemes.

Putting bids together that match these criteria is not only time-consuming for local authority officers, but does not necessarily result in schemes that deliver the best outcomes as bids are designed to fit funding criteria rather than to fit the local need.

¹⁴ Department for Transport (2021) [Decarbonising Transport](#)

¹⁵ Department for Transport (2021) [Written Statement to Parliament – Cycling and Walking Investment Strategy 2](#)

¹⁶ Wendy Russell and Alison Stenning (2020) *Cities & Health: Beyond Active Travel: Children, Play and Community on Streets During and After the Coronavirus Lockdown*

The funding process for local authorities for walking and cycling should be simplified, and funding should be guaranteed and sustainable across multiple years, similar to that granted to National Highways for investment in the major roads network through the Road Investment Strategy.

This would give local authorities the confidence to invest in schemes, knowing there is guaranteed funding over a Spending Review period. It would also help to ensure schemes are place-based and designed to meet local needs.

Local Cycling and Walking Infrastructure Plans (LCWIPs) are seen as a vehicle for good overall transport planning for cycling and walking. ICE Fellows noted that they generally work well as they provide a framework for a programme of multi-year individual projects and a preferred order of procedure for them.

There should also continue to be support for local authorities to build their capacity to develop proposals and upskill staff to apply the new design guidance. Insight from ICE Fellows highlighted that it is usually highways officers who carry out design work, rather than cycling officers. Local authorities require support in changing the mindset of those who continue to design schemes in the same way they have always been done, which is sometimes based on very out-of-date guidance, such as Design Bulletin 32.

3. Communication and education

Consultations on future walking and cycling plans should ensure the views of a wider diversity of people are gathered. For example, while over 14,000 responses were made to the consultation on the CWIS1 Safety Review, only 24% of individual responses were from women, and only 5% were from people who considered themselves to be disabled.¹⁷

CWIS2 should have a focus on reducing inequality by supporting those most in need. Projects should be evaluated against how they reduce inequality.

More attention should be given to building consensus and awareness across all stakeholders, including drivers and local politicians. This could include communicating the benefits of increasing walking and cycling for individuals and the wider community (e.g. increased footfall for local businesses); the impact of new cycling and walking measures on existing road space; and the rights and rules applying to cyclists on the road.

4. Political coordination

Active travel cuts across many government priorities, including improving health and well-being, climate change mitigation, economic development and urban planning, so there should be a coordinated approach to embed cycling and walking across relevant government departments and strategies.

Evidence from experts for this paper identified that an approach that embeds active travel into net zero, planning policy and public health targets would maximise the impact of CWIS2. The current system is not delivering change at a pace and scale necessary to meet net zero, while also producing inequalities between boroughs/authorities that do and those that do not make progress with measures to progress walking, cycling and traffic reduction.

Now would be an optimal time to look at system change in highways. The Department for Transport could set up a cross-departmental team similar to the Office for Low Emission Vehicles, which works to boost the early market for electric and other low-emission vehicles. This type of collaboration would also prevent silo thinking within government.

¹⁷ Department for Transport (2018) [Summary of Responses to Call for Evidence – Cycling and Walking Investment Strategy: Safety Review](#)

Decisions involving reallocation of road space or removing parking spaces often become very political at a local level. The political will to make the necessary changes must be driven from the top to make implementation at the local level easier. National government could lead a culture change by making bold decisions, such as mandating 20mph limits on residential roads, or introducing national road pricing to facilitate a wider shift to active travel modes. ICE has previously explored road pricing at a Strategic Road Network level, which identified the potential wider benefits of reduced congestion, a more equitable system of taxation and more incentives for people to consider modal shift.¹⁸

About ICE

Established in 1818 and with over 95,000 members worldwide, the Institution of Civil Engineers exists to deliver insights on infrastructure for societal benefit, using the professional engineering knowledge of our global membership.

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¹⁸ ICE (2019) [Pay As You Go – Achieving Sustainable Roads Funding in England](#)