

Every village, every hour

A comprehensive bus
network for rural England

March 2021



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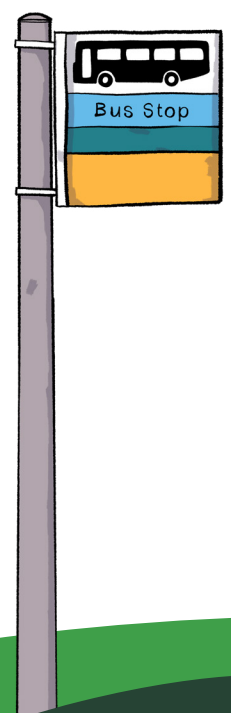
Executive summary

This report builds upon previous research from CPRE, the countryside charity into rural ‘transport deserts’¹ to set out what a comprehensive bus network for England would look like, with services to every village every hour, and the scale of investment we need to make this vision a reality.

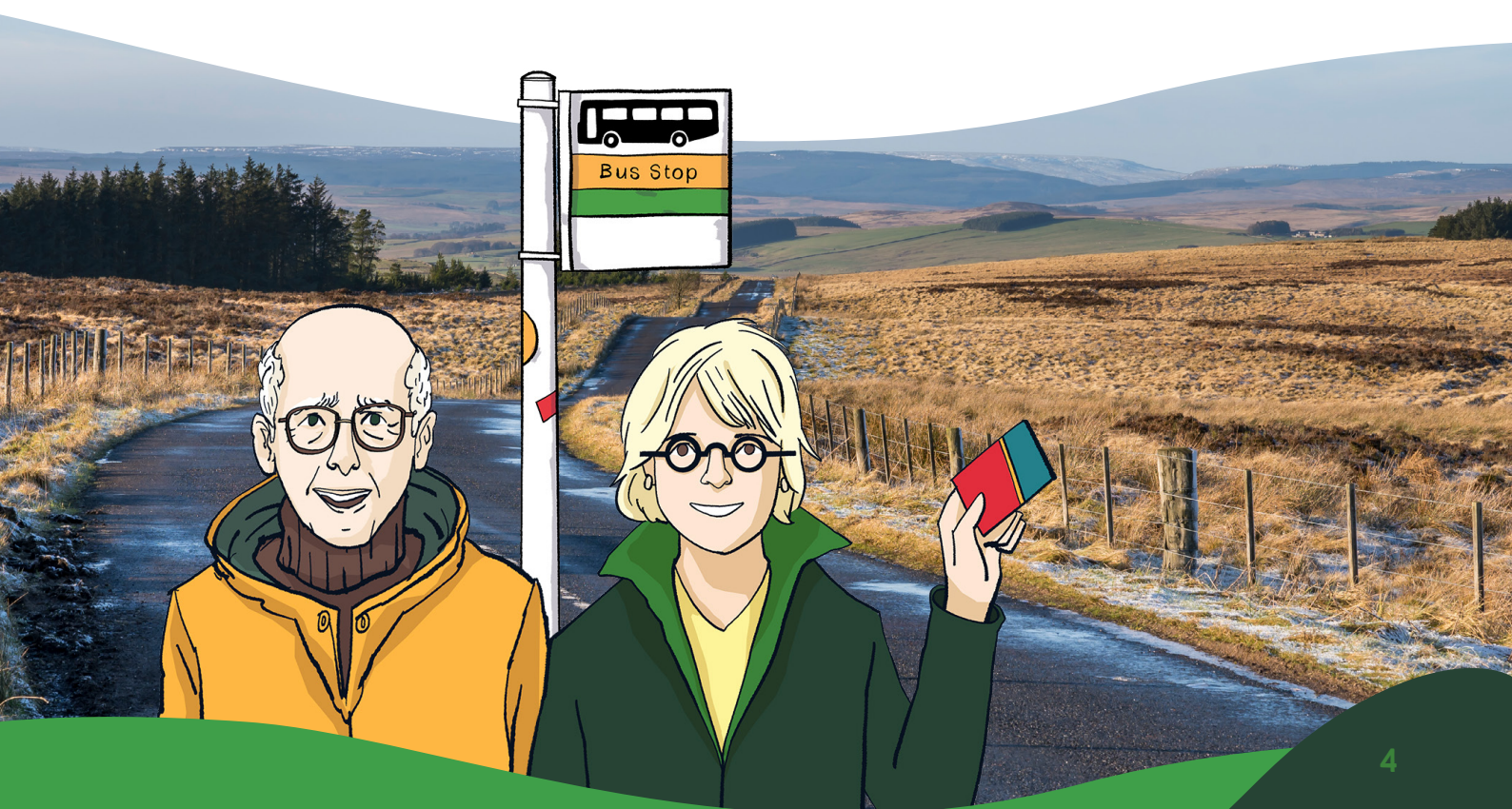
The aim of this report is to show how we can have a bus system that is fit for the climate emergency and that will put an end to the inequality and social exclusion caused by the current car dominance of rural life.

Key findings

- Bus services are essential for allowing us to decarbonise the transport sector by providing an alternative to private car travel.
- Bus services also provide numerous public goods and are essential for the many people across England who do not have access to a car. By providing an alternative to private car travel, local bus services can reduce traffic and air pollution, while boosting high street spending, employment, social mobility and equality. That is why properly funded bus services should be a priority for rural policy in the coming years.
- The inadequate statutory framework for ensuring the provision of bus services for every community, and the cuts to bus funding imposed by the government over the past decade, have left a serious lack of services to meet the needs of rural towns and villages. The impact of the coronavirus pandemic now means that emergency funding should be invested into rural bus services to stop the remaining network from collapsing completely.
- Examples from public transport systems across Switzerland, Austria and Germany show that it is possible to deliver a comprehensive bus network that offers excellent connectivity to rural communities. Despite being considerably less densely populated than every region of England, the region of North Hesse in Germany has a bus system that ensures services reach every village, every hour for at least 12 hours a day, 7 days a week. A similar level of bus services would be transformational for rural England.



- Rural communities in these countries enjoy a far more comprehensive bus network than England because decent public transport is regarded as a basic right, even in remote areas. In Switzerland, minimum service frequency standards for communities of different sizes are enshrined in law. England, too, should recognise a universal basic right to public transport, backed up with guaranteed service frequency standards, and the government should fund local transport authorities to achieve that level of service.
- We also need bus services that are fully publicly funded with regulated contracts and timetabling designed to integrate with rail and other forms of public transport. An integrated approach to network planning, timetabling and ticketing is essential to making public transport in rural areas of England a practicable, convenient and attractive option for residents of rural areas. With regulated services, we can make public transport travel a convenient and competitive alternative to driving a private car, as is essential for tackling the climate emergency.
- Our groundbreaking modelling finds that the government could deliver a bus to every village, every hour across England from 6am to midnight, 7 days per week, for £2.7 billion annually.
- There is a range of options the government could use to make a comprehensive bus network revenue neutral. By redirecting funding currently earmarked for environmentally damaging and unnecessary road building, the government could release enough money to invest in a bus service for every village, every hour.



Recommendations

CPRE is calling on the government to:

1. Continue emergency funding for bus operations, ensuring that the contractual terms are a fit basis for a transformed and fully regulated rural bus system.
2. Recognise a universal basic right to public transport and back it with statutory duties for local transport authorities to provide Swiss-style legal minimum service frequency standards to villages and towns, according to their size.
3. Legislate to establish bus regulation under the 'guiding mind' of local or regional transport authorities in all areas, with the option for local transport authorities to contract services or to provide them directly so as to reinvest the shareholder dividend savings.
4. Establish revenue funding at national level in the order of £2.7 bn per year to enable an 'every village, every hour' bus network.
5. Redirect funding from current road building schemes to fund the 'every village, every hour' network. Review the range of fundraising powers deployed by local transport authorities in other countries and assess the best ways to enable England's transport authorities to access similar powers.
6. Ensure that the transformed rural public transport network is affordable or free, to put an end to rural transport poverty and to provide an alternative to car use sufficiently attractive to address the climate emergency.
7. Investigate how England, including all of rural England, could move to a Swiss-style single national public transport timetable, aligning all trains and buses on a 'pulse' model of repeated hourly services.





1. Bus services are essential to rural life

The English countryside is a tapestry of living communities. The traditions, creativity and patterns of life in these towns and villages have helped forge our national identity, and remain essential to our prosperity. As the countryside charity, CPRE wants to see thriving rural communities across every region of the country, where people are able to live life to the full and reach their true potential. For our towns and villages to thrive they must be diverse, with residents of all generations and incomes. Public transport services that provide high frequency links to local destinations and the national public transport network are essential to make this vision a reality.

Sadly, rural communities are seeing their youth drain away to reach opportunities they cannot access where they grew up, while at the same time older residents' horizons are shrunk by a transport curfew on their social and economic lives. The requirement for families to own multiple cars to reach their individual jobs risks gentrifying swathes of the countryside by imposing a minimum income threshold for life in villages that already lack affordable housing. This is the consequence of transport policy that has prioritised the private car, despite the adverse impacts on village shops, air quality, public health and the climate.

It is time for policy-makers to consider public transport as a public good. The full equation for the return we get from investment in rural bus services should include all of the social, environmental and economic benefits listed below.

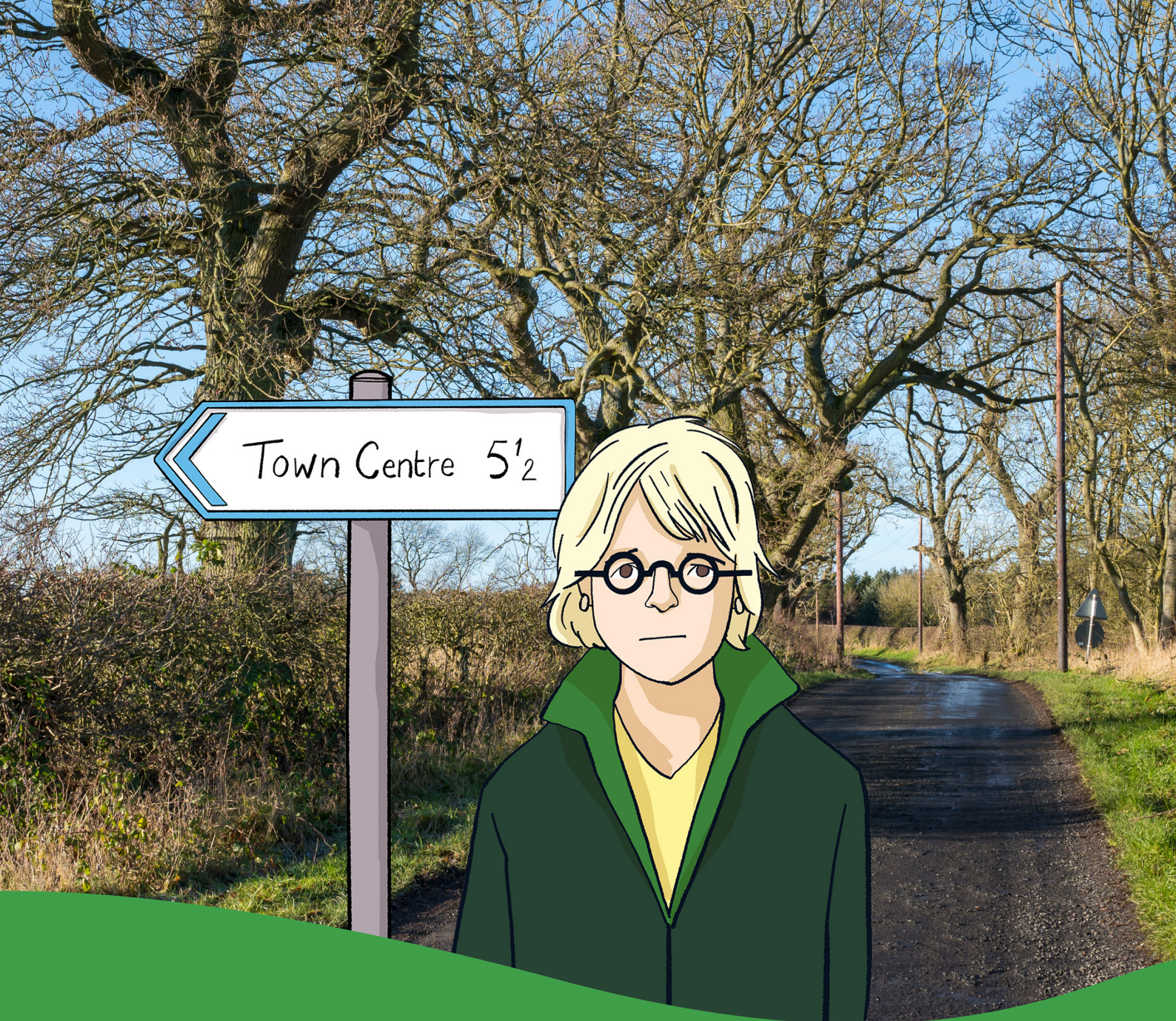
- Using buses rather than private cars reduces air pollution² – current cost to the UK **£23 billion per year**.³
- Using buses rather than private cars reduces the tyre wear that generates 68,000 tonnes of microplastic pollution every year⁴ – contributing to costs of up to **£500 million every year** in just one region of our coastal economy.⁵
- Buses can carry enough passengers to take up to 75 cars off the road⁶, tackling congestion – current cost to the UK **£12 billion per year**.⁷
- Bus services are essential for reducing road traffic, which emitted 110.7 million tonnes of carbon dioxide in the UK in 2019 – estimated current economic cost is **£6.5 billion per year**, with further long-term impacts.⁸
- Walking to and from bus stops rather than taking door-to-door car journeys can significantly reduce the crisis of physical inactivity – current cost to the UK **£7.4 billion per year**.⁹
- Buses already allow almost 3.5 million people to commute to work every day in the UK – this enables the production of **£64 billion of goods and services per year**.¹⁰

- Buses bring more than a billion shopping trips to high streets across the country – this enables £27 billion of retail spending per year across the UK.¹¹
- There is a direct correlation between improvement in bus services and reductions in social deprivation.¹²
- Half of the lowest income households do not have access to a car, rising to nearly two-thirds of people claiming income support or jobseeker's allowance, with a similar figure for people living with disabilities.¹³
- Those living on the lowest earnings in villages and hamlets spend nearly twice as much per week on transport costs as those in cities.¹⁴
- One in five students consider dropping out of further education because of financial costs, of which transport is the greatest.¹⁵
- One in three jobseekers report that inadequate transport is the biggest barrier to finding work.¹⁶
- Social, economic and environmental benefits give revenue expenditure on bus services a return on investment of up to £3.80 for every £1 spent.¹⁷

Perhaps most important of all is the role that bus services have to play in tackling the climate emergency, which poses an existential threat to the countryside. Rural communities often bear the brunt of flooding from extreme weather patterns and coastal erosion from rising sea levels. At the same time, climate change threatens both the productivity of prime agricultural land and the health of many of our most loved ecosystems, undermining two of the central economic pillars of rural life.

Total transport emissions accounted for 33% of the UK's greenhouse gas emissions in 2019¹⁸, so the need to decarbonise this sector could not be more urgent. Due to the size of the UK car fleet, and the carbon emissions caused by building new vehicles, net-zero transport will not be possible by 2050 through electrification alone. It is estimated that transport decarbonisation will require traffic levels to fall by between 20% and 60% by 2030.¹⁹ Bus services have a huge role in making this possible by providing an alternative way to travel conveniently across all parts of the country.

With their importance for transport decarbonisation, as well as the huge range of social, economic and environmental goods that they can deliver, it is clear that bus services should be a policy priority for rural life. This report breaks new ground by providing a fully costed vision for providing England's rural communities with public transport fit to respond to the climate emergency.



2.

Rural England
has become a
transport desert

In 2020, CPRE published groundbreaking research into the phenomenon of ‘transport deserts’ across rural England. Transport deserts exist where people are severely limited in their ability to connect with friends and family, benefit from employment and education, and access shops and other services. This research found that across the north east and south west of England, 56% of small rural towns have become transport deserts or are at risk of becoming one.²⁰ These transport deserts are stark evidence of the failure of our current bus system to meet the needs of rural communities.

Following deregulation in the 1985 Transport Act, it has been left to private operators to design and deliver most bus services in England, according to market and commercial imperatives. Dispersed and low population density rural communities have suffered badly under this system, with low commercial viability leading to limited services. This has created a vicious cycle where buses have not conveniently met local people’s needs, causing fewer people to use the buses, and, consequently, further service reductions.

The 1985 Transport Act has left local authorities trying to fill in the gaps where public transport needs ‘would not otherwise be met’. However, recent Freedom of Information requests by CPRE have revealed that many local authorities have not carried out a systematic review of public transport requirements across their areas for many years, with most only intervening on an ad-hoc basis when commercial services are withdrawn. This has left a postcode lottery in support for rural bus services. Moreover, inadequate funding means that local authorities often consider ‘public transport requirements’ in the narrowest possible terms, and are unable to capture the many public goods bus services could deliver.

Worse still, a series of Westminster governments have compounded the systematic failure to ensure reliable bus services exist for rural communities with wave after wave of funding cuts. Ring-fenced funding for rural bus services stopped in 2008, with the end of a subsidy scheme that in some areas had increased the available funding by 500%²¹ and had delivered 1845 new or enhanced routes.²² Ageing populations mean that rural areas often have the highest proportion of bus users with an older person’s bus pass, so the estimated £700 million gap in central government funding for reimbursement of concessionary fares also results in proportionately more service cuts in rural areas. The cuts to local authority budgets over the past decade have forced councils outside London to reduce their financial support for commercially unviable bus services by 43%. Since it is not currently a statutory duty to provide adequate public transport services, some councils have ended their funding for bus services entirely with more than 3,000 routes closed or reduced.²³

The lack of affordable public transport is also contributing to the serious risk of ‘transport poverty’ in rural communities. Many lower income households in rural areas struggle with transport costs to get to work, training, education, shops and facilities because those costs are a comparatively large proportion of household income, whether spent on public transport or on operating a vehicle for which the running costs can scarcely be afforded. Without reliable and affordable bus services, people are being cut-off from employment and vital services like healthcare.²⁴

Government investment is particularly important for the delivery of bus services to small rural towns and villages and the cuts to this funding have left a threadbare set of routes that is entirely inadequate to encourage people to stop driving and reduce their transport carbon emissions. The impact of the coronavirus pandemic and the subsequent loss of passengers now threatens to break this failing system completely. At the time of writing, the latest data shows that bus journeys outside London are at 25% of their pre-pandemic levels.²⁵ Consequently, commercially viable bus services across rural England have ceased to exist. For tackling the climate emergency and ensuring that rural communities can thrive, it is now essential that we take a new approach to funding bus services across England.





3.

Other countries
achieve much
better rural bus
services: ‘every
village, every hour’

Other countries have taken a different approach to the provision of rural bus services. Other prosperous nations have invested in integrated public transport networks delivering minimum service frequency standards to rural communities. As the examples below from Germany and Switzerland show, a more ambitious and coordinated approach to bus services has enabled major cities to be well connected to their satellite communities in the countryside, whole districts to conveniently access their regional hubs, and almost all villages to be strongly connected into the regional and national public transport system network. The high frequency, regularity and convenience of bus services for rural communities in Bern Canton, Zurich Canton and North Hesse would be transformational for towns and villages across England.



Zurich Canton

The Zurich region of Switzerland covers just over 1700km² and is home to roughly 1.5 million people, giving it a population density of around 890 people per square kilometre. This makes the Zurich region closely comparable with South Yorkshire, which covers a slightly smaller area and has a slightly higher population density.

Across the Zurich region, the transport authority delivers three different levels of service frequency standards to communities of differing sizes. The region guarantees villages of 300 people or more at least an hourly bus service linking them to regional facilities for employment, education, training, shopping and leisure. On routes where multiple communities create stronger demand, the buses run at least every half hour, and four times an hour for towns.

These bus services run 7 days a week from 6am to midnight and repeat at hourly ('clockface') intervals, connecting passengers smoothly with train timetables.

Image 3.1:

The village of Kyburg in the Zurich Canton has 405 residents and enjoys a half-hourly bus service to nearby towns and on to Zurich itself.



Bern Canton

Bern Canton covers a significantly larger area than Zurich Canton (nearly 6000km²) with just over one million residents and a population density of 170 people per square kilometre, making the canton's human geography roughly similar to Devon, which covers a slightly more densely populated area.

Bern Canton has enshrined in law guaranteed public transport service frequencies for communities of a range of sizes. The minimum service frequency standards for the region deliver small villages at least 4 and up to 15 return services per day. Larger villages and towns receive 16-25 return bus services per day. To qualify for the minimum bus services, an 'area with low settlement density' must have 300 residents/jobs/training positions, of which 100 must be residents.

As with Zurich Canton, Bern Canton has purposely regulated and designed its bus network to ensure a well-integrated public transport system where passengers can conveniently travel across different routes and modes of travel. Buses mesh with the national 'pulse' timetable of regular clockface services ('Taktfahrplan') that covers all modes of public transport, and residents must be able to reach the nearest major centre without interchange or with at most one change.

The Canton keeps its spending under control by setting a minimum for the proportion of its costs that it will seek to recover from fares, depending on the number of passengers a service carries, but also requires operators to charge 'socially acceptable' ticket prices. For minibus services to small villages cost recovery rates are permitted to be as low as 15%.

Image 3.2:

Despite its rural character, the community of Meikirch in the Bern Canton has multiple bus services every hour throughout the day allowing residents to reach services in the city of Bern.



North Hesse

North Hesse in Germany covers a largely rural region of 7000km², with one million residents, and a population density of 143 people per square region. These are very similar figures to Lincolnshire, although North Hesse is slightly less densely populated.

North Hesse Verkehrsverbünde governs all public transport across the region, with powers to completely design and control the entire network. Despite the highly rural nature of the area, it delivers a network of bus services most of England can only dream of. The Verkehrsverbund has a target of bus services reaching every village across the region every hour. Bus routes currently reach all communities with more than 200-250 residents on at least an hourly basis, and there is a wider ambition to double public transport use by 2030.

The Verkehrsverbünde delivers the services through long-term directly awarded or tendered contracts with a mixture of publicly owned and commercial operators. These contracts cover the full cost of running the bus services, with all fare income from across the region returned to the Verkehrsverbünde to reinvest in service provision.

Overall, North Hesse Verkehrsverbünde runs 32 million passenger trips on bus services across the region each year, with services running at least twelve hours a day, seven days a week, and integrated rail and bus timetabling.

Image 3.3:

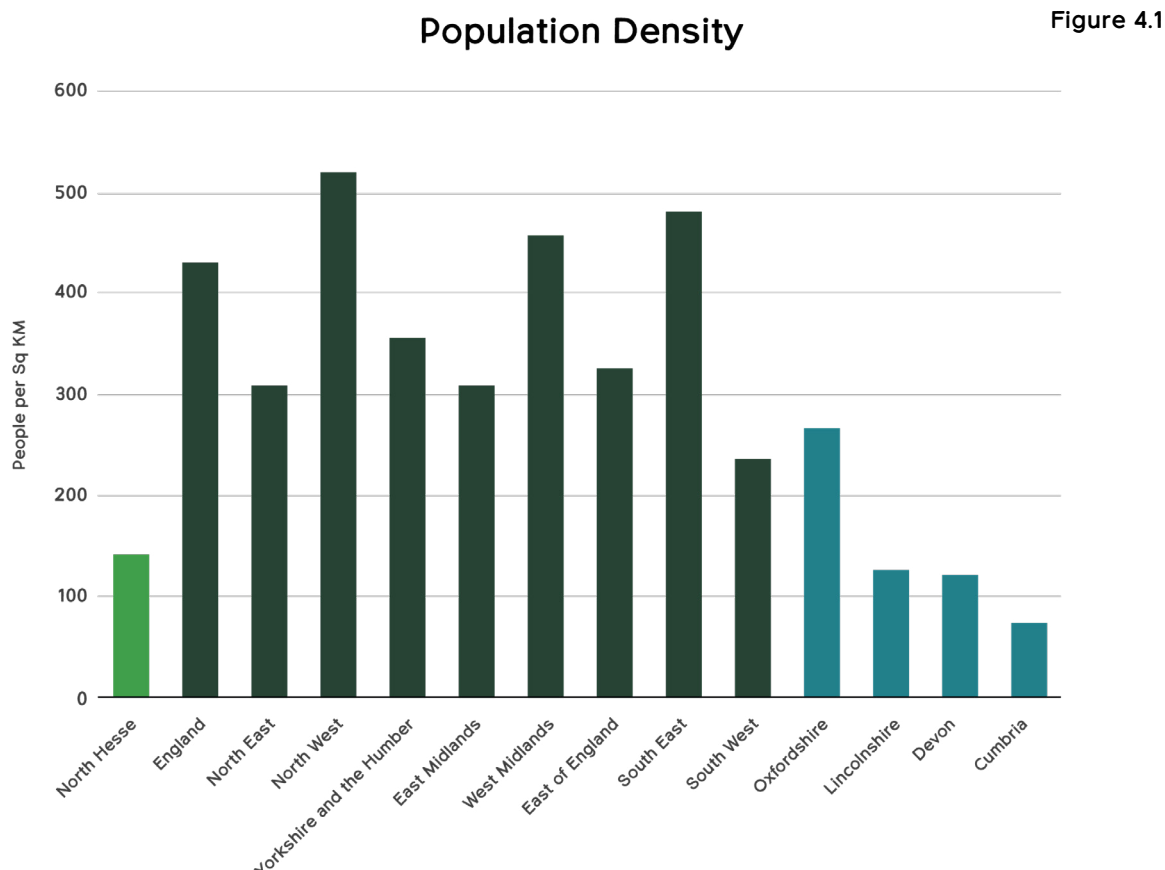
The village of Trendelburg in North Hesse has around 1000 residents who are served by an hourly bus service from 06:40 – 23:40 Monday to Saturday and 08:40-23:40 on Sundays.



4.

Lessons for rural England: legal service frequency standards, funding, and a guiding mind

As Figure 4.1 shows, the North Hesse Verkehrsverbünde delivers a bus service to every village, every hour across an area that is significantly less densely populated than many rural counties and regions of England. The North Hesse approach shows that sparsely populated dispersed communities can be incorporated into a comprehensive bus network that provides a genuine alternative to car ownership.



So, England's rural transport deserts are not caused by a law of nature. The examples of Bern, Zurich and North Hesse highlight many of the key elements that bus policy in this country will need to address if public transport is to become a genuine alternative to car ownership here.

The evidence shows that a rural bus policy for England requires:

- **A universal basic right to public transport and statutory duties to provide it:** public transport must no longer be seen as the optional council service that can be dispensed with in favour of health or education. A public transport service to a rural town or village is access to health, education, training and livelihoods. Viewed in this light, decent public transport should be regarded as a universal basic right. Countries like Switzerland and Germany that seek to guarantee basic service frequency standards to reach every community seem to appreciate this at a deep level, and cast a harsh light on England's approach to public

transport provision in recent decades. We need to establish a wider and deeper appreciation of the value of public transport and officially recognise a universal basic right to public transport. Flowing from that, England must move from the present vague legislative references about considering ‘public transport requirements’ to a requirement for transport authorities to provide a comprehensive public transport network, based on legally enshrined minimum service frequency standards for towns and villages of different sizes.

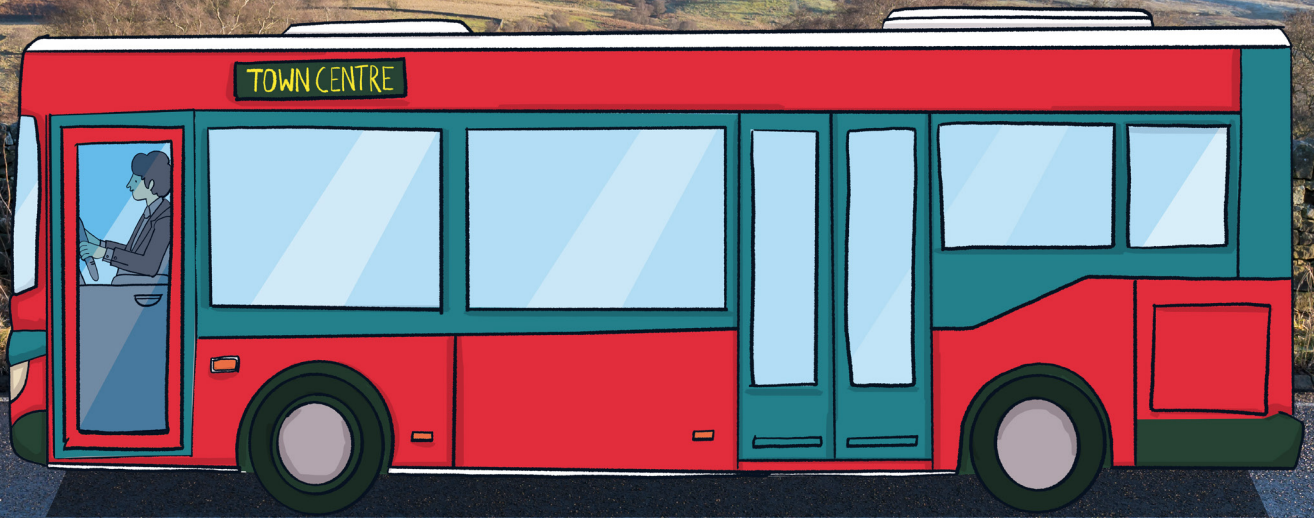
- **Public funding and affordable fares:** the new duties to provide legally defined minimum service frequency standards must be backed by government providing local transport authorities with sufficient funds. These funds must be ring-fenced for the purpose, rather than subject to diversion towards other calls on local authority budgets. Rural communities across Germany and Switzerland enjoy excellent public transport because their governments treat bus services as a public good and fund them as such. Moreover, they recognise that to realise the social, economic and environmental benefits, public transport must not only be available but must also be affordable. The Verkehrsverbünde covering Vienna city-region has seen ridership grow steadily on the back of its ‘Euro-a-day’ policy, where for €365 people can travel as much as they like wherever they like all year. The residents of rural England that use and rely on buses include particularly those with lower incomes, the young, and the old. For many of these people, affordable access to a local bus service can be life-changing. For those on low wages, whether a bus fare is low or high can determine whether it pays to take a job. A rural bus policy fit to tackle the climate emergency must mean affordable services as well as frequent services.
- **Regulation:** Zurich, Bern and North Hesse do not leave the provision of public transport to the magic ‘invisible hand’ of the free market. They understand that an unregulated commercial imperative would, as has happened in Britain, cherry-pick the few core profitable routes and neglect the rest of the network. These regions have excellent rural bus services because they have ensured that there is a regional ‘guiding mind’ authority that can actively plan for that outcome. The need for regulation of public transport in rural Britain is apparently so glaring that The United Nations Special Rapporteur on Extreme Poverty and Human Rights made the following statement in the conclusions of his Statement on Visit to the UK:

‘Transport, especially in rural areas, should be considered an essential service, equivalent to water and electricity, and the government should regulate the sector to the extent necessary to ensure that people living in rural areas are adequately served. Abandoning people to the private market in relation to a service that affects every dimension of their basic wellbeing is incompatible with human rights requirements.’²⁶

Backed with public funding, regulatory powers and statutory duties, transport authorities in North Hesse, Zurich and Bern purposely design the bus network that best serves the public interest, and can choose what they judge to be the best mode of service delivery, drawing on both publicly owned not-for-dividend operators and privately owned operators. If they so choose, they are empowered to run profitable services themselves on a not-for-dividend basis and invest the surpluses in provision of services to rural areas.

- **Integrated network planning, ticketing and timetabling:** the bus services in the rural regions of Germany, Austria and Switzerland are part of a fully integrated public transport network, with bus and train timetables totally unified. Switzerland's national 'Taktfahrplan' (pulse timetable) encompasses every public transport movement in the whole country and makes it possible to get conveniently from almost any one place to any other place by public transport. Munich city region Verkehrsverbünde works to the slogan 'One Network, One Timetable, One Ticket' – an obviously desirable outcome, but one that is impossible to achieve in England outside of the regulated regime that London retained when the rest of England's bus system was deregulated. Yet this integrated approach to network planning, timetabling and ticketing is essential to making public transport in rural areas of England a practicable, convenient, attractive option for residents of rural areas. It ensures that public transport journeys connect smoothly between buses, trams and trains. It is the only way to make public transport travel a convenient and competitive alternative to driving a private car and therefore fit to tackle the climate emergency. The result of the integrated One Network, One Timetable, One Ticket approach is a network that is more than the sum of its parts, which is why Zurich Canton's annual public transport journeys per capita are more than six times higher than the English average outside of London²⁷.





5.

What would it cost
for rural England to
have 'every village
every hour' bus
services?

5.1 Costing methodology

A spreadsheet-based model has been constructed to calculate indicative costs for providing all of rural England with a Swiss-style comprehensive bus network. The aim of the modelling was to cost a vision that would provide all the 24 million people who live in rural England integrated public transport connections within rural areas and from rural areas to the nearest urban centres. For these purposes we have taken rural England to include Defra's official rural-urban classification categories 1-3: RUC 1: Mainly Rural; RUC 2: Largely Rural; RUC 3: Urban with Significant Rural.²⁸

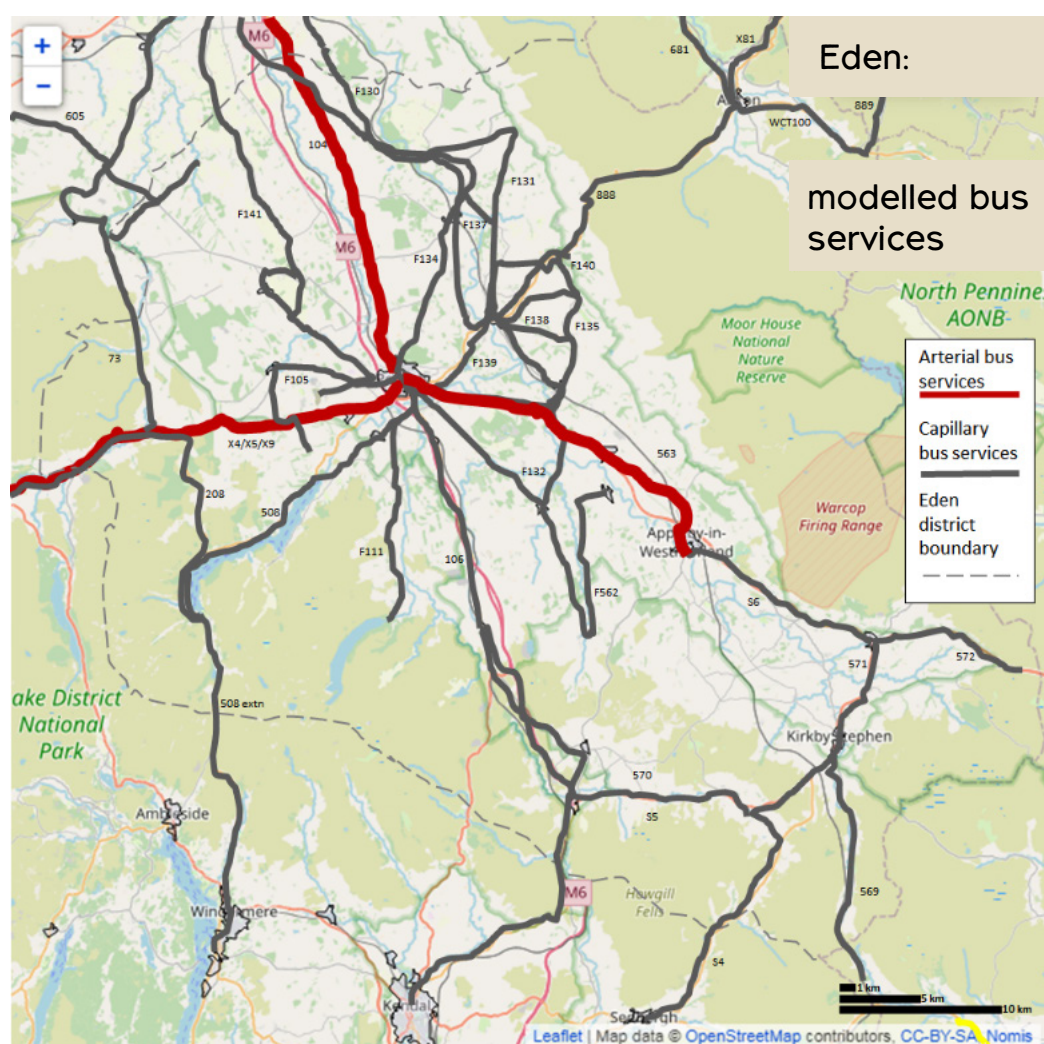
The model draws upon generously given professional expertise and experience. We are very grateful for the insights and support of practitioners with hard-won industry experience of successfully running rural buses commercially, dedicated local authority officers striving with diminishing resources to contract sufficient bus services to fill the widening gaps in the commercial networks, and eminent academic experts with specialist knowledge of bus operations. The model results and the conclusions drawn here are, nevertheless, entirely our own and not the responsibility of those who have kindly provided professional peer review and suggestions.

Comprehensive rural bus network costing model methodology in outline

1. The model takes four rural local authority districts as examples of different levels of rurality and creates a 'Swiss-style' bus network for them.
2. This network is based on a set of 'arterial services' on routes that have potential for full commercial viability once there is recovery to pre-coronavirus conditions.
3. 'Capillary services' were added to complement the 'arterial' services, on routes designed to take in all villages of significant size. 'Village' is not an officially defined term, so hourly services have been designed to cover every 'built-up area' as defined for Census purposes, and beyond that have covered every village known to receive any kind of bus or minibus service, even if only once per week. We estimate that this approach approximately equates to Swiss-style coverage of every village above 200-300 residents.
4. The vehicle distance that must be driven to operate this network of services ('bus-kilometres') is measured and costed, with different options for fare levels, frequency, days and hours of operation.

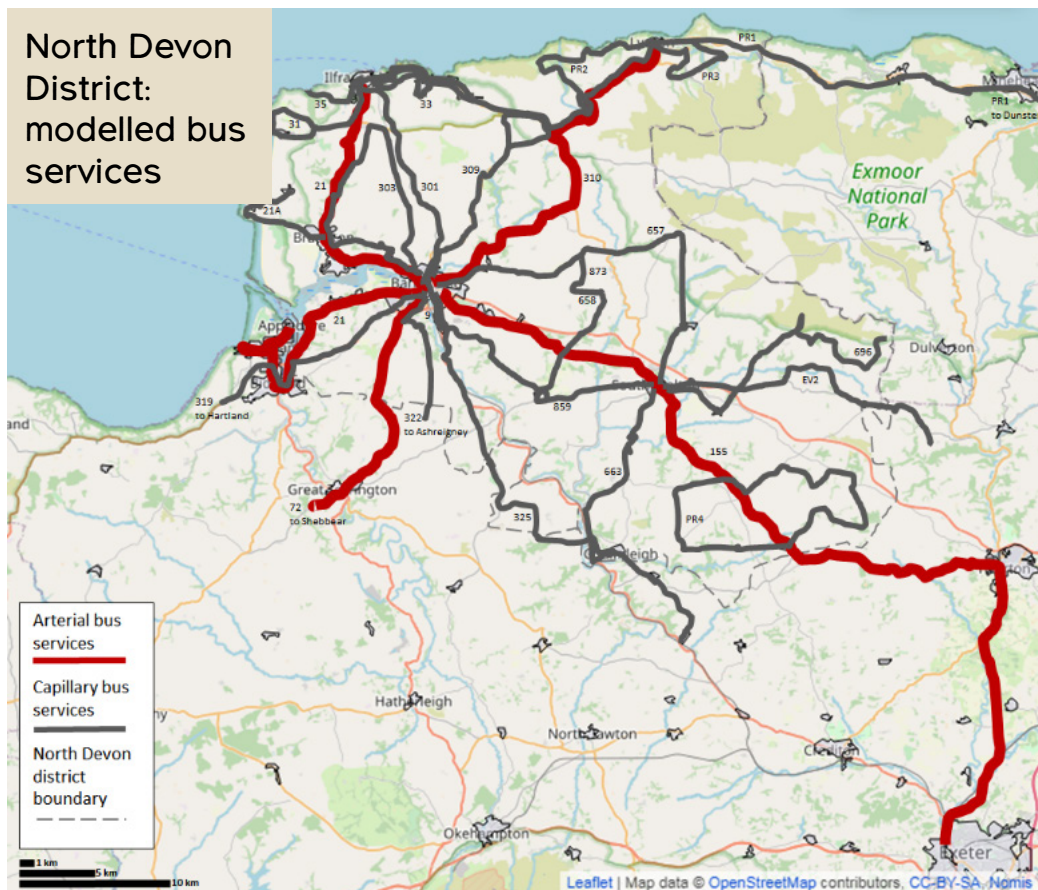
5. The model also includes an option to add different levels of demand-responsive service to provide services for places and times not covered by the scheduled service network.
6. The model considers four districts covering the three different official rural urban classification (RUC) categories and scales up from these to cover all rural areas of England on the basis of the population in each RUC.
7. The four districts in the model are Cherwell (Oxfordshire, RUC3), Eden (Cumbria, RUC1), East Lindsey (Lincolnshire, RUC1) and North Devon (RUC2).

For a detailed breakdown of model assumptions and inputs see Appendix 1 and the model itself at <https://www.cpre.org.uk/>.

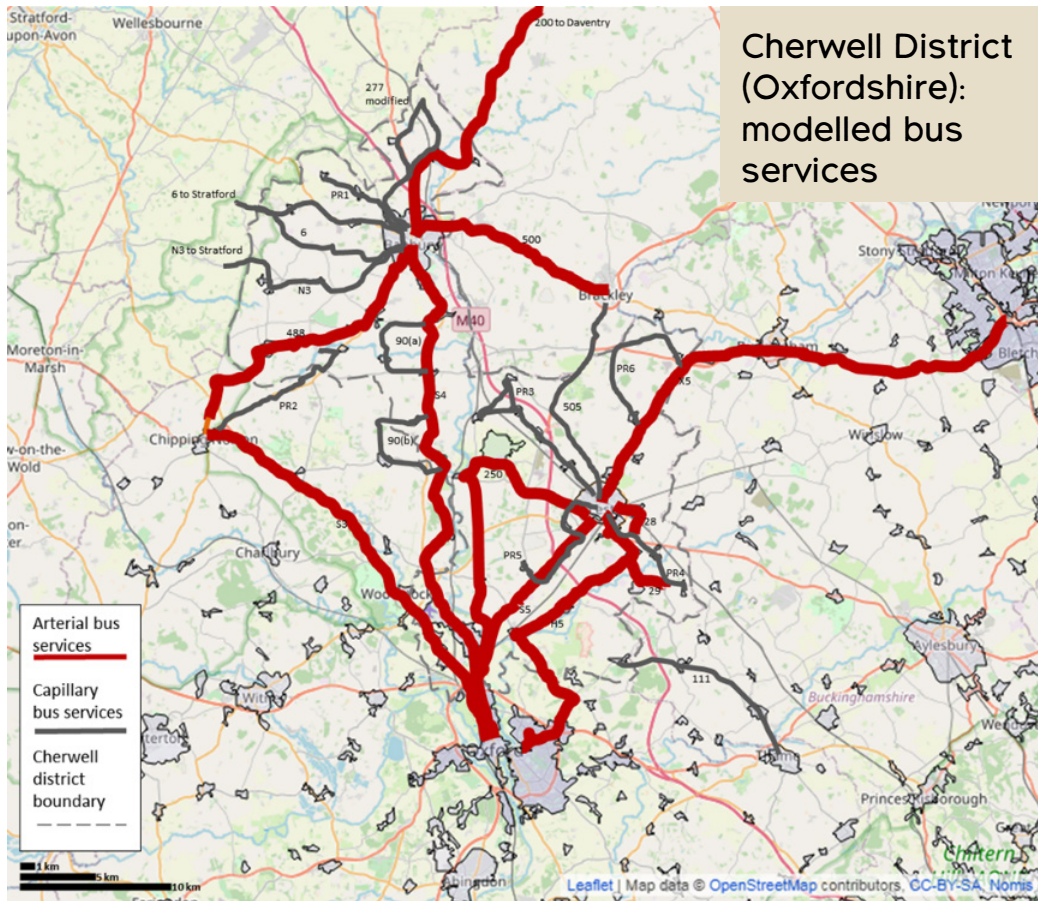




Map 5.2:
Modelled bus services for the ‘mainly rural’ district of East Lindsey in Lincolnshire.



Map 5.3:
Modelled bus services for the ‘largely rural’ district of North Devon.



Map 5.4: Modelled bus services for the ‘urban with significant rural’ district of Cherwell in Oxfordshire.

5.2 Model outputs

5.2.1 Central cost estimate for bus services to every village, every hour

Our modelling shows that a rural bus network for England that is as comprehensive as that provided by the Verkehrsverbünde in Germany, Austria and Switzerland would require additional spending in the order of £2.7 billion per year. This figure presumes bus fares continue at present commercial levels. Spending per person would be significantly less than that in Nordhessische Verkehrsverbünde in most districts, but would rise significantly above it in districts with very thinly spread populations. This level of investment represents an approximate doubling of the present spending on bus services in England but would deliver an incomparably improved network.²⁹ The government is currently proposing to invest an extra £3 billion in the bus network; our research shows that making this a long-term annual increase would more than fund a bus service for every village, every hour. An increase of spending to this level would represent an investment three times the size of the real terms loss in public bus funding in the decade since 2009.

For this investment, the whole of rural England would receive an hourly ‘capillary’ service to every village, from 6am until midnight, every day of the year. The ‘arterial’ services between market towns and regional centres would be boosted to services every 30 minutes. Although this quality of public transport network is standard in Verkehrsverbünde areas of Europe (and also in rural Holland and many parts of rural Scandinavia) this would be an incomparable improvement on our current standards and almost beyond the dreams of residents of rural England whose expectations have been diminished by decades of minimal or non-existent public transport. This comprehensive network would make it possible to travel conveniently by public transport from almost any place in rural England to any other place. It would be a bus system fit to tackle the climate emergency and capable of ending the social exclusion and inequality caused by the car dependency of rural communities.

5.2.2 Cost estimates for affordable or zero fares

To tackle inequality and social exclusion, bus services must be affordable for users of all incomes. The modelling shows that charging a £1 flat fare, akin to the one-Euro-a-day offer that has boosted public transport use in Vienna city-region, would cost £3 billion per year over present expenditure. Our modelling of the size of the cost increase incorporates allowance for the extra fare-paying passengers attracted by lower fares, a well-studied effect termed ‘demand elasticity to price’.

For the same comprehensive service to be provided with free fares, the additional cost over present would rise to £3.5 billion per year. The additional public expenditure to provide fare-free travel is proportionally a relatively small increase compared with the public cost of a network with current commercially set fares. This result arises from the modelling because, even on ‘commercial’ services, in many rural areas approximately half, or in some areas probably more, of bus operating costs are met from public funds provided as reimbursement for concessionary travel and the Bus Service Operators Grant.

For this level of investment, rural ‘transport poverty’ would be abolished, greatly widening access to jobs and broadening opportunity ‘horizons’ more generally. Local economies in rural areas would also benefit. It was primarily for economic reasons that the French town of Dunkirk decided to make its buses free, on the basis that €500,000 per year was lost from their local economy as fuel expenditure paid to multinationals headquartered elsewhere. Dunkirk Council’s rationale was that the lower income groups that are most likely to go out and spend money, rather than save it, are also the groups most likely to switch to buses. Therefore, free buses would be a well-targeted way to retain this money in the local economy, while helping the people that need it most. Expenditure on free rural buses would also have a positive impact on climate damage and air pollution, judging from the Dunkirk experience that has nearly doubled bus trips, with half of the new users switching from cars.³⁰

5.2.3 Cost estimates for demand-responsive transport (DRT) services to fill the gaps

Even the world-leading Verkehrsverbünde accept that some isolated dwellings and settlements remain beyond the reach of scheduled bus services. Services like Anrufsammeltaxi give an assurance to travellers that even when their journey is too early or too late for scheduled services or where their journey goes beyond the reach of the scheduled transport network, they will not be abandoned and will be able to get a trip to or from home at the same cost as a bus fare or just a little more. The model shows that if the hourly capillary services to country villages were supported by an on-demand service as comprehensive as that in Lincolnshire (Lincolnshire CallConnect), the additional cost would be £100m per year. Our central cost estimate assumes just half the cost of the Lincolnshire service on the basis that the much-improved scheduled services would cover much of the present use of that DRT.

For this additional expenditure, the public transport network would become a feasible option for 100% of rural dwellers, and perhaps just as importantly, would be a network that all rural dwellers know they can rely upon 100% of the time, even outside of scheduled service hours or even if unforeseeable service disruption caused a connection to be missed. This sort of comprehensiveness and ‘peace of mind’ guarantee is essential to reach a level of service convenience and security that is competitive with private car ownership. It enables ordinary people to make practical choices to travel in ways that benefit their health and the environment without disrupting their busy day-to-day lives and priorities.

5.3 Possible options for cost-efficiencies

5.3.1 Network effects and longer-term changes in behaviour

The cost modelling for this report is based upon extrapolation from present levels of use and fare income. There is an extensive literature of the evidence for how increases in service provision attract more bus users, and thence, more fare income to offset costs. However, these studies are based on instances of improvements in existing bus service frequency. They do not account for the ‘threshold effect’ of creating a much better network of services that will enable entirely new journeys to be made by people who did not have bus travel options before. The evidence that such an effect can be powerful is the much higher numbers of public transport trips per capita in Verkehrsverbünde areas than in comparable areas of the UK. Thus, establishment of a comprehensive rural transport network of the sort envisaged in this report would be expected to generate uplift in

patronage much greater (by a factor of at least 2) than that calculated using the standard values of how many more people start using a bus route when more services are provided ('elasticities of demand to service frequency'). Additional fare revenue from such an uplift in ridership is not factored into the model and thus would be a reduction on the costs calculated.

The academic and professional literature shows that longer term responses to higher level of provision of bus services will be much more than in the short term, approaching double the short-run elasticity. As people become accustomed to a good public transport option and come to trust that it will be there to support them in the longer term, they make big decisions – 'life decisions' – on the basis of the improved service. They may choose not to learn to drive, or not to buy a car, they may choose to move to live on one of the new bus routes, or they may take a job that has become accessible by the new services. The cost modelling for this study uses a factor somewhat above the short-run elasticity, but not so high as a long-run elasticity. The model thus gives a picture of what the fare revenue (and hence net costs) might be a few years after establishment of an every village, every hour network. Net costs for the levels of service provision described would therefore be expected to reduce in the longer term.

5.3.2 A 'Total Transport' approach

Two of the districts modelled lie within councils that were part of the Department for Transport's pilots of 'Total Transport' (Devon and Lincolnshire). This concept represents the logic of bringing within a single umbrella and budget the management of publicly funded transport services for education, non-emergency health appointments, and wider 'community transport'. The pilot counties have been able to bring together a number of services, but in the timescales of the pilots, NHS non-emergency transport provision proved largely intractable, a result of institutional and contractual obstacles as well as practical problems.

For this reason, our modelling has not allowed for any saving on the present NHS non-emergency patient transport spend. For patients who need help not only because they are remote from public transport but because for physical reasons they need a door-to-door service, increased scheduled services are anyway not sufficient. Demand-responsive services designed to infill the scheduled network may be able to undertake some of the provision required, if equipped with high-specification vehicles able to receive wheelchairs and driven by staff with appropriate training to assist patients to and from the vehicle at each end. The sums involved are significant (e.g. £8.1m per year is spent on non emergency patient transport within Devon³¹), so there is, in the medium term and beyond, a significant saving that may be attainable if there were comprehensive scheduled service provision and demand-responsive infill of the sort modelled in this study.

In the calculation of costs above present expenditure, the model developed for this study assumes that a coordinated system on the scale presented, would be able to cover about 30% of school transport needs, recognising that special educational needs and disability (SENDs) transport is a large part of school pupil transport budgets³² and may require special vehicle specifications, door-to-door service and staff training. Nevertheless, it is possible that a high specification of vehicle for the infill DRT services costed into the model could efficiently pick up more of these requirements.

Bus Service Operators Grant (BSOG) is support for bus operators that originated as a fuel duty rebate. This is now recognised as an outdated form of support, but it is also recognised that the monies it provides remain essential to support the system. It is likely that if BSOG were absorbed into a single budget for bus service provision entirely contracted or directly provided by a ‘guiding mind’ transport authority, efficiencies would be created. Such savings are not costed into our model but would reduce the costs of the modelled service provision.

5.3.3 Not-for-dividend bus operation

The model shows that approximately £140m per year would be saved if the entire network were to be delivered on a not-for-dividend basis. This is a comparatively small proportion of the public expenditure, but is capable of buying a significant amount of additional bus provision. Reading Buses, a publicly-owned bus company, have estimated that they are able to reinvest £3m per year into their local bus network as a result of not paying dividends to private shareholders. Reading has steadily upgraded its bus services and bucked the wider trend of declining bus use.³³

Table 5.1

Summary of cost estimates for services to every village, every hour 6am-midnight 7 days per week	
Central cost estimate (includes some on-demand back-up and infill service)	£2.7bn/yr
£1 flat fare	£3bn/yr
Free fares	£3.5bn/yr
Comprehensive on-demand back-up and infill service	add £100m/yr
Operation by not-for-dividend municipally owned operators	subtract £140m/yr



6. Covering the costs

The economic, social and environmental benefits outlined in Section 1 indicate that a comprehensive bus network that significantly increases the proportion of journeys taken by public transport would vastly outweigh the costs of investing in bus services for every village, every hour.

However, we recognise that there are many claims on public funding. If fiscal priorities require it, there is a range of options that the government could adopt alongside the necessary investment in bus services to deliver a revenue neutral package.

First, if bus services were made a genuine alternative to car travel, it would be possible to bring down the cost of a comprehensive bus network by applying parking charges more widely and increasing them to reflect more accurately the negative externalities of private car use. Higher parking charges would not only provide useful revenue in their own right, but they provide an important price signal encouraging greater use of public transport, increasing the fare revenues from bus services and potentially making many more rural bus services commercially viable or feasible at affordable levels of public funding.

Second, the ongoing spending on major road building projects across the countryside could easily cover the average cost modelled for a comprehensive bus network serving every village every hour. Research has already shown that road building is environmentally damaging, induces more traffic, and rarely delivers the economic benefits claimed for these projects.³⁴ Now, the reductions in car travel necessary for transport decarbonisation, and the fact that current schemes threaten to negate 80% of the carbon savings from electric vehicles up to 2032, means that road building funds could be much better spent on public transport.³⁵ Redirecting spending from road building across the Roads Investment Strategy 2 and the National Roads Fund could provide £3.5 billion per year for funding a bus service for every village, every hour.

Currently, visiting many parts of the English countryside is exceptionally difficult by public transport. However, improving rural bus services would make the countryside substantially more accessible for people living in cities who want to enjoy our landscapes, boosting visitor numbers and tourist spending³⁶. Capturing some of this added value by introducing a visitor lodging levy charging a small nightly fee to tourists, such as that used in countries like Switzerland, could raise up to £1 billion per year towards the cost of a bus service for every village, every hour.³⁷

Similarly, improving public transport connectivity across the country would hugely benefit businesses both by increasing spending in high streets and by giving access to a significantly wider pool of potential customers and employees. The transformational increase in rural bus services that we are calling for would deliver enormous benefits to private businesses and the

government could seek to share the costs of a comprehensive bus network with some of the winners. Rural businesses, currently held back by what is in effect an evening and Sunday transport curfew for residents of rural towns and villages, could thrive with bus services transporting customers from the early morning to midnight. Country pubs in particular could see a big benefit from a comprehensive bus network, but so would all businesses through the spending of younger and older residents currently trapped in transport deserts.

Introducing a public transport payroll levy would allow the government to share the costs of a comprehensive bus network for England with benefiting businesses. France takes a similar approach through the ‘Versement Transport’, which allows local authorities to levy a charge on businesses with 11 or more employees, in proportion with the total size of their workforce. The Versement Transport provides over £6 billion a year for investing in public transport while ensuring that large businesses pay the greatest share. A levy at around half the rate of the Versement Transport would be sufficient to fully fund a bus service for every village, every hour across England.³⁸

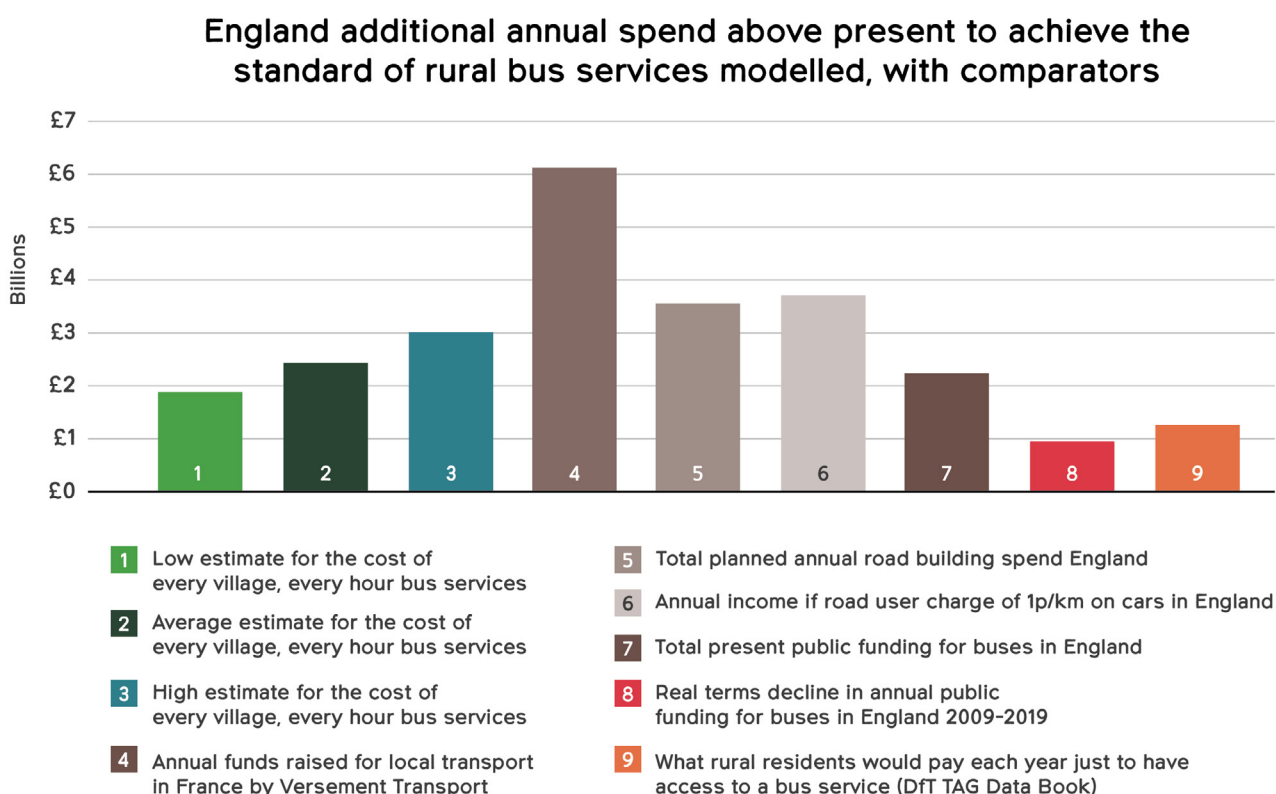
Figure 7.1 compares the proposed expenditure on an every village, every hour bus service with these possible sources of revenue. It also shows that a charge per kilometre on car use, set at just one fifth of the statutory price of a supermarket plastic bag, would pay for the entire upgrade to an every village, every hour bus service. In fact, that level of road user charging would provide sufficient income to provide a completely free service, with all the social, economic and environmental benefits that offers.

This graph also plots the approximate value that rural residents would themselves place upon having access to a bus service, using the Department for Transport’s recommended Transport Appraisal Guidance (TAG) Data Book value for what people say they would pay to have a bus service, when they are asked in surveys. The figure generated is a very minimal value for the mere existence of a bus service, and does not capture the value that people might put upon a comprehensive, frequent, fully integrated service of the kind proposed in this report. Moreover, this valuation takes no account of the wider benefits to climate, public health, air quality and the wider economy that a bus network would bring. Nevertheless, the expressed ‘willingness to pay’ is more than £1 billion per year.

An every village every hour bus service would also immediately create thousands of new jobs driving, maintaining and providing operational support to rural bus services. The costs of every village, every hour buses should be considered in light of the direct generation of these secure, good quality jobs, accessible to a wide range of people, in rural areas where

such jobs are desperately scarce. The International Labour Organisation has estimated that a shift to ‘green transport’ across the region covered by the UN Economic Commission for Europe, by increasing spending on public transport and reducing fares, could create at least 5 million jobs.³⁹ Investing in our every village, every hour vision will set England at the forefront of this economic boom, helping to ensure a just transition to a net-zero transport system and building supply chains that could be the basis of a major British manufacturing success story in the coming decades.

Figure 7.1





7.

Conclusions and recommendations

The analysis underpinning this report was commissioned as a result of CPRE's concern about the long-standing and intensifying social, economic and environmental damage that inadequate public transport provision is causing in rural areas. As this report is published, the coronavirus pandemic has further imperilled rural public transport, wiping out the revenue from even the strongest hitherto commercially viable bus routes.

Yet public transport must once again become a part of normal life. Climate breakdown, air quality, road congestion, public health and the functioning of local economies require us to return to high levels of public transport use. But to do this, it is crucial that we keep our public transport system alive and in a fit state to enable restoration of bus and train travel. Buses have been on life-support funding from the UK Treasury for most of 2020. The system must not be left to die at this crucial point, now that we are starting to see a way out of the coronavirus epidemic. There is an opportunity to use further tranches of emergency bus funding to put bus operations on a fully contracted basis that ensures services align with plans for an efficient comprehensive network of the type envisaged in this report.

Recommendation 1:

Continue emergency funding for bus operations, ensuring that the contractual terms are a fit basis to build back to a transformed rural bus network under a future fully regulated bus system.

This report has shown that other countries ensure that rural public transport is provided as a fully-integrated comprehensive system that is purposely designed to provide the maximum public good under the governance of a regulatory 'guiding mind'. The value of public transport services is recognised in law and local transport authorities are provided with both powers and funding to create a public transport network that measures up to the needs of rural residents' daily lives and the epochal challenges of air pollution and climate change.

Recommendation 2:

Recognise a universal basic right to public transport and back it with statutory duties for local transport authorities to provide Swiss-style legal minimum service frequency standards to villages and towns, according to their size.

Recommendation 3:

Legislate to establish bus regulation under the ‘guiding mind’ of local or regional transport authorities in all areas, with the option for local transport authorities to contract services or to provide them directly so as to reinvest the shareholder dividend savings.

The modelling in this report shows that the uplift required to create a transformation in rural transport is affordable for England. It could, for example, be easily funded by diversion of monies earmarked for climate-damaging road projects or a road user charge of less than 1p per km. It could, with those sums, even be made free, which would abolish the transport-constrained life horizons in rural areas and provide an incentive to shift from private vehicles that would be commensurate with the immense challenges of climate change, toxic air and obesity from sedentary lifestyles. Other countries give local authorities powers to raise monies for public transport such as a visitor lodging tax or a local payroll tax.

Recommendation 4:

Establish revenue funding at national level in the order of £2.7 bn per year to enable an ‘every village, every hour’ bus network.

Recommendation 5:

Redirect funding from current road building schemes to fund the ‘every village, every hour’ network. Review the range of fundraising powers deployed by local transport authorities in other countries and assess the best ways to enable English transport authorities to access similar powers.

Recommendation 6:

Ensure that the transformed rural public transport network is affordable or free, to put an end to rural transport poverty and to provide an alternative to car use sufficiently attractive to address the climate emergency.

Rural public transport in other countries is easy and convenient to use. The ‘One Network, One Timetable, One Ticket’ approach underlies the high levels of public transport use in continental Verkehrsverbünde areas. Switzerland (with Germany on course to achieve similar) operates a ‘pulse timetable’ (Taktfahrplan) across the whole nation, ensuring every mode of public transport connects right through to the most rural destinations.

This report has concentrated on modelling of the bus system and bus-bus connections. In other rural districts of England, bus-rail connections would be more crucial components of an upgraded rural public transport system, but present rail timetabling procedures, powers and commercial contractual constraints require major reform to achieve the degree of integration seen in countries such as Switzerland, Germany and Austria.

Recommendation 7:

Investigate how England, including all of rural England, could move to a single national public transport timetable, aligning all trains and buses on a 'pulse' model of repeated hourly services.

The above measures and proposed funding could transform rural life in England. Bus services to every village, every hour could raise rural transport to a level fit to address the climate emergency, abolish rural transport poverty, boost social inclusion and help sustain and restore thriving rural communities.

This should be our ambition for rural England.



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Credits

Authors

Christopher Hinchliff, CPRE and Ian Taylor, Transport for Quality of Life

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Contacts

www.cpre.org.uk

www.transportforqualityoflife.com

Email: campaigns@cpre.org.uk

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Illustrations

Tom Jennings

Design

Small Axe

Contact us:

5-11 Lavington Street, London, SE1 0NZ

Telephone: 020 7981 2800

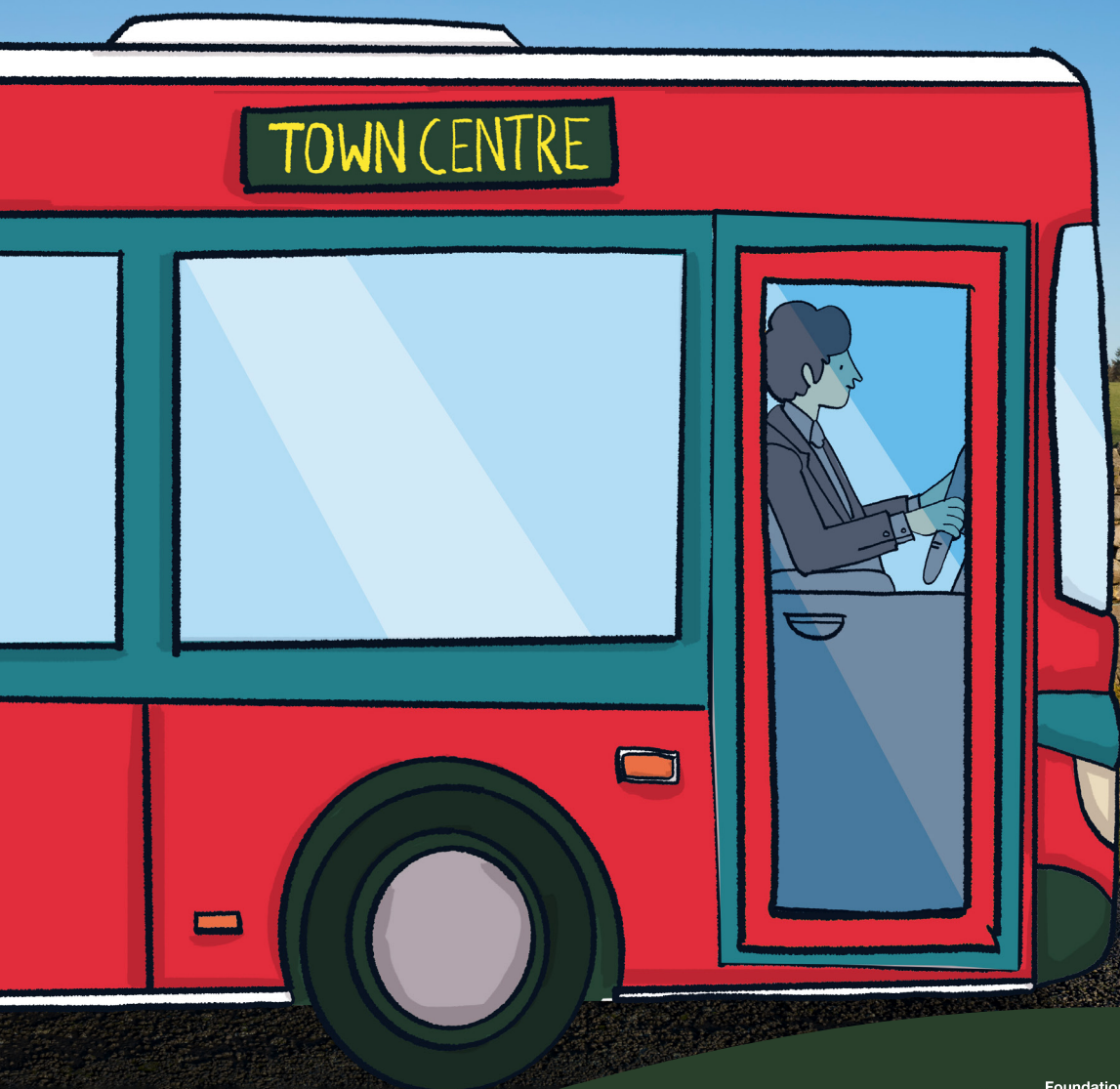
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