Popularizing Cycling in Europe: Where Did Britain Miss the Turning?
Cherona Chapman

Abstract
In recent decades, responses to calls for sustainable transport have been extremely varied, and these spatial distinctions can be seen no clearer than in Europe. Cycling rates across the continent were pretty low in the 1970s, but contemporary conditions have seen the Netherlands, Denmark and Germany emerge as global leaders, whilst the UK has fallen behind. This article investigates how a geographic disparity in European cycling attitudes has arisen, and compares approaches from the continent to identify potential changes that could increase cycling uptake in Britain. Similarities were discovered between European approaches in infrastructure and policy, but the limited spatial implementation and interregional variation of these in Britain has led to isolated cycle-friendly regions. Furthermore, there are significantly more incentive based policies in the global leaders than the UK. These discoveries suggest a more comprehensive infrastructure and enticing set of policies could improve conditions in one of Europe’s former cycling friendly nations.

Keywords
Transportation — Public Policy — Cycling

Introduction
Transportation generates 20% of global greenhouse gas emissions, and thus sustainable transportation methods have become widely recognized as a significant step in reducing this output (Buehler and Pucher, 2011). Sustainable transport is widely defined as any form of transport which is not reliant on the use of fossil fuels or other threatened natural resources (Hull, 2008), and as such involves a range of methods, including cycling and walking. Additional movements, such as new urbanism, have supported this through concepts of walkability and cycle-friendly cities, driving a greater demand for sustainable transportation in city developments (Cozens and Hillier, 2008). This can also be seen through the emergence of specialized academic journals, such as the International Journal of Sustainable Transportation.

Cycling often plays a key role in national sustainable transportation policies, offering a fuel free solution that is capable of covering significant distances in a reasonable time period (Pucher et al., 2010). In addition, it offers further benefits through reducing traffic dangers, lowering congestion and improving individual health (Bassett et al., 2008). Nowhere are the benefits of cycling clearer than the Netherlands and Germany, which have seen vast improvements in road safety and cardiovascular health alongside the increased prevalence of bicycling (Pucher and Dijkstra, 2003). This paper looks to examine cycling conditions in Britain, and identify how they differ from their counterparts on the continent, in order to help explain current disparities in the popularity of this form of transport across Europe.

Whilst the Netherlands boasts a current average modal share for cycling of 27% (Wooldridge, 2014), it is important to note that a bicycle phenomenon has not always been present. The relative popularity of the bicycle across Europe was very different in the 1950s, with rates of cycling in the UK higher than contemporary levels in Germany (Pucher and Buehler, 2008). In the following decades there was a significant fall in levels of cycling across the continent, with the increasing popularity of the car, which soon became the central mode of transport in urban planning (McClintock, 2002). Throughout Europe, buildings were demolished to grant increased inner-city access to the car, whilst significant highways were being constructed to improve rapid connections between urban areas (Wooldridge, 2014). By the mid-1970s, however, road fatalities had risen dramatically, with annual totals in the Netherlands exceeding 3,000 (Wegman et al., 2012). At the same time, there were a series of global oil crises, which resulted in rising oil prices and decreasing fuel availability (Wooldridge, 2014). This, combined with growing concerns around climate change, saw a considerable shift in public attitudes towards cycling, and the consequent emergence of cycling policies and infrastructure in both Europe and Australia (Kingham and Tranter, 2015). Despite these trends being Europe-wide, public attitudes in Britain were reflected poorly in political decision-making around transportation. With an ingrained perception of the bicycle as jeopardous for non-recreational activities, political entities in Britain were largely unwilling to invest and promote such a dangerous means of transport. As such, whilst the bicycle featured in policies regarding safety and use of roadways, there was little cycle-specific legislation.
and transportation planning remained focused around the car (Golbuff and Aldred, 2012). Thus, by the turn of the century there was clear polarization in the popularity of cycling across the continent, with levels in the Netherlands and Denmark ten times higher than in the UK (Pucher and Buehler, 2008).

Levels continue to fall in the UK, with the number of trips per capita decreasing by 25% between 1995 and 2005, despite the increase in cycle policy and infrastructure. It is important to note, however, that these figures are largely representative of on-road cycling (due to limitations in data collection) and thus fail to appreciate significant off-road facilities, such as large proportions of the National Cycle Network (Golbuff and Aldred, 2012). There have been a range of studies investigating successful policies in cycling prolific countries (see Pucher and Dijkstra, 2003; Cervero et al., 2009; Buehler and Pucher, 2011), but the literature has yet to widely address questions over which policies can be seen in the less successful cities, and the reasons for their relative failure. Thus, this paper looks to provide an overview of cycling conditions in Britain and identify the differences from the Dutch, German and Danish policies that could be contributing to their limited success.

1. Britain’s Cycling Infrastructure

Infrastructure lies at the heart of many modern systems, from housing to transportation. Comprehensive and high quality infrastructure is integral to ensure efficient operation and integration with related networks. When it comes to cycling, this not only includes routes and surfaces for travelling on (along with associated structures, such as signage and junction controls), but spaces for storage as well (Wardlaw, 2014). Furthermore, to ensure its integration with public transport as part of a wider sustainable transportation network, facilities are also required to accommodate the passage of bicycles on buses, trains and trams (Pucher et al., 2010).

Since the 1950s there have been significant developments in both Britain’s on-road and off-road bicycle lane facilities. From 1990 to 2010 alone, there was a 200% expansion to the National Cycle Network, and an additional 12,000 miles of cycle lanes were constructed (Grous, 2011). In Cambridge, significant width-expansion of existing paths also took place, whilst in Greater Manchester protected on-road lanes were introduced (Department for Transport, 2015).

The British approach to the provision of bicycle paths, however, differs considerably to the Dutch, promoting reductions in speed and traffic volumes ahead of segregated facilities (Golbuff and Aldred, 2012). Even in the 2008 amendment to the London Transport Network’s Cycle Infrastructure Design, they continued to promote the car over the bicycle, requiring changes or relocations to occur to bicycle routes rather than the traditional carriageway. Many inner-city alterations to promote cycling in Holland, however, have resulted in the restricted access of motorized traffic, with roadways diverted rather than cycle paths (Wardlaw, 2014). As a result, the dominant proportion of cycle pathways in Britain are oncarriageway lanes, which raises significant questions around safety. Not only have separate cycle paths been seen to attract greater numbers of cyclists, but they also have a lower accident rate than onstreet facilities (Lusk et al., 2011). The design of these lanes is also integral to their success, requiring adequate space to protect users from traffic clipping (Guthrie and Fradd, 2006), and are influential in attitudes towards cycling. For example, the introduction of contraflow bicycle facilities on one-way streets can reduce the distance for cycling over that of driving for the same journey (Jones, 2012), such as observed with significant popularity in North Laine, Brighton (Department for Transport, 2015). Yet, whilst the introduction of 20 mph speed zones has led to a reduction in casualties on British roads, cyclists saw the least impact in incident numbers (falling only 17%), further emphasizing the role of hard infrastructure in supporting safer cycling (Grundy et al., 2009).

Road junctions are considered the highest risk environments for cyclists, and thus such designs can have significant impacts on collision and injury rates (Harris et al., 2013). The Netherlands has seen a widespread introduction of the ‘Dutch Junction’- an alternate approach to crossroad layout whose design prioritizes ease and safety for cyclists and pedestrians (Cyclenation, 2014). Occupying the same land area, this approach reduces low visibility angles, creating a more inclusive environment for all road users, whilst not altering time delays at traffic lights (Furth, 2012). Implementation of similar designs have begun in North America, where cycling trends are lower than in Britain (Pucher and Buehler, 2008), and initial results have seen increasing cyclist safety and volumes (Furth, 2012). However, the main approach in Britain remains early-release signals at traffic lights and parallel-signaled crossings (Department for Transport, 2015).

As well as appropriate, well-designed and cyclist-friendly infrastructure, continuity of these facilities is important in creating a safe and encouraging cycling environment (Hull and O’Holleran, 2014). Studies have found that significant numbers of people would only consider cycling if infrastructure was provided along their entire route, with areas lacking these facilities perceived as dangerous spaces (Jones, 2012; Hull and O’Holleran, 2014). Perceptions of safety play a key role in attitudes towards cycling, particularly in a gendered dimension (see Pucher and Buehler, 2008). Disjointed cycling routes can also exaggerate elements of danger through forcing cyclists to regularly mount and dismount, and changing requirements for awareness and attitudes during the journey (Jones, 2012).

Continuity is a large problem in British cycle routes, largely as a result of a lack of detailed standard practice for bicycle infrastructure, with the Cycle Infrastructure Guide only presenting generic guidance (Golbuff and Aldred, 2012). In addition, infrastructure designs and layout are the respon-
sibility of local governments, raising further differences in cycling facility provision (Jones, 2012). At the boundaries of jurisdictions, this can occur within a city region or along key commuter pathways between the source and host areas. Changes in design and provision can cause confusion not only among cyclists, but also other road users, increasing the risk of accidents and reducing cyclist confidence (Hull and O’Holleran, 2014). In addition, the poor popularity of cycling as a means of transport, and largely negative perceptions surrounding the safety of the bicycle on British roads, means trial schemes within jurisdictions are often conservative and rather small-scale. One of the most obvious examples can be seen in Brighton, where the success of the contraflow lanes has led to initiatives to create an area-wide network, alongside an existing scheme to provide continuous cycle lanes on the main radial roadway (Lewes Road) (Department for Transport, 2015). Where trial schemes have seen lower than expected rates of success, however, continuity initiatives have seen less attention and funding, creating fragmented facilities within a town or city region.

Concerns around safety can also extend to pre- and post-journey storage facilities - a question often left unaddressed in a drive for promoting cycling (London Borough of Hackney (LBH), 2013). An increased popularity in cycling as a mode of transport will inevitably lead to greater stresses on bicycle parking facilities (Wooldridge, 2014), many of which are already under pressure. Any visitor to Cambridge, one of Britain’s most supportive cycling cities (Hull and O’Holleran, 2014), will be struck by the volume of bicycles using informal parking structures (such as fences and lampposts) despite restrictions in place. Approaches to deal with this domination of parked bicycles in the streetscape have focused on prohibitions and fines, which are not only difficult to issue for unregistered bicycles, but offer few appropriate alternatives where existing infrastructure is already saturated (Hull and O’Holleran, 2014).

Alternatives to on-street parking, despite its obvious appeal through ease and accessibility, have been long established in the Netherlands, with expansions to facilities as the population continues to rise (Pucher and Buehler, 2008). These include underground parking and converted retail spaces, which not only offer covered facilities, but also feature greater security, lowering the risk of theft (Wooldridge, 2014). Underground facilities in Britain, however, remain a novelty, with the first such space opened in Manchester in 2012 (Kirby, 2013). British programs towards improving parking facilities still favour an on-the-street approach, proposing covered facilities with improved security elements, such as Walthamstow Village’s public space scheme (Department for Transport, 2015). There is, however, a limited available space on the ground.

Transport hubs, particularly at peak commuter times, clearly illustrate the insufficiency of these parking facilities, but also highlight another problem in Britain’s approach to supporting cyclists the lack of integration with public transport (Golbuff and Aldred, 2012). Schemes in both Germany and Holland are in place to support multimode transport, offering bicycle racks on buses and carriages on trains (Martens, 2007; Buehler and Pucher, 2011). Integration within Britain, however, has seen great fluctuation over time, presenting a discouraging and confusing environment for cyclists (Golbuff and Aldred, 2012). The privatised rail network means some operators allow bicycles whilst others don’t, and some impose bans only during specific hours (Transport for London (TfL), 2016).

Furthermore, these problems can be exaggerated during railway maintenance, when affected train services are often replaced by a designated bus during this period. However, many of these buses do not offer bicycle capacity, whilst others require a bicycle reservation. Online systems for advanced tickets rarely offer such a reservation service, and thus cyclists are required to buy tickets on the day of travel – this leads to a greater cost for the cyclist since ‘on-the-day’ fares on British railways are typically more expensive than advance fares (Golbuff and Aldred, 2012). This, combined with the inadequate parking facilities at transport hubs, does not support a large commuter cycling community, which typically forms a significant proportion of cyclists in nations with more successful cycling policies (Kingham and Tranter, 2015).

To counteract this poor integration, bike-and-ride facilities have often been considered an alternative (Martens, 2007). London’s cycle hire scheme, often referred to as the ‘Boris Bike’ (after former mayor of London, Boris Johnson, most recently known for his role in the Brexit campaign), was launched in 2010 following successful similar schemes in many other European nations, and introduced docking stations at regular intervals (including outside popular attractions and services) (Transport for London, 2010). Users are offered a £2 day subscription or a £90 annual subscription fee, granting free access to the bicycle network for 30-minute periods within this time frame, with journeys longer than 30 minutes charged at a rate of £2 for each subsequent half hour (Visit London, 2016). The scheme has proved successful in London, attracting thousands of users from commuters to tourists, and Woodcock et al. (2014) suggest there are significant health benefits from the scheme, albeit dampened by the danger element introduced by London’s inadequate cycling infrastructure. Yet, whilst bike-and-ride solutions have led to a small decrease in car trips, infrastructure barriers and the cost of subscription charges place limitations on the success and uptake of these programs (Fishman et al., 2014). Other large British cities have also yet to introduce such programs that may lead to a modal increase among their commuters, tourists and residents.

2. Britain’s Cycling Policies

Initial attempts at encouraging cycling in Britain included the implementation of the National Cycling Strategy in 1996,
outlining 18 generic objectives to increase and diversify cycling (Golbuff and Aldred, 2012). The success of these targets, however, was limited through the reliance on local authorities as delivering bodies and the lack of incentives for meeting locally-decided targets (Department for Transport, 2005). More specific policies have emerged in later years to tackle particular aspects of cycling infrastructure, diversity and education, including the ‘Cycle-to-Work’ scheme and the ‘Bikeability’ education program (Golbuff and Aldred, 2012).

The ‘Cycle-to-Work’ scheme was introduced at the turn of the century to further encourage cycling among commuters (Guthrie, 2010). Employers were able to loan or sell bicycles and the associated equipment to their workers through tax exemptions, with employees saving a third or more through this scheme (dependent on VAT status and tax bracket), although this amount has reduced following changes in tax rulings (Golbuff and Aldred, 2012). Developing this program, the Cycle-to-Work Guarantee was introduced in 2011, which promised to provide secure and accessible parking, on-site shower and repair facilities, and an incentivised reward program for employees enrolled in the scheme (Department for Transport, 2011). Eligibility, however, remains restricted to public-sector employees only (Guthrie, 2010). Programs to target commuters can also be seen across Europe, with such initiatives considered responsible for a 10% rise in cycling in Eindhoven (Holland), whilst Copenhagen’s Bicycle Policy adopts an entirely commuter-centric focus (Wooldridge, 2014).

With increasing bicycle-orientated development, Britain introduced a national education program in 2007 (known as ‘Bikeability’), which was complemented further in 2011 with the introduction of national standards in cycling training (Department for Transport, 2013). Since cycling rates had halved in Britain in one generation, this education program looked to provide all British schoolchildren with the opportunity to undertake an on-road cycling proficiency course before leaving primary school, as well as offering the program to adults in conjunction with the ‘Cycle-to-Work’ scheme (Golbuff and Aldred, 2012). Cycle coordinators from the three leading European bicycling countries (the Netherlands, Denmark and Germany) identify comprehensive training schemes for drivers and cyclists as key policies in creating a safe and inclusive cycling environment, stressing the importance of these programs for children as well as adults (Pucher and Buehler, 2008).

However, there is still considerable thought required surrounding cycling in Britain in order to ensure users receive as much coverage and attention from policy and legislation as those utilising other modes of transport. For example, where accidents with motorists do occur, currently British cyclists must prove that the fault lies with the driver in order to receive compensation for the incident, which contrasts with the strict liability laws dominant in most European countries (Golbuff and Aldred, 2012). This amplifies a dangerous image of cycling, as those injured struggle to claim support from accidents, and blame in fatal incidents is often allocated to the cyclist (who is no longer around to justify their own courses of action) (Transport Research Laboratory (TRL), 2009).

It is not all doom and gloom for British cyclists, however. In December 2015, the Department of Transport began work on Britain’s first cycling and walking investment strategy (CWIS), with the publication of a long-term vision and timetable for action. Using several consecutive 5-year action plans, the department looks to double British cycling rates, and establish cycling and walking as the norm when undertaking short journeys by 2040. The first documentation outlining more specific details for the first phase of investment is expected in the summer of 2016 (Department for Transport, 2015).

### 3. Conclusion

Despite falling volumes of cyclists, cycling is not a lost art in Britain. Following a peak in the 1950s, there was a Europe-wide fall in the popularity of cycling as the car became the prevalent form of transportation (McClintock, 2002). With the oil crises of the 1970s and increasing road fatalities, many European countries saw widespread public demand for alternative and more sustainable forms of transport (Kingham and Tranter, 2015). In Britain, however, government response to these calls was hesitant due to the dominance of an unsafe image surrounding cycling, which led to significant delays in considered and appropriate policy and planning interventions in the UK (Golbuff and Aldred, 2012).

Since the turn of the century, however, infrastructure and policies to support widespread cycling have become more dominant in Britain, including significant extensions to cycle paths and education programs such as ‘Bikeability’ (Golbuff and Aldred, 2012). Within the implementation of these programs, however, there remain limitations which reduce the effectiveness of these schemes, namely inconsistency in infrastructure styles and provision, a lack of integration with public transport and inadequate incentivised schemes. In recent years, initiatives have emerged to improve areal continuity, but nationwide action is required to create a significant wider impact.

Suggestions remain that cycling has increased more than observed by the data (typically gathered from on-road transportation systems, and thus not inclusive of off-road tracks which form large sections of the National Cycle Network) (Golbuff and Aldred, 2012). Nevertheless, growth in cycling popularity among the British remains low, repressed by perceptions of cycling as perilous and variations in supportive facilities. The introduction of national standards in infrastructure design, provision and integration with existing transport networks (as envisaged by Britain’s first CWIS), however, would bring its approach more in line with its European counterparts that see significant proportions of the population cy-
clinging regularly. Based on the principle of ‘if you build it, they will come’, which has been observed with cyclists in many urban regions (see Garrard et al., 2008; Rissel et al., 2013), these changes could lead to a cycling renaissance in Great Britain.

4. References


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