Midlands Connect
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Future of Rural Mobility Study

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Midlands Connect

"Midlands Connect is the strategic transport partnership of our region. We turn evidence into investment for long-term projects that will deliver real economic, social and environmental benefits for the Midlands and the UK"

The Future of Rural Mobility Study

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The Future of Rural Mobility Study (FoRMS)

October 2019

Gary Bosworth, Charles Fox, Liz Price & Martin Collison

University of Lincoln

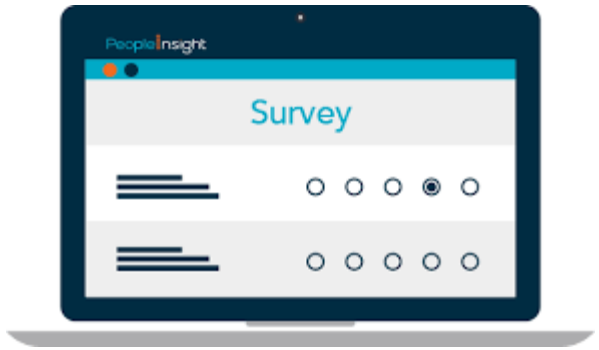
Commissioned the University of Lincoln on behalf of our partners

Focused on the human and business needs of rural areas

Assessed new and future mobility tools

Toolkit/menu of options including technical and non-technical

Stakeholder engagement



RSN survey

Key needs: access to health, local services and affordable housing

Broadband, mobile phone coverage and public transport are a means to address rural needs

Workshops

Interviews

Rural areas

- Not homogenous
- Varied economy
- Ageing population
- Reduced bus services
- ‘Last mile’ concept

The transport and access issues faced by our rural communities and businesses are substantially different to those in more urban settings.

Personas/use cases

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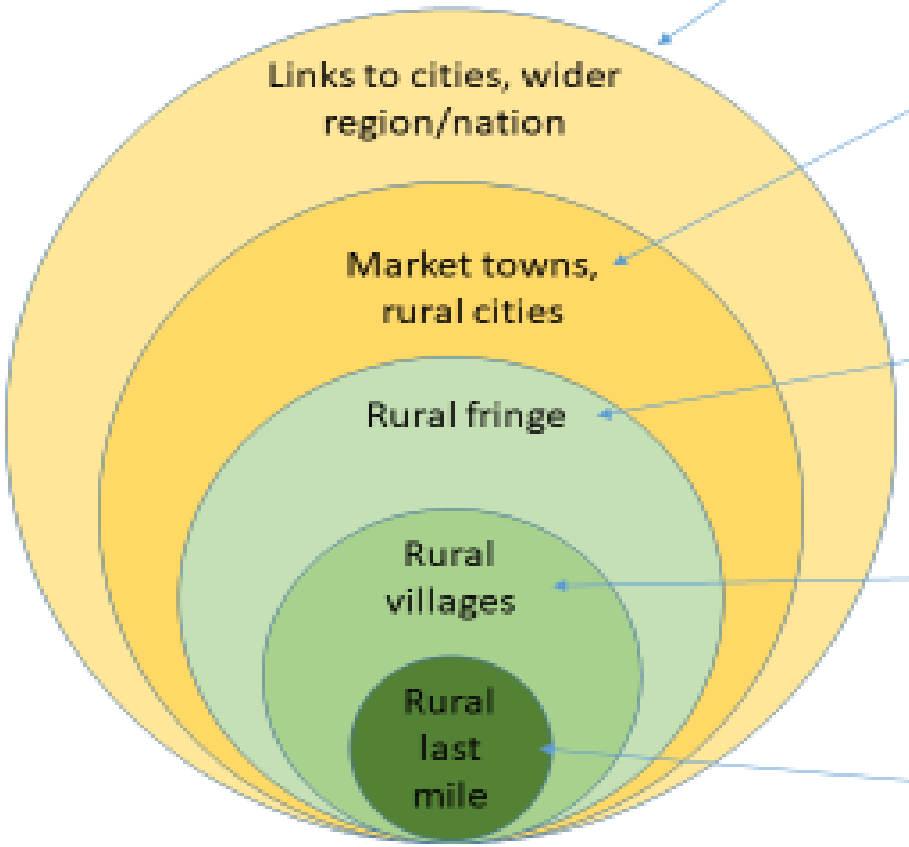
Use case/personas	Current transport context	Technology opportunities	Barriers to the tech
Urban commuters travelling from the rural to town/city	May drop children at school en route; may need to stay away from home	Potential to: work at home, use effective demand responsive transport, use workspaces in rural hubs	Barriers: not all jobs suited to home working; mobile, broadband, 5G patchy if available
Residents not in education or employment but seeking to be so	Hard to access education and employment, car may be unaffordable, struggle to access healthcare	Potential to: use wheels to work, bikes/e-bikes, effective public transport/DRT with connectivity	Barriers: cost to the user, local roads not suitable for bikes, mobile, broadband and 5G patchy, insufficient buses

Geography of need



Access to regular trains and buses via passenger transport hubs, and park & ride schemes. **Autonomous/semi-autonomous pods linking to market towns and rural cities, real time information on buses and trains freely available.**

Market towns may have park and ride/chose, more regular bus services and reasonable mobile and broadband coverage. Last mile can be active travel. **Real time information on buses, app based demand responsive transport, car share via an app, deliveries to hubs.**

Rural fringes have poor public transport, patchy mobile and broadband coverage, reliance on private cars. **Part/full time home working, real time information on buses, app based demand responsive transport, car share via an app, deliveries to hubs.**

Rural villages may have limited or no public transport, mobile and broadband likely to be very patchy, heavy reliance on private cars. **Home working, real time information on buses, village hubs, bundling demand for transport.**

'Last mile' may be much longer distance to final destination. **Demand responsive transport to access bus stops or the train; semi-autonomous pods, provision at village hubs if service users can get there.**

Potential technologies for rural mobility

Current, emerging and future technologies

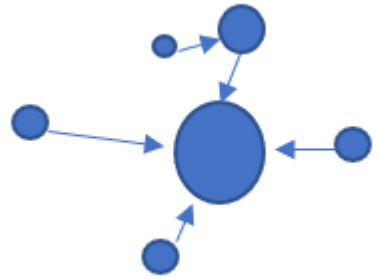
Wide range of opportunities, but not all are suited to rural areas

Other opportunities

Study recommendations

Fresh approaches:

1. Investigate the potential for hubs to allow improved connectivity.



New technology:

5. Invest in digital infrastructure to support improved bus services and subsidise smaller operators on less profitable rural routes.

5G

Improved regulation:

15. Review the highways legislation for rural footpaths, cycle-paths and bridleways, also rural roads without pavements to facilitate growth in electric micro-mobility.

Rural Mobility Toolkit

Tool / Rural need	Enhancing existing public transport (smart ticketing, dynamic scheduling etc.)	Self-drive, carpool and ride-share innovations	Independent transport (cycling, walking and electric micro-mobility)	Autonomous vehicles (people and goods)	Digital and online innovations (working from home and internet orders)	Village hubs
Community cohesion	Encourage public transport use; simplify payments and provide confidence to travellers.	Potential to generate more social mixing and companionship. Social enterprises and volunteers to operate schemes. Scope for drivers to offset cost of travel by offering lifts.	Promote use of local services and community facilities. Community groups work together to develop cycle hire schemes, travel together for safety etc.	Enable less mobile individuals to get out of the house without feeling reliant on other people. • Potential limitations for those with poorest physical mobility.	Online hubs and digital training centres can promote community cohesion. Village websites and social media spaces integrate with physical community activities.	A transport hub would provide the footfall to sustain more essential village services and activities.
Accessing key services (shops, banks, PO etc)	Sustain market town high streets through increased footfall.	Highly realistic for journeys that are not time critical. • Requires cultural change.	Support local businesses as part of a mix of retailing behaviours. • More limited functionality for bulkier shopping trips. • Requires secure parking spaces.	Could fulfil 'last mile' links to faster public transport. Reduce rapid increase in 'white van' traffic to the home. • Requires large scale network implementation with hubs, 5G, trackways, plus blockchain and microcontainerisation for freight.	E-retail and e-banking are growing, but excludes those not online. • E-retail increases freight journeys to rural homes. • Requires upskilling and confidence among users.	Retail delivery lockers reduce intra-village freight travel. Provide ATMs at the hub. Access point to fast travel to town centres can strengthen high streets.
Education, training and skills	Encourage public transport use and align school/college hours to transport timetables. Smart ticketing systems can allow easier implementation of subsidies for education-related transport.	Common destinations make car-shares realistic – potential to run from college or from rural community. Safeguarding and payments to drivers are possible. • Car-share reliant on willing volunteers with driving licences.	Desirable among young people if safe and mode-switch is possible. Data could be collected through wearable technology.	Could fulfil 'last mile' links to faster public transport. • Needs dedicated trackways and 5G.	High potential for online courses, especially among work-based learners. • Less desirable for younger and full-time learners.	Learning lounges; more mixing of learners and professionals. Bridge time between transport to school or college and home.
Health and well-being	Potential to link different forms of transport through joined up information and ticketing, which could include non-emergency health travel.	Enable better coordination across existing voluntary patient transport schemes. Common destinations allow for more journey sharing, especially if outpatient appointments were coordinated by postcode.	Could promote healthier lifestyles. Cycling for home care reduces requirement to drive. • Less realistic for those who are already unwell or less physically mobile.	First and last-mile links to hospitals. Improve mobility of health and social care professionals. Secure, autonomous delivery of prescriptions. • Currently limited by challenges of rural environments to implement technology.	Blended health and personal healthcare is realistic with new digital technologies. • Requires 5G and cultural acceptance • Over-reliance on e-health could cause isolation.	Community space could be used by mobile healthcare services e.g. drawing on the Village Hall upgrade funding: *http://acre.org.uk/our-work/village-hall-improvement-grant%20fund*.
Accessing employment	Allow more rural people to access a wider choice of jobs. Improve access to opportunities for seekers.	Allow more rural people to access diverse jobs; including shift work at irregular hours. Reduce isolation for jobseekers.	Integrate healthy lifestyles into working practices.	Provide first and last-mile links to public transport networks.	Allow jobseekers better access to information. Make online interviews more realistic. Open up gig-economy opportunities to rural people.	Enhance commuting experience. Enable workers to be based in co-working spaces.
Business growth	Simplify access for tourists/customers and workers. • Disproportionate costs to smaller rural travel firms.	Improve access to workplace with potential for work-based schemes. Improve labour market options for employers.	Tourism options built around cycle hire, enhanced safety and signage on routes. Potential for rural commuting with safe routes and funding (e.g. wheels2work).	Entrepreneurial opportunities in the transport sector. Tourists, customers and employees access workplace/destination more easily.	5G opens up new business tools for efficiencies, collaboration and home manufacture.	Rural businesses become more accessible and the hub provides outlets for sales and other activities. Co-locate with flexible co-working and networking spaces.
Environmental protection	Encourage people away from the private car. • Requires government policies to promote behavioural change.	Reduce private car miles. Increase use of e-vehicles in car-pools.	Reduces carbon footprint.	Advances in logistics combined with automation can reduce congestion and freight on rural roads.	Reduces carbon footprint of travel.	Hubs can support greener travel, reduce some journey needs and provide a focus for investment in charging points.

USING THIS TOOLKIT

Our research identified that the needs of rural areas vary considerably between regions and even between nearby villages. The text in the boxes above provides some generic commentary about the potential of new mobility technologies to meet certain rural needs. Red text highlights barriers that must be addressed too. The toolkit is the starting point for locally-focused conversations to inform investment and planning decisions as well as community-led actions that embrace technology to improve rural living.

A blank version is downloadable at: https://interpretingrurality.blogs.lincoln.ac.uk/rural-mobility-toolkit/ and we suggest that this is printed at least on A3 and used for local consultation with rural communities, and for conversations with transport and technology providers to inform strategic priorities for rural mobility.

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The Rural Needs Framework

Tool / Rural need	Enhancing existing public transport (smart ticketing, dynamic scheduling etc.)	Self-drive, carpool and ride-share innovations
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The Future of Rural Mobility Toolkit