

# **Future of Rural Mobility Study**

## **Summary Report and Recommendations**

January 2020

## 1.0 Introduction

The future of mobility can reinvigorate the economic vitality of rural towns and villages. New technologies can bundle demand from all ages and, alongside new ways of working and delivering services, can improve the way we live and work. This means more attractive places to retain young talent, attract business investment and reduce isolation.

We can only achieve this step change in connectivity by expanding the market for ideas and empower more parts of the country to explore how new technologies can transform their areas – that's why we are calling on government to expand the Future of Mobility Fund to include our more rural communities.

## 2.0 Our rural areas

The make-up of our rural communities and businesses is different to more urban areas, and therefore, the transport and access issues faced by our rural communities and businesses are substantially different to those in more urban settings.

Examples of the different features of rural economies include:

- 24% of the rural population is over 65, compared to 16% in urban areas; the only age-group where there is an outward migration from rural areas is 16-25-year olds.
- Manufacturing and construction constitute slightly larger shares of rural than urban economies (10.3% of businesses in all urban areas are in construction compared to 11.5% in all rural areas; 4.6% manufacturing in all urban areas compared to 5.3% in all rural).
- Rural businesses are often micro-businesses that serve and support wider supply chains.

In terms of rural transport:

- Cars and vans overwhelmingly dominate rural travel, accounting for 76% of trips in 2016/17, significantly higher than urban conurbations (53%).
- Average weekly transport costs for those in rural hamlets and isolated dwellings were around £132 which accounted for 15.1% of their weekly disposable income, which was £58 higher than for urban areas.
- Rural areas are on average nearly twice as far from their nearest services than urban areas, including town centres and hospitals (hospitals by public transport (34mins/61mins) and by car (18mins/26mins)).
- Access to education and training is similar, with secondary school students from villages, hamlets and isolated dwellings travelling 7.0 miles on average, compared to 2.8 miles in an urban conurbation.
- Responses to our survey showed that one in ten (11%) respondents in rural communities have missed or delayed medical treatment due to a lack of transport.

2.1 Rural communities have fewer transport choices, and businesses struggle to recruit and retain suitably qualified employees. All of these issues can be resolved through the use of technology in mobility services, the comprehensive provision of mobile phone coverage, superfast broadband and 5G, and through different funding and delivery models for public transport and service provision.

2.2 There is an appetite, and we believe a demand for new ideas in the transport industry – with over 300 people and organisations engaged so far, from local communities and businesses to service providers like the NHS and public transport operators – with new technology we have an unprecedented opportunity to do things differently and improve peoples' lives.

The future of mobility should maximise and connect the opportunities that each Local Industrial Strategy will drive for their areas.

### 3.0 Maximising the potential of rural areas

The 'bundling' of demand for services can address poor bus patronage and can stimulate innovation. Bringing together a range of services including transport and health at 'hubs' may help counteract isolation at the same time as tackling rural access and health issues, and support entrepreneurs and small business growth. Whilst connecting people and services digitally can improve efficiency and reach of services, making transport more responsive to individuals' needs is also important.

Maximising rural connectivity and supporting networks has many economic benefits, beyond just increasing demand. Our work to explore alternative scenarios suggests a more productive rural economy can rebalance transport demand and reduce congestion whilst offering choices for people to address their needs to access work, services and leisure. There is a bright future if we embrace it, and new technologies can provide new initiatives to move to a more sustainable future.

#### 3.1 Examples of how our partners have addressed these issues:

##### Herefordshire Park and Choose

Herefordshire Council set up a Park and Choose scheme in up in 2011. 17 of the 29 sites across the county are situated in rural locations and are mainly used by park & share users, and the remaining urban sites are utilised mainly by park & cycle users.

There are currently 128 registered members.

The most popular sites are the five sites are on the periphery of Hereford, nearly all of which are used by commuters to park and cycle into the city. Commuters at these sites tend to use the scheme multiple days a week. Improvements in 2017/18 to these five sites included additional bike lockers and signage.

These park and choose sites are not 'park and ride' schemes, however some are located in close proximity to a bus stop with services into Hereford or market towns, so effectively have park and ride functionality.

##### ArrivaClick, Leicester

ArrivaClick is an intelligent minibus service that responds to demand. It offers the convenience of a taxi with the cost effectiveness of a private vehicle, providing a corner to corner service (not quite door to door, the service usually requires a short walk) that takes passengers where they want, when they want. Customers travel in style with free Wi-Fi, charging points, tables and leather seats, making it ideal for commuters and visitors.

The Leicester ArrivaClick operation is a partnership with the Drummond Estate and is using part of the section 106 funding; they envisage the service connecting their development in West Leicester (New Lubbesthorpe) to the city and key destinations within the operating zone, allowing commuters to use the service for all journey types. So far, there has been week on week growth in the service and it has acquired over 10,000 customers in Leicester and is currently delivering over 1,500 rides a week.

### Shropshire Council/Westfield automated pod trials

Shropshire Council is in continuing dialogue with the Westfield Group to progress a number of trials of automated pods in the near future. The vision is to integrate bus, rail and active travel transport solutions which will enable travel to community hubs and park & ride (P&R) hubs from which travel into towns via the pods for the 'last mile' becomes a more sustainable solution.

Until this becomes a viable choice, Shropshire Council has recently committed to increasing the frequency of the P&R service to every ten minutes from all three P&R sites (to become hubs) and is actively trialling a number of electric vehicle (EV) options with a view of having a full EV P&R service by 2021.

### The Kiln, Worcester

The Kiln, recently opened in Worcester (<https://thekiln.co/>) can enable home-based business owners to be part of a business community and access facilities that they cannot afford at home without the costs of a fixed premises. The facility provides desk space and meeting rooms, and super-fast wi-fi.

### Access Lincoln

Access Lincoln is a behaviour change programme funded by the Department for Transport's Access Fund, to encourage people to switch their travel to more sustainable modes such as walking, cycling, and public transport. Access Lincoln has offered a range of initiatives to local residents such as large scale cycling events including CycleFest at Doddington Hall; lunchtime 'Leg Stretches' to keep sedentary workers active; bike 'pop up' events on major cycle routes around the city such as 'Light Up Your Bike'; Dr Bike sessions at dozens of workplaces to get employees' bikes road ready; led bike rides around the city; the creation of 'MicroBreaks' – a video initiative encouraging residents to visit local attractions via sustainable modes; and providing the Access Lincoln Bus Pass for new employees, encouraging public transport as a first choice

Access Lincoln is also creating a strategic walking & cycling network plan for the Lincoln area to provide the basis for future funding bids and to offer a vision of a modern cycle network fit for a sustainable city.

The project has been successful in engaging with over 13,000 residents through their events to date, 120 job seekers have been helped into employment, and over 5,000 residents have been provided with a personalised travel plan; giving them all the options from driving, to public transport to walking and cycling.

## **4.0 Outcomes from the Study**

The Future of Rural Mobility Study focused on the human and business needs in our rural areas first, and then considered options to address those needs, both technical and non-technical in nature which resulted in the development of a Toolkit. The Toolkit provides an illustration to partners and industry for what rural mobility could look like in the future and provides options for what could work locally.

4.1 We will need support from government, communities and from industry to enable our rural communities and businesses thrive. The country would benefit from a Future of Rural Mobility Fund that generates new ideas for improved accessibility and transport in all areas.

### 5.0 Supporting the needs of our communities

The Study has considered people living in rural areas in terms of use cases/economic personas, alongside the geographical hierarchy of access and needs, so that opportunities for improving access and mobility could be identified, together with the barriers which will need to be overcome. Tables 1 – 3 below illustrate the economically active, economically inactive, and community/others use cases.

Table 1. Economically active

<b>Economically active</b>	<b>Current transport context</b>	<b>The technology opportunity</b>	<b>Barriers to the technology</b> (market failure, culture, cost and different areas)
<b>Urban commuters</b>	Travelling to and from work in large town or city; taking children to school which may not be local; some may stay away from rural homes during the week.	<ul style="list-style-type: none"> <li>- Home working full or part time;</li> <li>- effective public transport/demand responsive transport to drop off/pick up children from school and travel to office when required;</li> <li>- rural work hubs.</li> </ul>	<ul style="list-style-type: none"> <li>- Not all jobs are suitable for home working;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas.</li> </ul>
<b>Rural workers</b>	Travel short distances (usually) within the rural area for work on farms, workplace may change with season, transport may be provided.	<ul style="list-style-type: none"> <li>- Demand responsive transport;</li> <li>- bikes/e-bikes.</li> </ul>	<ul style="list-style-type: none"> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas.</li> <li>- changing patterns of working hours and workplaces;</li> <li>- local rural roads do not always have safety infrastructure for cycle use;</li> <li>- cost to the user.</li> </ul>
<b>Local service workers</b>	Generally short rural commutes to employers such as supermarkets, care providers, schools, law and accountancy firms.	<ul style="list-style-type: none"> <li>- Bikes and e-bikes;</li> <li>- demand responsive transport;</li> <li>- effective and regular public transport with real-time information on location and availability.</li> <li>- Demand responsive buses</li> </ul>	<ul style="list-style-type: none"> <li>- Cost to the user;</li> <li>- local rural roads do not always have safety infrastructure for cycle use;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas;</li> <li>- insufficient bus services available or demand responsive bus service</li> </ul>
<b>Home-workers</b>	Travel to access services such as GP, PO and shops. Infrequent travel to a city for work purposes.	<ul style="list-style-type: none"> <li>- Full time home working;</li> <li>- effective and regular public transport or demand responsive transport for access to services;</li> <li>- rural work hubs to counter isolation and encourage networking.</li> </ul>	<ul style="list-style-type: none"> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas</li> <li>- lack of rural work hubs;</li> <li>- insufficient bus services available or demand responsive bus service</li> </ul>
<b>Vehicle based workers</b>	Farms, food processing plants and warehouses all require reliable journey times to ensure products remain fresh. Need to have ready access to farms, food processing plants, warehouses without facing delays. Increased internet shopping has led to more delivery	<ul style="list-style-type: none"> <li>- Effective public transport to reduce the number of individual vehicles on the road</li> <li>- deliveries made to local hubs rather than individual homes/businesses</li> </ul>	<ul style="list-style-type: none"> <li>- Climate change resulting in flooded roads</li> <li>- insufficient bus services available or demand responsive bus service</li> <li>- lack of hubs for delivery points in rural areas.</li> </ul>

	vehicles on roads. Demand for quick delivery means parcels are less likely to be bundled together. As likely to serve the rural business community as the rural resident.		
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Table 2. Economically inactive

<b>Economically inactive</b>	<b>Current transport context</b>	<b>The technology opportunity</b>	<b>Barriers to the technology</b> (market failure, culture, cost and different areas)
<b>Residents not in education or employment but seeking to be so</b>	Struggle to access education and employment, employment likely to be local, may not be able to afford to own a reliable car. Will struggle to access services such as health care.	<ul style="list-style-type: none"> <li>- Wheels to work scheme;</li> <li>- bikes and e-bikes;</li> <li>- effective public transport with real-time information on bus location and availability;</li> <li>- demand responsive transport.</li> </ul>	<ul style="list-style-type: none"> <li>- Cost to the user;</li> <li>- local rural roads do not always have safety infrastructure for cycle use;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas but is needed for real-time information to be reliable;</li> <li>- insufficient bus services available or demand responsive bus service;</li> <li>- cultural and educational issues with an inability/poor ability to use internet.</li> </ul>
<b>Children/young people</b>	Children are travelling further to schools with greater choice over schools attended. Friends live further away so children are reliant upon parents for lifts. Young people needing to travel further afield for education, training and early employment opportunities.	<ul style="list-style-type: none"> <li>- E-bikes and safe cycle lanes;</li> <li>- autonomous vehicles;</li> <li>- demand responsive transport;</li> <li>- effective public transport with real-time information on bus location and availability;</li> <li>- parent could travel with the child and return on their own on effective public transport/autonomous vehicle/demand responsive transport.</li> </ul>	<ul style="list-style-type: none"> <li>- insufficient bus services available or demand responsive bus service;</li> <li>- safety concerns (for children using e-bikes, traditional public transport or modern tech-based transport on their own);</li> <li>- local rural roads do not always have safety infrastructure for cycle use.</li> </ul>
<b>Residents not in paid work, including pensioners, at risk of isolation</b>	May not drive or have access to a car, reliant on public transport. Access to medical care increasingly important as they age.	<ul style="list-style-type: none"> <li>- Autonomous vehicles to transfer residents to public transport points, service provision and leisure venues;</li> <li>- real-time information on bus location and availability;</li> <li>- demand responsive transport;</li> <li>- electric buggies/scooters;</li> <li>- car share/lift share.</li> </ul>	<ul style="list-style-type: none"> <li>- Trust in autonomous vehicles and in car share/lift share scenarios;</li> <li>- Need to trial autonomous vehicles in rural areas, programming will be more complex for rural areas;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas, but is needed for real-time information to be reliable.</li> </ul>

Table 3. Community/other

<b>Community/other</b>	<b>Current transport context</b>	<b>The technology opportunity</b>	<b>Barriers to the technology</b> (market failure, culture, cost and different areas)
<b>Visitors</b>	Could be business visitors, social/domestic visitors, or those visiting to provide a service such as a health care worker, dog walker. Likely to use private car.	<ul style="list-style-type: none"> <li>- Autonomous vehicles to transfer visitors between visits including private addresses;</li> <li>- real-time information on bus location and availability;</li> <li>- demand responsive transport.</li> </ul>	<ul style="list-style-type: none"> <li>- Trust in autonomous vehicles;</li> <li>- Need to trial autonomous vehicles in rural areas, programming will be more complex for rural areas;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas but is needed</li> </ul>

			for real-time information to be reliable.
<b>Tourists</b>	May use private car or public transport, harder to use public transport if unfamiliar with the area.	<ul style="list-style-type: none"> <li>- Autonomous vehicles to shuttle tourists from car parks to venues and between venues;</li> <li>- real-time information on public bus location and availability.</li> </ul>	<ul style="list-style-type: none"> <li>- Trust in autonomous vehicles;</li> <li>- Need to trial autonomous vehicles in rural areas, programming will be more complex for rural areas.</li> </ul>
<b>Time rich residents who don't need to work, early retirees for example</b>	Mobility focuses on leisure and use of local services - pub, PO, GP. Access to medical care increasingly important as they age. Probably own their own car.	<ul style="list-style-type: none"> <li>- Autonomous vehicles to transfer residents to leisure venues and points of service provision;</li> <li>- real-time information on bus location and availability;</li> <li>- demand responsive transport;</li> <li>- electric buggies/scooters.</li> </ul>	<ul style="list-style-type: none"> <li>- Trust in autonomous vehicles;</li> <li>- Need to trial autonomous vehicles in rural areas, programming will be more complex for rural areas;</li> <li>- mobile and broadband/5G coverage is patchy in rural areas and non-existent in some areas but is needed for real-time information to be reliable.</li> </ul>

5.1 We should not consider transport in isolation from wider mobility and accessibility – improved broadband coverage and mobile phone reception will benefit many of the identified needs but there are still areas where limited coverage will be a barrier to new ideas. There are also cultural and/or educational issues linked to not using the internet when it is available. Approximately 7.5% of adults in the UK had never used the internet in 2019, which needs to be considered when promoting new transport services or new bus timetables for example.

<https://www.ons.gov.uk/businessindustryandtrade/itandinternetindustry/bulletins/internetusers/2019>

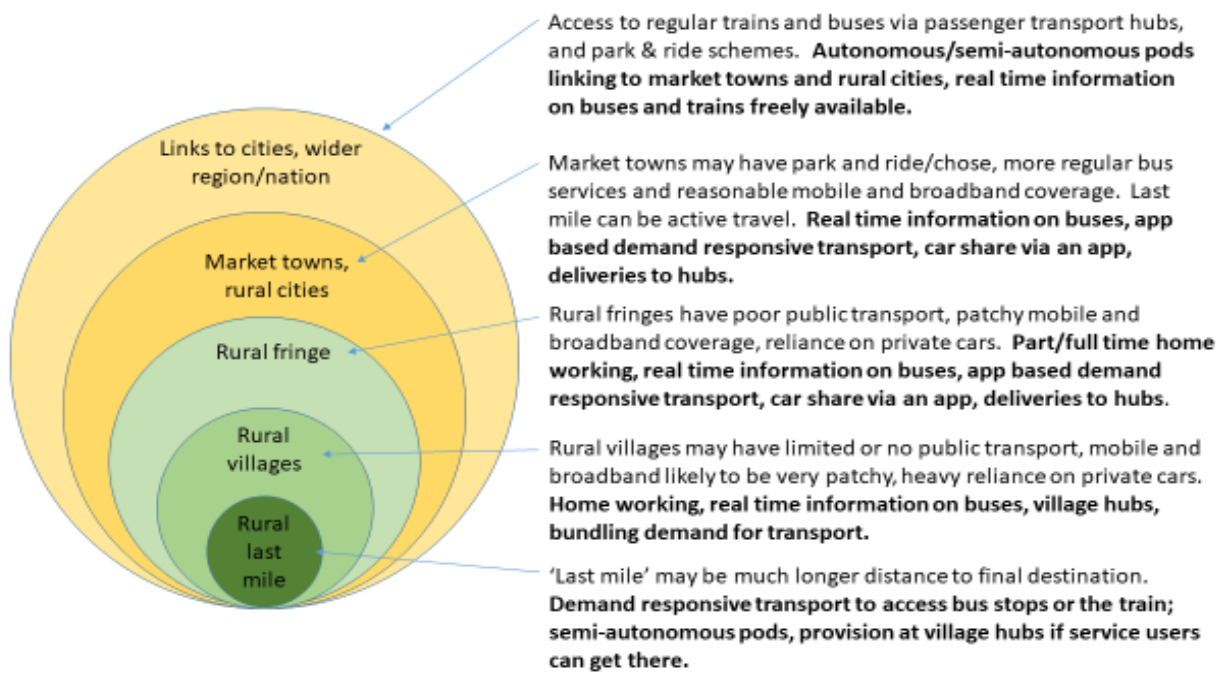
## 6.0 Different areas have different opportunities

A common feature across the rural areas is the value and strength of communities. Different areas have their own needs and opportunities, and groups like Community Transport Associations and Carpool clubs are already serving distinct needs of their areas.

6.1 The Future of Rural Mobility should make the most of community efforts but also explore where solutions can be scaled up. Communities should use initiatives like the Future High Street Fund and National Bus Strategy to kick-off new ideas, but a dedicated Future of Rural Mobility Strategy should provide a framework for more areas and industries to learn and scale what works to benefit the whole country.

6.2 We believe the potential for hubs as key locations for new technologies and service provision should be considered across communities and geographies, with each new idea having the potential to 'plug into' the wider region – as illustrated below:





6.3 Our Future of Rural Mobility Toolkit now provides a menu of options for transport planners and others to consider which are appropriate for their areas. Consideration has been given to:

- a) New ways of moving people;
- b) Reducing the need for people to move; and
- c) Changing how services are provided, and taking goods to people.

6.4 Targeted pilots and trials will need to be undertaken on hubs, new technologies and new ways of working, to test their application in a rural setting. A clear evaluation framework will test whether they have and can succeed and how they can be applied elsewhere.

### 7.0 Recommendations arising from the Future of Rural Mobility Study

The recommendations which have arisen through the Future of Rural Mobility Study have been categorised as fresh approaches, new technology, or improved regulation, with one over-arching ask of the Government:

**Midlands Connect is calling for a Future of Rural Mobility Fund to explore these opportunities and options in the round and focus solutions on supporting human and economic needs.** The Fund should be linked to a holistic strategy which we think should address the following recommendations from the Study:

#### Fresh approaches:

1. Apply data science to build a more detailed picture of rural mobility demand and use this to re-design spatial networks and bundled demand for public transport provision.
2. Allocate public resources more efficiently with better use of data and analytics.
3. Future of Mobility trials can test and cultivate new customer markets for public transport utilising better data and analytics to target and bundle demand.
4. Investigate the potential for hubs to allow improved connectivity.

#### New technology:

5. Work with government to assess what data capture technologies may best support rural transport planning.



6. Invest in digital infrastructure to support improved bus services and subsidise smaller operators on less profitable rural routes.
7. Provide digital infrastructure for multi-mode travel apps at a national level to avoid a regionally fragmented marketplace emerging that could omit some rural areas altogether.
8. Integrate car-sharing into park & ride infrastructure with incentives such as lower-priced spaces for registered car sharers.
9. Incentivise cycling by providing safer cycle spaces and considering work-based subsidies and extending schemes such as Wheels-to-Work which tends to focus on scooters, to include cycles if appropriate.
10. Review the role that e-bikes can play in extending access for rural residents and supporting infrastructure to enable longer journeys.
11. Invest in infrastructure to increase rural rail frequency and capacity to meet growing demand.
12. Encourage multiple transport providers to work together to enable combined ticketing and journey planning for travellers.
13. Increase provision of sensors to enable autonomous deliveries in rural areas.
14. Ensure internet connectivity and landing spaces are available to allow rural areas to capitalise on drone technologies.

**Improved regulation:**

15. Review bus regulation and Total Transport trials as part of a new national bus strategy. This is a real opportunity to bring about change through the greater utilisation of assets.
16. Enable tax incentives to firms implementing car-pools, favouring the use of electric vehicles.
17. Review the highways legislation for rural footpaths, cycle-paths and bridleways, also rural roads without pavements to facilitate growth in electric micro-mobility.
18. Trial autonomous vehicles in selected rural sites to connect villages to transport networks.
19. Legislate for all forms of autonomous vehicles on rural roads, including agricultural vehicles, freight and passenger vehicles.
20. Review national transport budgets, infrastructure and existing transport provision to maximise the value of what's already there, including maximising the utility of "empty journeys".
21. Local authorities to ensure there are suitable premises for start-up businesses and small businesses to expand into.

Each area will be different, therefore the role of the local community, civic and business leaders will be vital to make this work. Now we need Government's support.