

The future of transport outside cities: a report on roundtables held by the University of Hertfordshire Smart Mobility Unit

In research and policy discussions on transport policy, there has been a strong, even overwhelming, focus on cities. This is in many ways understandable – the majority of the UK population lives in cities, or wider city regions, and the transport issues cities face – notably the congestion and pollution from road traffic – are clear and resolving them has clear economic, social and environmental benefits.

However, there has been much less research and policy focus on what the future of transport might look like in areas outside cities, especially places like English counties with a mix of market towns, small villages and in some cases the hinterland of cities. Yet these places too face transport issues, including congestion in towns, car dependence for those with cars and social isolation and exclusion for those without car access. There is also the broad issue of climate change and the need to reduce emissions from transport to tackle this.

The University of Hertfordshire (which unlike most English universities is itself based outside a city) has established a Smart Mobility Unit and part of this unit's work is to seek to address this issue. To start this process, it ran a series of roundtables in 2020, looking at different aspects of transport outside cities. The first two were held in person, but with the Covid pandemic they migrated online and a further 10 were held as small online meetings. In each case, papers were commissioned and circulated in advance and then a small group of invitees (usually up to 30) were invited to discuss and comment on them. Where there was particular interest, some topics had two meetings. The meetings were minuted but in the write-ups the contributions (other than those by the authors of papers) were unattributed.

In total, there were nearly 180 participants across the 12 roundtables. They came from a wide range of backgrounds – as well as national, regional and local government, academics and transport consultants, there were participants from businesses and NGOs. The businesses represented included operators of transport services, technology companies engaged in innovation and start-ups providing new forms of mobility. There were also a range of NGOs and local innovators.

The roundtables were sponsored by the Department for Transport, England's Economic Heartland, Hertfordshire County Council, the Connected Places Catapult and Gascoyne Estates.

What follows is a summary of the key themes and points that emerged from the roundtables, and notes on the presentations given. In general, the discussions were very rich in perspectives and there were a number of key points that emerged, which will be discussed at the end. More detailed write-ups of each of the roundtables, and the papers prepared for each event, are available on the Smart Mobility Unit's website. It should be noted that this report represents the key points made by participants during the roundtables, and are not the views of the sponsoring organisations.

Acknowledgements

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Roundtable 1: Introduction – challenges and opportunities for transport in counties

26 January 2020

This roundtable sought to identify the mobility and transport problems in counties and the opportunities that might exist for addressing them.

What are the problems we are trying to solve?

- rising carbon emissions
- social isolation and loneliness
- poor access to jobs, education and services
- car dependent new developments
- road congestion

What are the rural dimensions for these? How much do we know about them?

What are the opportunities and directions for policy and research to address these problems?

- Gathering and using data
- New technologies – for vehicles, transport services and road and rail infrastructure
- New business models, e.g. for shared transport or new housing developments
- New priorities and appraisal for transport management and spending
- New governance structures (e.g. sub-national transport bodies, integration of spatial and transport planning, further devolution).

Will these address the problems, and if not what else is needed?

Papers circulated in advance

Professor Jillian Anable, Institute for Transport Studies, University of Leeds. CREDS presentation on: *Transport and carbon emissions to CIHT Young Professionals*, November 2019
<https://www.ciht.org.uk/media/10574/jillian-anable.pdf>

Professor Karen Lucas, Institute for Transport Studies, University of Leeds¹. *Transport-related social exclusion*, January 2020

Greg Yiangou, Hertfordshire County Council, Hertfordshire Smart Travel. *Using data to support smart mobility*.

Dr Kiron Chatterjee et al, University of West of England. *Access to Transport and Life Opportunities*
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/831766/access_to_transport_report.pdf

Presentations

Prof Lucas gave a short presentation on the theme of her paper, which focussed on transport and social exclusion.

She suggested that it was imperative that carbon emissions and transport equity are tackled together. She identified three main things that need to change:

- stop focussing solely on rural problems and start to include the urban periphery and small towns
- reject models which use out of date thresholds to determine viability of new services or new infrastructure and which prioritise journey time savings
- treat transport as supporting social wellbeing as well as the economy.

Professor Lucas said that 24% of households do not have a car and for those with a car, not all members of that household have access to it all of the time.

¹ Now Professor of Human Geography in the School of Environment, Education and Development (SEED) at The University of Manchester

This suggests that people are possibly not as car dependent as we think they are even in rural areas.

Although there is not a great deal of dedicated evidence available, there are tools to develop an evidence base such as MOT data and fine-grained national travel survey data. There is plenty to work with.

A key source of data are the maps of vulnerability to transport related social exclusion in England. These form part of the evidence base for the DfT Future of Mobility project and show that apart from a few major metropolitan centres, all of the UK has a transport problem. Low income households experience high levels of transport poverty because of their car dependence, which is directly due to the absence of public transport alternatives. Professor Lucas suggested that transport almost everywhere is inadequate from an equity perspective and that the scale of the problem is hard to grasp. Especially vulnerable are single parent households, “just about managing” households, the disabled and teenagers. People on low incomes are forced into car ownership which leads to economic stress, poverty and debt.

Rural transport problems are totally clear to the people affected. People who live in the countryside can’t understand why anyone would need to gather more data. The situation is so bad that any improvement would be welcomed enthusiastically.

Summary of the discussion

Climate emergency and social inclusion

This was a major focus of the discussion. Several voices spoke to the severity of the climate crisis and the moral obligation to seek transformational change. There was much agreement with the assertion that equity must be addressed jointly with emissions. People referred to the consequences of failing to meet both objectives in terms such as “we’re sunk” or “we’re stuffed”.

One person pointed out the stark reality is that not everyone in the sector has seen the light on climate, nor are most transport professionals authorised to adopt an emergency approach. Another asked that policy makers not be berated for past mistakes.

Some of the counties and regions represented had declared a climate emergency and were in the process of working out the implications for action. There is a need for a recognised methodology to calculate carbon emissions at county and regional levels and there was strong support for Professor Lucas’ point that equity and carbon must be dealt with together.

Political leadership

A wide range of voices called for visionary leadership from elected members in local government. There was wide agreement that councillors need to be taught how transport interventions combine to benefit communities. All agreed there is a lack of tools showing leaders how to build political capital from bold transport initiatives (there were no elected members present).

Power of language, nudges and parking restraint

There was agreement that the transport profession needs to use language that sells a positive vision to the public. The Transport Planning Society’s (TPS) work with the Royal College of Art on an inspirational visual toolkit was cited as an example of communicating the need for transformational change. There was widespread comfort with a behavioural insights approach and a feeling that much more can be achieved. Government travel planning guidance from the 2000s is worth revisiting; examples of individual employer initiatives giving employees different options for travel were mentioned.

A minority voice expressed strong doubt that ‘nudges’ will deliver the scale of change needed. There was a suggestion from one participant that a roundtable with a top-notch team of branding specialists from the auto industry would be good. The need to avoid transport jargon was also mentioned.

There was extensive discussion on parking restraint. There was strong agreement on the need to target single occupancy vehicle journeys and that only by including parking restraint alongside incentives can large and rapid shifts in travel behaviour be achieved. It was also widely accepted that parking restraint is seen as politically challenging. Regional bodies were aware that politicians signing up to demand management as an integral part of their transport strategies may disown the policy at implementation stage. This presents an opportunity for research and development to support politicians in the roll out of demand management policies.

Research from local and regional government

Regional transport bodies and counties have commissioned some good research on transport in rural communities and more is underway². This should be disseminated to all regions. In particular there are toolkits under development for individuals, businesses and local politicians in rural communities. Research has revealed a degree of car and van dependency in rural areas that indicates a level of care needs to be taken when making interventions. It was noted that sometimes people in rural

² See for example “Unequal futures of rural mobility: Challenges for a “Smart Countryside”, Bosworth et al, <https://journals.sagepub.com/doi/full/10.1177/0269094220968231>

areas look to transport for solutions to deeper-seated problems, for example the closure of village shops. Different ways to access services – for example a skype conversation with health care professionals - might be more appropriate than a transport solution.

Total Transport including NHS Collaboration

Several participants had in depth experience of the Total Transport pilot projects³, which had experimented with shared commissioning of transport services across different public bodies. There was consensus that asset sharing across public sector transport commissioning bodies makes financial and logical sense but all agreed that the potential had not been fully realised. There was agreement that obtaining collaboration from the NHS, especially on non-emergency patient transport, has proven almost impossible in practice and that any further pilots need to be longer to deliver transformational change.

Locating development, density and the importance of retrofitting

NGOs have highlighted the deficiencies in the design and accessibility of new housing development, much of which is in rural greenfield or edge of town settings. Counties vary substantially in density and no single approach will work everywhere. It was said that two tier authorities present a major barrier to integrating local transport and land-use planning. There was a bold minority suggestion that a national target to increase population density in rural areas would make small settlements more economically, socially and environmentally sustainable by increasing the market for local transport and other services. There was support from several sectors for retrofitting existing settlements, for example to create safe walking routes to local amenities and services. A developer present explained their vision for standalone satellite settlements designed in sympathy with the rural setting but with sufficient density to attract viable services and amenities.

Hubs

Many voices advocated a rigorous review of the need to travel to services, what needs to move and whether services can be provided locally in hubs or elsewhere or supplied digitally.

Hubs can reduce the need to travel to urban centres, provide facilities in rural settings for flexible workspaces and visiting service providers (such as district nurses or business advisors) and enable access to car-clubs, cycle-hire and other mobility services. There was some feeling from the NGO sector that a network of rural hubs already exists in the form of village halls, village pubs and shops and there is no need to invest in new infrastructure.

Another participant had experience of introducing amenities and services at Park and Rides on the edges of market towns and urban fringes and recommended these as sites for successful hubs. One person warned that rural communities often demand community transport services in anticipation of imminent loss of community assets like the village pub or GP surgery, so addressing the underlying cause can avoid the need for a transport solution.

Economics of Buses

There was no extensive discussion on the economics of buses, but there were some heartfelt statements about the financial cost of providing bus services away from high volume corridors. An operator called for a complete overhaul of the commissioning process for subsidised services, which links back to the Total Transport approach. Others cited the major benefits produced by rural bus grant schemes in the UK, with budgets many orders of magnitude less than the road building budget.

Regulation reform

There was no extensive discussion of regulation. However one participant called for changes to the Competition and Bus Services Acts to enable new projects to emerge. Another cited research showing the appetite for regulation from technology companies to clarify data standards and assure interoperability in new markets.

Summary of key points:

- It's essential that carbon and social exclusion objectives are not separated.
- There is an imperative for rapid action to cut carbon emissions from transport. Waiting until 2049 to reach net zero will be too late.
- Engagement, persuasion and public communication was a major theme.
- There is a need to think about public transport and shared transport together and attract single occupancy vehicle drivers to opt into alternatives.
- Hubs are important but there are very diverse options being explored in terms of services and place making.
- Retrofitting better transport into existing places is also important.
- There is an opportunity for sharing good practice. Authorities like Hertfordshire are doing good work on the future of transport in counties, collecting data and developing methodologies, which regional transport bodies could follow. Regional government research (e.g. toolkits for rural transport) should be disseminated.

3 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/923785/total-transport-feasibility-report.pdf

- Some community transport services aim to deliver very bespoke services for the car-less rather than change car use on a large scale. A business park example of 0-50% car share after parking restraint is the scale of change needed to decarbonise, as per Jillian Anable's paper.
- Existing transport appraisal and decision-making methodology is widely accepted to be problematic:
 - Cost of carbon is priced too low
 - Suppressed demand is not represented, so some people's needs are never addressed
 - Quality of life and social inclusion are not modelled
 - Decision making tools generally are failing.

Roundtable 2: Smart Mobility

26 February 2020

Questions

This roundtable sought to examine data and technology developments, in transport and in other sectors, and their possible impacts on transport and travel in counties. The following questions were used to guide the discussion.

- What factors would encourage people to use innovative modes, based on demography and location?
- What are the trajectories for automation in mobility in counties?
- What are the other technological developments that might contribute to sustainable mobility?
- What is the role of Mobility as a Service (MaaS)?
- How can we ensure that smart mobility meets the accessibility, availability, affordability and acceptability needs of the demographics in non-urban places?

Papers circulated in advance

Jamie Cecil, Director of the Location Analysis and Data Unit (LADU), University of Hertfordshire. *The benefits of big data collection and analytics* (2020).

Beate Kubitz, *Shared Mobility and Micromobility: a summary* (2020 unpublished)

Marcus Enoch, Loughborough University. *Mobility as a Service (MaaS) in the UK: change and its implications, Future of Mobility: Evidence Review*, Government Office for Science, (2018).

Greg Yiangou, Hertfordshire County Council, Hertfordshire Smart Travel. *Using data to support smart mobility*. (2020 unpublished)

Claire Linton and Jonathan Bray, Urban Transport Group. *MaaS Movement? Issues and options on Mobility as a Service for City Region Transport Authorities*, (September 2019)⁴.

UK Connected and Automated Mobility Roadmap to 2030, Zenzie, (2019)⁵.

Presentations

1. Beate Kubitz

Beate Kubitz summarised her paper. She made the following points

- A fundamental problem with MaaS in rural areas is the low population density and low supply, which makes demand very hard to match. However, there are some successful examples of shared mobility in rural areas. Schools, businesses and village hubs provide opportunities to link demographics and supply in rural areas.
- A key problem is that traditional bus services have shrunk to protect the profitable routes so there is now a gap with no way to access services that remain. The first mile is the most expensive for the non-car user, facing a taxi ride of £5 or £6 to travel to the nearest bus stop or rail station. For a car owner, at 25p a mile it's logical to drive the remaining 20-25 miles into the nearest town or city. Without demand restraint at the other end of the journey, there is no logical reason for people to limit their private car use to the first leg of a journey to a rail station or MaaS hub.
- Bike share is potentially useful outside urban areas, especially E-bikes which extend the typical cycling range from 3 to 5 miles. Brompton electric bikes have wider appeal than ordinary bikes, especially with women. This is probably due to the acceleration giving extra confidence in traffic and the power assisting with steep inclines. However, due to the value of the bikes, security at each end of the journey is a key challenge.
- E-cargo bikes are also important and useful but with new models costing up to £5000, secure storage is essential. Unlike a car which is secure when locked, an e-bike is vulnerable to theft. Workplace bike-share schemes or hubs with Brompton bike-share and secure docking are promising. There must be some infrastructure, including social fabric, around bike-share to avoid vandalism and make people feel safe. Lighting is important.

⁴ <http://www.urbantransportgroup.org/resources/types/reports/maas-movement-issues-and-options-mobility-service-city-region-transport>

⁵ https://zenzie.io/content/uploads/2019/09/Zenzie_Roadmap_Report_2019.pdf

- Micromobility is a developing area. Although very popular, especially for journeys under a mile, electric scooters are illegal. Research suggests that while most people think this should change, there is no consensus on where e-scooters should be legal, and cycle paths seem the option which gains most support. However, rarely do segregated cycle paths offer a continuous journey, so expect to see e-scooters at road junctions or on pavements. There is a tension over accommodating new pedalled or micro-electric vehicles on UK streets, especially rural roads and lanes where there are rarely kerbs or pavements, let alone or segregated cycle paths.
- Car clubs have been in the UK for 30 years. From 2013 the car rental firm Avis bought Zipcar and professionalised the sector. Commercial services have only grown in London and other large city centres. Enterprise links their car club offer to hire cars in smaller towns and cities. Rural car clubs are more reliant on visionary individuals. The best indicator for a successful car club is a demographic with high levels of tertiary education. In the UK, Hebden Bridge has the highest number of academic lecturers without a university and has a thriving self-sustaining car club with a paid part-time worker. St Andrews University and the University of Hertfordshire also have successful car clubs. Norwich is an outlier, with a very large and flourishing car club thanks to a visionary individual who persuaded the City Council to introduce rigorous parking demand management. The council guarantees to allocate additional parking bays to the club once certain metrics are reached. There are currently over 60 cars in the fleet and it operates with simple low cost advertising on Facebook.
- Workplace travel planning at employment sites successfully reduces congestion and parking problems. There are many different approaches, but once trip mapping has been done a communication programme builds a community of sharers. Liftshare is the longest established ride-share platform. There are very few failures. It is possible to blend Liftshare with car club members – so several commuters drive and park at a mobility hub, and transfer a liftshare into an e-car club car to complete the commute to an urban centre. This has been used in Scotland but required a subsidy to work, since people needed the reassurance of a backup in case the journey falls through. Enterprise and Liftshare are collaborating. Zeelo (personalised bus) and rideshare can also be combined for commuting.
- Combined Authorities and County Councils are preparing bids to DfT's next round of Future of Mobility funding to include mobility hubs for integrating modes. A sense of place and perceptions of security are important, so plans include good lighting and

interactive digital display boards to reduce reliance on mobile phones. Models exist in the Netherlands and Germany.

2. Marcus Enoch

Marcus Enoch said that MaaS involves a digital interface to source and manage mobility services, combined with a journey planner and a booking system. The paradigm shift offered by MaaS is the ability for transport users and providers to communicate their needs in real time via a digital service platform.

In theory, the data collection and analysis should enable a step change in customer-led service, by matching supply to demand, including unmet demand.

Barriers to MaaS have become apparent since his pre-circulated paper was written in 2018. Solutions have proven harder than anticipated to deliver. There are issues with the quality and level of service delivery. Better quality of data can't negate fundamental problems with a service – such as for example a train journey requiring a change where it was a through service before, bringing greater journey time unpredictability. There has also been a recent pattern of falling demand for public transport, due to internet shopping and changing work patterns reducing the commuter flow in the morning and evening peaks. However there is also cultural inertia. Buses and trains have not fundamentally changed for 200 years, with the same service model and ticketing. The car trumps public transport for most journeys. Lyft and Uber are also undermining public transport in urban areas.

The prevailing assumption is that MaaS will be delivered by regional or sub-regional government. But looking at the size of the market, it is possible that it is doomed to fail. About 10% of trips are currently done by public transport, roughly equally split between rail and bus. Of these only 11% are 'multi-stage' involving more than 1 change. So the market for MaaS where several options are used is about 1%. In non-metropolitan areas the levels will be even lower. The rural/suburban/small town market is even smaller. Only 3% of trips outside London and the big metropolitan areas in the UK are multi-stage with more than one change. The future may be a mix of car-based, micro-transit and smaller transport solutions. MaaS will come to big cities first because of the transport opportunities in terms of density and demographics. But outside metropolitan areas there will be a lack of commercial interest. It seems likely that MaaS will have to be council-led yet it will be challenging for councils to build at scale. There may be insufficient demand to create a viable market, even allowing for unmet demand, implying a massive scaling issue.

Although the consensus seems to be that MaaS will bring a revolution in transport, it seems more likely to be a more modest incremental change. There is scope for MaaS to

deliver a step change in public transport (if any remains in the future) and total transport approaches do offer scope for efficiencies.

Summary of the discussion

What encourages innovative modes, based on demography and location?

- Demographics and local geography demand careful consideration.
- Car clubs thrive where a high level of the population is tertiary educated.
- Visionary individuals can make a surprisingly big impact on the success of innovative modes.
- Some places are cultural outliers, for example Cambridge.
- It makes sense to pilot MaaS in places with 'early adopters' and clusters of like-minded people with similar needs.
- Experian's Mosaic tool is very useful for segmentation.
- Road pricing and other penalties for single occupancy vehicle driving would be powerful tools to generate demand for MaaS.
- Infrastructure for walking (pavements) and cycling (segregated or safe routes) enable behaviour change.
- Solutions should be tailored to local needs.

The experience of travel planning is that people need to be shown the alternatives open to them. Match a compelling vision for deep decarbonised travel to different demographics and use novel branding to attract people into new behaviour patterns.

What are the trajectories for automation in mobility in counties?

Hubs, whether in village halls, local shops or edge of town park and rides are promising as transfer and aggregation points. There's an opportunity for MaaS pilots in deep rural areas to address the 'expensive' last mile problem. There was disagreement on the potential for autonomous vehicles (AVs) generally, but especially in rural areas.

What are the other technological developments that might contribute to sustainable mobility?

Pavement mapping would be of great value to planners but there is currently no commercial value in the data, so it is not currently fundable. It might be possible to use Satellite AI to map pavements, but a lower tech approach would be to ask citizens to map walkable pavements, such as has been done by Sustrans and Buckinghamshire County Council for cycleways and Buckinghamshire County Council for cycleways.

A participant suggested that lack of pavement data leads to the omission of walking from transport strategies and from people's everyday choices.

A suggestion was made to integrate the mapping for each mode at interchanges and hubs, so that the entire journey can be planned seamlessly.

Bus Open Data is an opportunity but also a risk without funding help for small rural services. Bus route data is not currently available but will be soon; there are however other gaps in bus data.

Cooperation between local authorities is required to provide seamless journey planning for trips across county boundaries. Currently this can involve using one app per transport authority.

Road pricing for single occupancy vehicles is necessary as the 'push factor' to ensure the development of Connected Autonomous Vehicles. There will be no carbon or congestion benefit from AV in isolation.

What is the role of Mobility as a Service (MaaS) for Counties?

There was some scepticism about the intense focus on MaaS, now that more is known about its limitations, especially outside major metropolitan areas.

Some doubted whether bike-share can work in a rural setting where the density of users is low, although Brompton e-bike hire has promise for rural areas.

New settlements in rural areas are a big opportunity but there is as yet no way to evidence how new modes (e-bikes, Zeelo, ArrivaClick) will deliver modal shift.

Rail commuters in rural settlements offer a promising potential market for MaaS.

Inclusion. How can we ensure that smart mobility meets the accessibility, availability, affordability and acceptability needs of the demographics in non-urban places?

The Local Enterprise Partnership in Cornwall has funded smart ticketing for all of the county's bus operators in preparation for Bus Open Data. This will protect communities with more vulnerable bus services.

Secure bike storage is essential for e-bikes, which are the best fit for rural areas.

There must be alternatives to internet and smartphone booking as not everyone can be assumed to use these services.

There was support for embedding the principle that MaaS in rural areas should not undermine walking, cycling and mass transit.

Missing data

This was a major theme of the roundtable. There is a need to close the gap between the valuable data which planners and the public sector would like (or can afford) and what has commercial value to Google and other big data firms. As noted above, no-one is doing pavement mapping, although it would be highly valuable. GIS data on bus routes is also lacking. This is different to the location of a series of stops and to real-time vehicle location data. A central provider of bus route geometry would be very valuable but should not control the tools presenting the data to the user.

The National Travel Survey should capture demand for and current access to demand responsive transport (DRT). Research is needed on suppressed or unmet demand, including for e-bikes in counties. It would be useful to gather evidence for the benefits of combining measures in small to medium schemes. Midlands Connect research measured missed hospital appointments to assess unmet demand.

Conclusions: barriers and Opportunities for Smart Mobility in Counties

Car clubs work in locations with the right demographic and public transport offer. This is not commonly found in rural areas but DRT might succeed with subsidy. Lots of small interventions might make a big difference, as the findings of the Local Sustainable Transport Fund (LSTF) projects assessments showed⁶; the DfT should pilot a concentration of small smart mobility interventions in one place.

There was lively disagreement about the pros and cons of government setting data standards, controlling data and/or selling data. When should data be made freely available? Some felt that private enterprise makes data valuable through app development and therefore should not be harmed by government interference. Others felt that there should be central responsibility for valuable but non-commercial data sets (e.g. pavements) and for cleaning data. Local authorities lack expertise in how to best use the data that they hold and may not realise how important it is to know who is using any data that is freely available from them. The Innovation sector favours central regulation and setting of standards to provide certainty and stability to encourage investment in new markets.

One view was that a decade of bus cuts has forced people into cars and their sunk costs will keep them driving for the next decade. There should be a programme of public investment now so that when these cars come to the end of life people choose not to replace them.

It was noted that taxis are often the only non-car option for accessing public transport in rural areas, meaning that the first mile is the most expensive. In one district there are 11 million miles pa by taxi of which much will be NHS spend. We know that the quality of these vehicles is not great. 20% have no MOT. This data is not included in any modelling. Financial logic dictates that a journey that starts with the car usually remains in the car for the whole journey.

It was suggested that there is a need to look outside the transport sector to calculate the benefit cost ratio of MaaS schemes, including for example the costs of missed appointments to the NHS and Social Care Services, and a move away from an emphasis on journey time saving. Use tools like Experian's Mosaic to derive personality types ripe for innovative mobility interventions. Measure and plan for mobility to enable new development without more congestion or more new roads.

There is a wealth of very useful free data: ONS, MOT data, Taxi mileage, Census data (education, health). This and other data can be used better to avoid running schemes in the wrong places. Northants Total Transport pilot generated useful data mapping, though in general there was a view that the Total Transport pilots⁷, while promising, were too short and were underfunded.

The Chair tentatively summarised the discussion as recommending building on the transport services we already have and using data better to aggregate demand and innovate in rural areas, rather than rely on autonomous vehicle (AV) technology.

⁶ <https://www.gov.uk/government/publications/local-sustainable-transport-fund-final-meta-analysis>

⁷ <https://www.gov.uk/government/publications/total-transport-feasibility-report-and-pilot-review>

Roundtable 3: Shared Transport

1 May 2020

Questions

The aim of the roundtable was to explore opportunities for shared vehicles, MaaS and microtransit outside cities. The following questions were used to guide the discussion.

- Where and how might shared vehicles, MaaS and microtransit develop outside cities?
- What kinds of transport services might these services encompass?
- What roles can local, national and sub-national government play to make alternatives to single occupancy privately owned cars easy and attractive?

Papers circulated in advance

Beate Kubitz, *The Centre Will Not Hold Without the Suburbs: Mobility as a Service and Outlying Areas*, (March 2020 unpublished)

Ali Clabburn, CEO Liftshare, *The Impact of Covid-19 on Rural Travel and Learning How to Get Towards Net Zero on the Commute* (PowerPoint).

Marsden, Anable et al, *Shared mobility – Where Now, Where Next?* Second report of the Commission on Travel Demand. (September 2019)

Presentations

1 Beate Kubitz

The Centre Will Not Hold Without the Suburbs: Mobility as a Service and Outlying Areas

Current discussions of MaaS ignore the fact that most people in urban centres travel in from outside. Luxembourg has been lauded for providing free public transport for its citizens but a great many people drive in from outside due to the very high costs of living in the centre.

The paper examines the example of Greater Manchester where only 600,000 live in the city centre, out of a population of 2.8 million. Transport for Greater Manchester has produced transport accessibility maps which measure the accessibility of any point to the

conventional public transport network and to flexible transport services, allowing for walk access time and service availability. The speed and utility of services, levels of crowding or boarding ability and the ease of interchange are not represented in the model, but the resulting maps provide a powerful representation of areas of good and bad transport provision for commuters.

It is clear that cities are not transport rich everywhere. Examples in Greater Manchester include Mossley and Carrbrook in Tameside where the accessibility score is 1 out of 5 and 70% of people drive to work. Many trips to urban centres originate in places with very poor transport accessibility. 60% of commuter trips to the centre of Greater Manchester are from rural areas outside the city. These trip origins must be considered when looking at the future of MaaS. No matter how good the city centre options for bikeshare, car clubs, e-bikes or attractive walking environments are, it will not be possible to eliminate commuter cars. It is therefore essential to address the lack of transport density in the suburbs.

2 Ali Clabburn

The Impact of Covid-19 on Rural Travel and Learning How to Get Towards Net Zero on the Commute

Liftshare's vision is to make better use of the 36 million empty car seats in the rush hour.

The commute is important because it is the biggest source of carbon emissions within the UK's road transport sector, which is in turn the largest sector in transport emissions. Although active travel keeps people healthy, focussing on active modes to reduce emissions is misguided.

The bulk of CO₂ emissions from UK household cars derives from commuter trips between five and fifty miles. In response to Covid-19 during the UK's lockdown, 60% of road traffic has stopped. This is mostly represented by the loss of the morning and evening commute (for all but essential workers) and non-essential shopping.

Liftshare has extensive experience in producing scoping reports for employers. Trip data is postcode to postcode - effectively door to door. This is extremely good resolution and better than most mobile phone location data. The distribution of the length of commuter trips is highly

skewed, with a median of 1.2 miles and a mean of 17 miles. The very long tail of long distance commuter trips accounts for the bulk of CO2 emissions. E-bikes are suitable for distances up to 5 miles, but for the much longer distances train is the preferred alternative to the car.

So the big challenge for cutting transport carbon emissions is distance. The history of the last 20 years shows that people will not move closer to work and this is unlikely to change now.

Using 2011 census data on mode of travel to work, traffic changes during the current Covid-19 lockdown, and accounting for home working and furlough for workers in non essential sectors, it is possible to estimate the pattern of travel to work modes under social distancing and post Covid-19 and compare these with the changes needed to reach Net Zero emissions by 2030.

Surprises included the amount of people walking to work in all conditions and the fact that pre Covid-19 as many people were car share passengers as commuted by train. Home working has risen by approximately 400%.

The main conclusion is that under lockdown the current pattern of commuter travel is roughly the level required to achieve Net Zero. This illustrates the scale of the challenge posed by the climate crisis.

Furthermore, the census data allows the above analysis to be split into rural and urban populations. Notable findings for rural areas include:

- Substantial levels of home working
- High car dependency
- Car passenger levels higher than in urban areas
- More walking to work than expected (which might be small towns in rural areas).

UK Covid-19 domestic transport data from mid-March to mid-April 2020 shows motor vehicle use stabilising at 40% of pre-virus levels. Public transport has been particularly badly affected with many cuts to services off main transport corridors. This may explain an increase in lift sharing by essential workers, some of which may persist post Covid-19. It seems likely that in future more people will want to cycle to work and/or work one day a week from home. Local authorities should find ways to support and encourage these changes.

The car industry has been harmed by Covid-19 and employers are actively taking radical steps to reduce office space. The private sector has been making efforts to form teams to get their people back to work safely and determine what kind of services will be available. Some common approaches are emerging:

- a** Employers are assuming that there will be at least 50% fewer people in each office in the future.
- b** In light of public transport cuts in response to Covid-19 employers are seeking help with how best to use fleet cars and the grey fleet.
- c** Some workplaces are particularly badly affected by cuts to bus services, for example call centres due to their locations. The Public sector should help in these cases and Public Transport Accessibility Levels (PTAL) scores are helpful here.

All transport modes are important but the roles served by each will change. We must cut the number of cars by 50% very soon (in the next few years) for climate reasons. E-bikes, cycling and scooters offer great opportunities to challenge the dominance of the car. Covid-19 gives local authorities an opportunity to make parking harder. Yet we need to acknowledge that some people currently have no alternatives to the car, hence lift sharing will play an increasingly significant role. Buses will probably focus on serving large flows from A to B along major corridors. There are big questions about the viability of rural buses. Demand Responsive Transport (DRT) may be useful in rural areas in the daytime but not for the commute to work.

Summary of the discussion

Covid-19 and Public Transport

While Covid-19 remains prevalent there are signs that the public will seek to avoid public transport, however it was felt that lift sharing will return to previous levels. Cuts to bus services will be hard to recover from. However there are opportunities for mobility franchising, regulatory review and co-ordinated transport planning as part of Covid-19 recovery plans. One participant asserted that rural buses should be discounted altogether for cost and emissions reasons, but most felt it should be reconfigured, maybe as part of “mobility franchises” with buses on main corridors combined with DRT and e-bikes.

Covid 19 and the Economy

One participant suggested Covid-19 will result in dramatic changes to the economics of transport. Individual hardship will drive more people towards cheaper alternatives to car ownership. Financial pressure in the public sector may favour the ‘Total Transport’ model (see above). The high economic value of tourism in some rural locations may lead to innovations in socially distanced transport.

Role of different levels of government to promote Microtransit and Shared Transport

The responses to this question were mostly framed in relation to Covid-19. Some local authorities intend to

reallocate road space for walking and cycling to ensure social distancing. The extent of behaviour change in response to the virus, in particular home working, has been surprising. Several voices called for local authorities to grasp the opportunity offered by the virus to promote alternatives to car ownership and to 'lock in' behaviour change for the long term with demand management policies. The Scottish Government has established MaaS Scotland⁸, a substantial project with a dedicated investment fund which launches an integrated service in 2021.

Regulation, Taxation and Guidance

The value of lifting regulatory restrictions on the co-ordination of bus services was underlined by participants with direct experience of bus operations. There was a call from the private sector for planning guidance to support the development of mobility hubs. VAT on transport services using smaller shared vehicles and perverse incentives sustaining the 'grey fleet' were also raised as concerns.

Walking and MaaS

It was said that walking is needed to connect people into transport options otherwise they can't reach them. There is a real issue with lack of rural pavements and walking routes. Poor conditions for walking in rural areas was contrasted with the relatively high proportion of journeys to work on foot. Pedestrian access to locations such as business and retail parks was said to be often poor or non-existent.

Rural Taxis

It was said that in deep rural locations taxis are important and can be competitive with buses or designed to integrate with bus and train services, but licensing rules were said to be restrictive. A study was cited contrasting this with Germany, where taxis are fully integrated with trains and buses⁹.

⁸ <https://maas-scotland.com/>

⁹ <https://integratedtransport.co.uk/downloads/Shropshire-Bus-Project-Summary-Report-2020.pdf>

Roundtable 4: Mobility Hubs

5 June 2020

Questions

The aim of the roundtable was to explore mobility hubs, one of the emerging ideas for the future of transport outside cities. These hubs would bring together different forms of transport and sometimes services (deliveries etc) and might be virtual or physical. The following questions were used to guide the discussion.

- What forms might mobility hubs take?
- How can mobility hubs be promoted/supported/funded by the private sector?
- How can mobility hubs be promoted/supported/funded by different levels of government (from town/parish councils to National Government)?

Powerpoint presentations circulated in advance

Richard Dilks, CEO, CoMoUK. *Mobility Hubs*

Chris Pritchett, Head of Energy, Foot Anstey LLB.
Mobility Driving Change

Renee van Baar, Midlands Connect/WSP.
The Future of Rural Mobility Study (FoRMS) Rural Hubs

Speakers

1 Richard Dilks

CoMoUK is a specialist in car club and car share with a remit including all forms of shared transport. Mobility hubs have an important part to play to make shared transport more visible and available but also to connect shared transport with public transport and active travel.

At present, shared provision gets tacked onto the existing landscape. Mobility hubs provide the opportunity to design locations for shared transport.

Mobility hubs can vary in scale. In large new developments they offer a dramatic increase in transport choices and can include community facilities. Hubs in

very dense urban locations will struggle to include a range of services and facilities. Designs for rural locations will differ from 'edge of rural', suburban and peri-urban locations.

The car's role in mobility hubs is rightly contentious. Shared cars will be an appropriate part of the mix for some but not necessarily all hubs. In space-poor places (urban centres) there will be car free mobility hubs, but elsewhere car-sharing can ease congestion, cut air pollution and enable travel behaviour change.

In Europe, the ShareNorth¹⁰ project shows that car club cars are routinely included in mobility hubs but these are 'car light' with small numbers of car-share cars. Most examples are not particularly attractive aesthetically, prioritising function over form. Mobility hubs in the UK could be designed, via master planning for example, to improve the ambience, increase the dwell space and widen the appeal. Design needs to be adapted to each location.

Freight is an important function of a mobility hub, a common feature being a package 'drop wall' for consumers. Mobility hubs could also provide consolidation services for freight suppliers but experience suggests that this is harder to deliver than freight services for individuals.

Non-transport services at mobility hubs can include health and community facilities, both daytime and evening. In major new housing developments a mobility hub could be usefully located between the school and health centre.

Building on case studies in Europe (e.g. Vienna and Bremen), mobility hubs in the UK could link public transport with active travel. We should take lessons from the public transport sector on signage both in order to funnel demand effectively and to explain how to use shared transport.

Dockless bikes pose challenges and should be combined with other mobility and other services. Covid-19 provides an opportunity to tidy up locations.

¹⁰ <https://share-north.eu/>

CoMoUK is eager to work with partners to build hubs, with a particular interest in setting standards drawing on European experience.

2 Chris Pritchett

Foot Anstey is a member of the Urban Mobility Partnership¹¹ whose founders include Stagecoach, Brompton Bike Hire, Bosch and Enterprise.

Work is underway on several mobility hubs with local authorities in the Solent area Future Mobility Zone. This includes an energy super hub for fleet charging, which demands very different infrastructure to smaller hubs. Smaller hubs offer e-bike docking, bus links and car-share spaces. Design standards are in preparation with input from WSP. Mobility hubs must be appealing places.

Foot Anstey is engaging with developers in the commercial, residential and mixed-use sectors whilst also assisting local authorities, planning authorities and central government to shape National Planning Policy Framework (NPPF) guidance. It is important that planning authorities have the power to require developers to connect new developments into existing infrastructure carefully.

If developers understand that a well designed mobility hub can increase the financial return per unit, ease discussions with the planning authority and might reduce or avoid fees by delivering on sustainability, then a mobility hub will be seen as a worthwhile investment. The business case must be supported by high quality journey mapping, especially in rural areas. Liftshare data can be very useful in making a case for and in designing mobility hubs at major employment sites such as NHS trusts and universities.

Successful development of mobility hubs will require public and private sectors working closely together, drawing on a rigorous evidence base and delivering tangible benefits. These benefits include increased profit per unit sale for developers, revenue to suppliers of mobility hubs and meeting carbon targets for local authorities.

3 Renée van Baar

Midlands Connect is a partnership including local authorities, LEPs, Chambers of Commerce and airports. It undertakes research and development on transport schemes in the region. The presentation summarised the findings of the Future of Rural Mobility Study (FoRMS) in relation to rural hubs.

The Midlands region's geography is large and varied. Its rural areas are highly diverse, incorporating residential settlements, protected environments (AONBs and Peak District National Park) and businesses. The "last mile" in a rural setting is five to fifteen miles. Rural dwellers predominantly have an older profile, fewer transport choices with reduced bus services and are further from health and education services. This leads to underutilisation of healthcare and later diagnosis. The cost per head of population of delivering health and education services is higher. The health and education sectors struggle to recruit and retain qualified staff in rural areas.

It is helpful to consider a geography of need which clarifies the priorities for different zones. Settlements should be connected in a hierarchy of provision and access. In particular, better broadband would make a big difference to rural communities in terms of access to education and real time bus information.

The research explored three approaches: moving people to places, moving goods to people and replacing transport with communications. Highly specialised services are more likely to require moving people. Covid-19 is stimulating sectors to deliver products for the first time, for example rural pubs. Even with good communications technology, there is still a serious risk of social isolation. For example, a virtual consultation with a GP lacks the social interaction of the waiting room and people working from home can suffer loneliness.

A toolkit has been developed with objectives to increase community cohesion, provide access to key services and promote health and wellbeing. Solutions include active travel and mobility as a service, including a role for mobility hubs. The preference is to boost existing services and existing hubs, being careful not to deplete town centres.

Rural hubs can bundle up demand and offer public space for a range of activities whilst waiting for transport. There can be complementary hubs in neighbouring villages linked together by demand responsive or community transport. Hubs can provide a base for health and childcare services. Medicine collection points can replace the chemists which have long been missing from many communities.

Under Stage 2 of the Future of Rural Mobility Programme Midlands Connect is developing guidance for local authority partners on how to operate mobility hubs and identify where commercial transport operators can contribute. The objective is to find opportunities for pilot schemes and tendering is underway.

¹¹ <https://www.ump.org.uk/>

Summary of the discussion

Spatial models, Place-making and Demand

What to put where, why and for whom?

There was consensus that existing patterns of travel demand are the starting point for choosing locations. Hubs should aim to concentrate demand for mobility, enable interchange and provide attractive places to locate services. It was felt that hubs will perform better in places where the economy is already active and the population is open to travel behaviour change. The relationship of the private car to mobility hubs needs to be considered critically. Some were concerned about edge of town hubs undermining high streets or rail station hubs causing car parking problems.

Design, Standards, and Planning Guidance

How to design and build a rural mobility hub?

There was agreement that place making and ambience is important. Good design can unify different scales and types of hub and improve 'legibility' for shared transport. The design approach must be flexible rather than 'one size fits all' and allow functions to evolve over time. A toolkit approach is recommended. Both design standards and planning guidance will help owners and investors model demand. Mobility hubs need to have a clear status in planning law and the separation of land use and transport planning powers in two tier authorities is a challenge for the development of mobility hubs.

Funding

Local and regional government participants saw funding as a barrier, particularly funding for long term maintenance. Others were more optimistic about local authority framework agreements to underpin funding from the banking sector. There was some demand for government guidance on ownership and funding models.

Other themes

Collaboration between the public and private sectors will be important for rural mobility hubs to succeed but integration is difficult with deregulation and the uncertainty presented by Covid-19. Representatives from three sectors emphasised the importance of community involvement in the design of rural mobility hubs and pointed to opportunities for parish councils and others to provide leadership at the village level. Several participants underlined the difficulty of establishing a network of useful rural mobility hubs for the long term. Careful monitoring and evaluation of exemplar projects will be pivotal in disseminating lessons learned.

Roundtables 5 & 6: Decarbonisation

22 May 2020

Questions

The aim of the roundtable was to explore transport decarbonisation of transport in counties. The Government has set out the challenges it faces in decarbonising transport, while many counties and districts have declared a climate emergency.

The following questions were used to guide the discussion.

- How can places outside cities decarbonise their transport?
- What should they do in the short, medium and long term?
- How can Central Government help?

Papers circulated in advance

Bob Moran, Deputy Director Head of Environment Strategy, DfT. PowerPoint: *Decarbonising Transport Outside of Cities*

CREDS report by Ian Phillips, Jillian Anable and Tim Chatterton. *E-bike carbon savings – how much and where?*

Richard Walker, DecarboN8 Network Team, University of Leeds. PowerPoint: *Decarbonising Transport Outside Cities*

Prof. Greg Marsden, Institute of Transport Studies, University of Leeds. PowerPoint: *Decarbonising Transport Outside Cities, Policy Perspectives*

Lisa Hopkinson, Transport for Quality of Life *Decarbonising Transport Outside Cities: Challenges and Possible Directions*

Presentations

1 Bob Moran

We are in an unprecedented time and a very active time. DfT is committed to decarbonising transport as signified by the policy paper *Decarbonising Transport: Setting the challenge*¹² published on 26 March 2020, three days after the UK entered lockdown for Covid-19.

Decisions are taking place rapidly on restarting/recovering from Covid-19. We immediately noticed the improved air quality and want to know how to retain this for the future and reduce carbon emissions from transport. The reaction to the DfT paper published a few days into lockdown was very good.

Ministers anticipated the message to increase walking and cycling and use our cars less would gain some traction but the Covid-19 crisis has proven a major lesson for government in terms of the scale of the behaviour change that is possible and the value of walking and cycling for economic recovery. This is a huge shift for the government and really brings these modes up the agenda.

DfT wants to invite a different kind of discussion. The department has produced masses of strategies in the past but has failed to look at transport as a system. Silo thinking has been a problem. To deliver the scale of change required to decarbonise transport we need a systems approach to drive major change across all parts of that system. E-cars alone will not be enough. There are lots of good strategies already available. We are looking at transport as a system and we need to drive change across all parts of that system.

DfT will develop a plan to deliver, setting out who needs to do what by when and how? More than a nudge will be needed and we will need to use some hard sticks.

The policy paper publicly acknowledges that this is a huge challenge. Stakeholders can be assured that the DfT knows this is a huge gap to close and big changes are needed, including more use of walking, cycling and

¹² <https://www.gov.uk/government/publications/creating-the-transport-decarbonisation-plan>

public transport. These must become the natural first choice for journeys under a certain radius yet to be determined (5,10,15 miles?).

It is very important that the paper says “we will use our cars less in future”.

The six main themes have been carefully selected. Freight and Place are particularly important. Place is key for today’s discussion. The Transport Secretary is aware that different locations will need different approaches and the centre should not claim to have the single right solution for everywhere.

2 Richard Walker

DecarboN8¹³ is a project of Northern Research Universities. Leeds Institute for Transport Studies leads on transport demand and project management. The focus is for Northern England to be a test bed for innovation, but the issues are relevant to the rest of the UK.

Transport carbon emissions as defined by the Department for Business Energy and Industrial Strategy (BEIS) are within the scope of influence of Local Authorities. The presentation ranked districts by transport carbon emissions per head within Defra’s geographical categories (metropolitan to rural) as used by ONS. Emissions are derived from a government model of road-based emissions within a local authority area, including through traffic. Emissions from motorway traffic has been stripped out as Local Authorities have no influence over these.

Other variables examined included population density, Index of Multiple Deprivation scores, cars per thousand population and levels of walking and cycling.

Key points raised in Richard’s presentation were:

- The biggest emitters are outside Metropolitan areas. Shire counties account for 63% of the population and 74% of transport carbon emissions.
- The more rural the district, the higher the per capita transport carbon emissions.
- Surprisingly, there is no strong correlation between emissions and any of population density, deprivation and emissions or car ownership levels. This suggests that choices matter. Poor performing local authorities can be challenged to match better authorities with similar geography and demographics.
- The places which seem to be doing well on emissions are very varied, likewise the poorest performing areas. Rutland and Eden (Penrith) are comparable on emissions. This is not deprivation

linked. The best performing authorities contain Barrow-in-Furness, Lancaster and medium sized county towns. The 12th worst is East Herts. In the top performing “urban with cities/towns” category, Cambridge is an extreme outlier for cycling. The worst performing “urban with cities/towns” include the most deprived Local Authorities in England including Middlesbrough. Kettering is the worst performing district in this category.

- Comparing top and bottom performing districts by CO2 per capita, some very comparable authorities differ markedly. Mid Devon is good whereas West Devon is poor. Sevenoaks, Aylesbury Vale and Central Beds are good, whilst Winchester, Vale of White Horse and South Cambridgeshire are poor. This might be due to rail accessibility in the area as rail commuting might be a confounding variable. We need to examine why areas, superficially at least, which appear to be very similar perform so differently. This is a big research opportunity.

Conclusions

- Comparable authorities vary a great deal on transport emissions.
- While there is a question about whether the CO2 emission data is biased by through traffic, it is what we’ve got to work with. It is official data even if not ONS level of quality.
- Cycling and walking levels vary a great deal for comparable places, so there is scope for places to raise their game. East Herts for example can’t plead population density or deprivation reasons for falling behind districts with similar geographies like Chiltern or Wycombe in Buckinghamshire.
- We need to answer the question what short term measures can bring the biggest cuts in emissions for the money?

3 Greg Marsden

DecarboN8 had been established for over a year. Its focus is on place-based transport decarbonisation, to understand what it is and how different places will vary. We need to know when it makes sense to diverge and when to adopt a common approach. It is also important to understand the costs of making things work in different places.

Excluding the strategic road network (SRN) and based on traffic flow metrics, we can see how carbon emissions from transport are distributed by local area.

¹³ <https://decarbon8.org.uk/>

The North East Yorkshire MOT data of annual mileage per head of population, shows that Leeds, York and Middlesbrough have relatively low CO2 per capita but there are other very different places which also perform well. There is no sharp dichotomy. Filey and Scarborough have lower economic activity but have similarly low transport emissions. Northallerton is good despite being a centre with a highly car dependent hinterland.

But we need to decarbonise everywhere. Nowhere should get a free pass.

DecarboN8 is working with the Local Government Association on what Local Authorities can do after having declared climate emergencies. Diversity of approach is very important.

Local Authorities have three options to pursue: Avoid, Shift and Improve. The more urbanised authorities are aiming for more modal shift, whereas others are concentrating more on the improve strategy.

AVOID: In terms of avoiding travelling altogether, we can ask what Covid-19 has taught us about the potential for travelling less in different locations. There are some very good opportunities to learn right now about our ability to service people depending on where they live.

SHIFT: This is very difficult at the moment. We can't just say keep funding public transport in the short term because of the long term carbon benefits. When we are clearer on the costs of Covid-19 we will better understand what is possible in terms of funding for shifting transport to other modes.

IMPROVE: This is important everywhere, although each local area will have different opportunities. There are big vehicle fleets in specific areas which could be used more creatively. For example, in rural areas we see lots of farm vehicles and also tankers delivering heating oil, removing slurry and septic tank waste.

The focus on adopting new E-technologies is all about cities, so this is where all the charging points are going. But is this where the uptake and demand will be? Outside cities is where the improve approach will be very important because substitution is not an option. We may have got the focus on electric vehicle technology for cities fundamentally wrong. We need to rethink and ask some difficult political questions if the market won't look at rural locations. Do we need government to take an active role?

The economic co-benefits of electric vehicle technology are fewer outside cities but there maybe social co-benefits. Right now all of our usual cost benefit ratios are up in the air. Journey time savings for example are irrelevant when people are told to stay home. There is an

opportunity space for innovation but will it happen?

We need to innovate. Vehicles represent a huge asset base which sits unused most of the time. Car-club models struggle but maybe other sharing models can be found. The financial cost of dependence on private vehicles for people in rural areas means that there may be big financial benefits and social benefits for finding alternatives. The benefits of E-bikes are needed most outside cities. Their range is 15 miles. But we need networks of safe routes to link places. The existing roads are not safe enough. We need to get beyond the mindset of 'rural buses' for modal shift outside cities.

We tend to ignore transport behaviour outside our boundaries but trip attractors and tourism are all part of the problem. We need to take responsibility for the trips made by visitors to a location not just address the travel and emissions of residents.

4 Jillian Anable

Jillian spoke to the pre-circulated paper. The bulk of the work was done by Ian Philips at ITS, University of Leeds. The methodology is microsimulation or population synthesis. This simulates individuals in small local areas and allocates them certain attributes, such as fitness, activity levels based on reliable estimates. This allows the model to suggest the upper limit for the use of e-bikes. The behaviour assumed is reasonable and realistic.

The headline finding is that the mode with the highest capability to reduce car-based carbon is e-bikes and the capacity for biggest gains is outside urban areas.

The reason for this is that trips in cities are shorter and so well suited to walking and conventional cycling. Also E-bikes will probably have less impact in places with good public transport accessibility. Yet, at present with the single exception of a project in the Lake District, shared e-bike schemes have been installed in big cities.

In general we have to look at infrastructure and a national strategic cycling network to go alongside it. Different areas will have different capabilities, so a place-based approach is recommended.

The paper says we should try to identify which journeys and places can be de-carbonised. We are very sure that trips under 5 miles can switch to active travel but this will result in very little carbon saving, which can lead to a defeatist mindset. The median car journey length is 5-25 miles, which accounts for the bulk of the emissions. These journeys are typically hard to substitute with any mode other than the car. A third of all the distance travelled by car is accounted for by just three percent of trips. It is very hard to de-carbonise these journeys.

But we can get more sophisticated by including e-bikes which are suitable for longer journeys. Combined with destination shifting we could achieve a bigger shift away from car journeys.

It is therefore very important to include e-bikes in discussions about decarbonising transport, as much as e-cars. Yet electric bikes were only mentioned once in the government's new Transport Decarbonisation paper in relation to cargo bikes.

And there has been no mention of e-bikes in terms of Post Covid-19 transport scenarios.

In general ways exist to look at different areas and target initiatives more.

The MOT project looked at the Vehicle Keeper data at the Lower Layer Super Output Areas (LSOA) level of geography. This gives access to data on car types, ages, engine sizes and individual annual mileage. This is a great resource for understanding high mileage. It is very clear that the very biggest cars are in households outside cities and, even if they are new, account for the most carbon emissions. We talk about the transition to electric vehicles and say that rural populations will be the last to adopt them because of concerns about range. So there is a mismatch between the highest emission cars and the places where they can be most easily substituted. A complete change of argument is therefore called for - to transition the rural fleet to lower carbon emitting cars as soon as possible, to hybrid or smaller petrol engines. We need to incentivise this transition and set policies to encourage it. We should stop looking towards the phase out of diesel engines by 2035 and instead make the cars bought this year to be the least polluting. This is a short term opportunity with a big win for carbon.

We examined what variables were associated with miles per car and per household at LSOA level in the 'MOT' project. LSOAs with most homeworking were associated with higher emissions from cars. This is because they tend to be the places furthest from workplaces/high car dependent/ nice wealthy multi car/large car household.

The car is going to be of long term importance in certain places, so the Government needs to develop policy to address this properly straight away.

Summary of the discussion

Planning

There was a commonly held, strong concern from academics, consultants and county council transport planners about the planning system and housing targets which encourage car dependent residential developments and regret that planning did not feature in the DfT's decarbonisation plan. E-bikes and mobility/accessibility

hubs need formal recognition in the planning system.

Quick win: Publication of the National Planning Practice Guidance on Sustainable Transport.

E-Vehicles

A small but important point that while E-Vehicles have greater potential for carbon savings outside cities, range is no longer a problem and charging at home is more likely to be possible, focus has been mostly on E-cars in cities.

E-bikes

Participants welcomed the research showing the potential for E-bikes to replace a substantial proportion of car commuting trips. There was widespread agreement that safe infrastructure is needed to ensure widespread take up i.e. a programme of investment in high quality segregated routes parallel to main roads, as per Copenhagen. There were suggestions for how to facilitate consenting for new segregated routes, as well as discussion of the barriers of cost and enforcement. A minority voice recommended promoting E-bikes without segregated routes, to build up demand.

Quick wins:

Restore main roads of the 1950s, built with parallel cycle routes e.g. Oxford ring road. Likewise from the same era, Stevenage New Town's cycle system could be restored to a full network again.

Cycling and Walking Investment Strategy 2 could address support for a surge in E-bikes.

The National Networks Policy Statement needs to change to enable an express consenting process for cycleways in rural areas to fast track infrastructure to enable wider take up of active travel and E-bikes.

Shared Car

There was agreement that increasing vehicle occupancy is essential to reducing vehicle miles and concern that Covid-19 messaging is currently deterring vehicle sharing. Unlike public transport, the existing private car fleet represents huge spare capacity for shifting away from single occupancy trips. There was concern at how to make shared mobility in the private sector work at scale.

Demand Responsive Transport

While there are various interesting case studies, some including Covid-19 track and trace, there remains concern at the lower financial viability outside cities. A co-benefits narrative might be the key, not asking if DRT can turn a profit where conventional rural buses have failed, but whether it increase access to essential services with less carbon?.

Mobility/Accessibility Hubs and Town Centres

Hubs were considered in terms of countering the isolation of home working, enabling home working in poor broadband areas, potential for reviving rural settlements, freight aggregation and services at hubs avoiding the need for travel. Local authorities and Local Enterprise Partnerships would like to see some good case studies to evaluate the social and employment benefits and potential business case. Covid-19 threatens the viability of some town centres, with a collapse in bus services and the demise of office-based working. Town centre offices could be re-purposed as accessibility hubs.

Leisure Travel

This was a major subject for discussion due to the substantial carbon emissions from long distance leisure car trips, the blight caused by traffic congestion at tourist destinations, people's willingness to change their travel behaviour once on holiday and the increase in walking and cycling for leisure under Covid-19 lockdown. All agreed that changing travel to the destination is the hardest challenge. Some suggested car free pilots at national parks, using active travel and wilderness as branding concepts. However, local authorities and National Parks are not resourced to staff such projects.

Quick win: Funding for a car-free National Park pilot.

Carbon Accounting

It was noted that the United Nations convention is that carbon is accounted for in the territory where it is emitted. So local authorities are responsible for emissions from through traffic. However one voice felt very strongly that emissions should not be disregarded because the carbon is accounted for 'elsewhere'. It should be accounted for in a way that allows transport initiatives and policies to influence it.

Seize the Moment

Many participants pointed to the remarkable speed and degree of changes in travel behaviour and policy attention as a result of Covid-19 and called for swift action to consolidate these gains before the impetus is lost. Many fear a swing to private car travel due to fears over contracting the virus on public transport. The increase in working from home needs to be 'locked in'. Likewise capitalise on the public's appreciation of lower traffic, noise and air pollution levels.

Several participants expressed the strong view that that relying on long term projections of travel based on past behaviour and trends is unhelpful at this moment and it is a time to be bold, to go faster and further than at any point in history and beware pragmatic default incrementalism. How relevant are 'business as usual' forecasts now? Appraisal needs review.

Quick Win: Government messaging is key in the short term, both on shared and public transport and to signal that it wants the positive changes (active travel and home working) to be maintained and push local authorities accordingly.

Quick Win: Slower speeds, quiet lanes.

Reallocate the Road Building Budget

There was a critique of the scale of the road building budget in the presentation by Lisa Hopkinson. Participants from the NGO Regional Government and Consultant sectors agreed, one suggesting that there is no hope for decarbonising transport otherwise. Suggestions for reallocation included rural broadband, public transport and DRT and infrastructure for electric vehicles and decarbonising freight.

Local Authority Constraints

Several participants noted that local authorities are constrained by funding, staffing, risk averse culture and lack of powers or duties to act to cut carbon from transport. National carbon budgets for transport would provide benchmarks to measure against.

Programmes not Pilots

There was a sense that now is the time for big scale deployment to avoid wasting time on more pilots that don't go anywhere and don't get mainstreamed. Quick Win: Establish a Transforming Counties Fund along the lines of the Local Sustainable Transport Fund, to include revenue and capital funding.

Behaviour and Technology

There was a lively discussion (in the chat function in WebEx) on the relative merits of technology based solutions versus behavioural approaches to decarbonisation. Some participants were highly concerned that technology alone cannot deliver carbon savings fast enough and embedded carbon in E-vehicles is problematic. Others were pessimistic that even with dramatic and unexpected increases in walking and cycling under Covid-19 lockdown the carbon savings remain inadequate. The sense emerged that destination shifting and bringing services to people will be key and both a behavioural and technological approach is needed. One pointed out that all technological solutions involve behaviour change.

Sticks and Carrots or Nudges

There was some support for the suggestion that government needs to set out clear responsibility and accountability for decarbonisation of transport. Subnational transport bodies would find this helpful.

Some suggested that car restraint should be on the agenda if clearly articulated and framed positively. The compliance with Covid-19 restrictions shows that people will change their behaviour with the right messaging, policy, funding and legislation.

Others suggested nudges and long term incremental behaviour change.

Quick wins: Scrappage schemes to include mobility credits not just discounts off new cars. Bolder changes to first year Vehicle Excise Duty.

Appraisal

There was agreement that the appraisal system for transport schemes is not at all constraining on carbon. To answer the criticism of Local Enterprise Partnerships in Lisa Hopkinson's paper one participant pointed out that LEPS are just as constrained by the prevailing appraisal system as Local Authorities and elected members often have regressive views on transport policies.

Note on potential bias in data from DecarboN8

Participants discussed the potential biases that might account for the spread of transport carbon emissions by local area in the work reported by Richard Walker from DecarboN8. One issue raised was the level of through traffic on major roads and whether excluding emissions from through traffic would be necessary to allow real comparisons.

Roundtable 7: Short Journeys

28 May 2020

Questions

The aim of the roundtable was to explore short journeys in counties and market towns, many of which are car journeys.

The following questions were used to guide the discussion.

- What can be done to move these short journeys away from cars and towards walking and cycling?
- Will micromobility substitute for car trips – e-bikes, scooters etc.?
- In the wake of Covid-19 can the extra walking and cycling be retained and how can these be given priority in counties?

Papers and links circulated in advance

Susan Claris, ARUP. PowerPoint: *Choice – plan for the past or for the future?*

Rachel Aldred, University of Westminster. Background reading online. Propensity to cycle tool case study for Kenilworth, Warwickshire: https://npct.github.io/pct-shiny/regions_www/www/static/03b_case_studies/kenilworth-case-study.pdf.

For more details on the propensity to cycle tool, see PCT www.pct.bike and for the manual and more case studies, including Hereford, West Sussex and Cornwall, <https://www.pct.bike/tabs/manual.html>

For papers on the PCT, see <https://jtl.org/index.php/jtlu/article/view/862> and <https://www.sciencedirect.com/science/article/pii/S2214140518301257> (propensity to cycle to school)

Government's statement on cycling and walking (9 May 2020). <https://www.gov.uk/government/news/2-billion-package-to-create-new-era-for-cycling-and-walking>.

Mark Strong, Transport Initiatives. *Active Travel in Two Tier Councils* (briefing note)

Ian Philips, Jillian Anable and Tim Chatterton, CREDS. *E-bike carbon Savings, How much and where* (2019): <https://www.creds.ac.uk/publications/e-bike-carbon-savings-how-much-and-where/>

Presentations

1 Susan Claris, Arup

As with cycling, walking is seen as a city mode but it is more relevant in towns, though the challenges are different to cycling. Walking needs to be defined in the most inclusive way possible to include wheelchairs and mobility aids for older people and those with disabilities. Four years ago ARUP produced a guide to walking with comprehensive case studies. Housing estates need addressing. Under Covid 19 many people on new estates have likely found ways to access their surroundings by walking. A quarter of all car trips are under 1 mile and 68% are under 5 miles, so there is great scope for a shift to active modes. The commute is only 15% of car trips, whereas 45% is for shopping and leisure. In terms of ownership and usage, we are buying more cars and using them less, while a quarter of all households have no car or van.

On street parking is a controversial issue especially in small towns. Until parking is addressed walking will not become more attractive. We have a syndrome of transport gluttony, with people buying ever larger cars, travelling faster and driving less considerately. SUVs are not fit for purpose in towns and cities. We must not be distracted by technological fixes and rely on Electric Vehicles (EV) to solve all transport problems. EV uptake has fallen far short of that forecast over ten years ago in the Berr Report¹⁴. EVs are not carbon free overall and concerns are rising about particulate emissions from tyre and brake wear. We have a choice about the introduction of CAVs. They could be speed and/or volume limited, restricted to protect small streets and subject to road pricing.

We need to ask whether we are planning for people or for traffic.

¹⁴ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/250625/0447.pdf

2 Dr Rachel Aldred, University of Westminster

People assume that cycling works in cities but not in the countryside, yet oral history from the 1930s shows that cities had much lower levels of cycling than the rest of the country. Cities had trams and buses, whilst most people walked or cycled to work in towns and more rural places. This reversal has been a relatively recent one. It is also important to note that small cities are marginalised as much as towns.

The Propensity to Cycle Tool (PCT) can be used to forecast potential for cycling using e-bikes outside metropolitan areas and large cities.

PCT is open access and free to use. It is funded by the DfT and administered by Cambridge, Leeds and Westminster Universities. More than sixty Local Authorities used it in 2019. The project's aim is to examine the future growth in cycling. The proportion of commuters of cycling as a function of trip length follows a universal distribution, with less cycling at very short distances, a peak at 2 miles and a long tail. Cycling as a function of hilliness is also well predicted. Together these functions can be used to model cycling behaviour location.

Two scenarios were explored with PCT, "Go Dutch" assuming the same propensity to cycle as in the Netherlands, and E-bike, which changes the effect of distance and gradient. The 'Go Dutch' scenario assumes a revolution in cycling infrastructure and culture. The E-bike assumptions draw upon travel surveys in the Netherlands (to inform distance effects) and Switzerland (to inform hilliness).

'Go Dutch' takes cycle to work levels in England and Wales from 2-3% to 25-30%. However places like Cornwall remain at 10% due to steep hills. This can be brought up to 17% under an E-bike scenario.

In Welwyn Garden City, 'Go Dutch' lifts cycling to work from 3% to 20%. In rural Hertfordshire, Go Dutch lifts cycling to 7% and E-bikes reaches 13%.

PTC also offers route data, showing levels of cycle use on the road network, based on census data. E-bikes make a dramatic difference to a rural area. The number of commuter cyclists on the main corridor through Hemel Hempstead rises from 1-20 to 1000-2000 under the E-bikes scenario.

Another case study relevant to The Future of Counties Project is the market town of Kenilworth in Warwickshire.

3 Neil Poulton, WSP

England's Economic Heartland (EEH) is a sub-regional body spanning east/west from Cambridgeshire to Swindon and Oxfordshire and north/south from

Northamptonshire to Hertfordshire. EEH asked WSP to create a decision-making tool to examine the propensity for mode shift for the first and last mile based on demographic lifestyle group, connectivity and population density. Neil demonstrated the tool via WebEx.

The online tool codes each MSOA according to accessibility (using DfT journey time statistics by mode), population density (from 2011 census) and persona type (Experian Mosaic data). The mapping function shows the location of rail stations, bus stops and e-charging points..

By comparing locations with similar attributes the tool can broadly suggest which first mile last mile measures will suit a given location. This shows potential mode share in a given MSOA according to the types of people living there and an estimate of the market size for an intervention or new service. For Cambourne in Cambridgeshire the tool suggests e-bikes and owned e-bikes are likely to be successful due to the low population density and resident income.

The tool can also be used to sensitivity test for different scenarios to improve public transport accessibility and population density. For example, it can estimate the first and last mile mode shift potential in the catchment of a new rail station.

This is a guide rather than a definitive model but it can assist Local Authorities to justify policy decisions. Attitudes towards personal travel will have changed considerably as a result of Covid-19 however, and this is not captured in the tool.

4 Mark Strong, Transport Initiatives

Two tier authorities present challenges on planning and transport when they don't cooperate.

In general, two-tier authorities face more complex issues than unitaries. Some areas have three or four tiers, counting regional or metropolitan authorities and parish or town councils.

Progressive district councils seeking change are being blocked at county level. Local Plan Policies cannot be implemented if the transport authority will not issue the necessary TROs and if there is no long term transport plan.

A good practice approach was the joint committee between Cambridge City and Cambridgeshire County Councils, but this has now sadly been abandoned.

Local Walking and Cycling Infrastructure Plans (LCWIPs) can be adopted and promoted by all tiers which is a good focus for coherence.

Countries in mainland Europe seem to have better governance structures for transport and planning.

Local Chambers of Commerce and Business Improvement Districts (BIDs) are very useful intermediary

forums to approach controversial policy ideas with less confrontation. It's not uncommon to observe hostility towards a pioneering trader who is ostracised.

More people from borough and district councils are needed in these roundtables. This is a problem, because they have no authority over transport and need to be heard.

Summary of discussion

Tiers of Local Government

There was agreement that multiple tiers of local government present a range of challenges, including lack of cooperation between tiers, inefficient use of resources, disconnected treatment of housing developments in the transport system, skills shortages causing missed opportunities and lack of scrutiny at pre-planning stage. There was also concern at out of date guidance being used and over-engineering.

Ways forward include adjacent second tier councils adopting common policies in Local Walking and Cycling Infrastructure Plans, although the local government policy development process is slow so plans will not be ready in time to bid for new funding. More powers could be usefully allocated to the lowest tiers.

Covid-19 Emergency Measures

All sectors agreed that behaviour changes under Covid-19 have created opportunities for change, but these need to be grasped quickly now that lockdown is being eased and behaviour will revert. The first tranche of Covid-19 emergency funding allocations for Transport Authorities were welcomed. There was support for the clawback clause to prevent misuse of funds.

New Web tools

There was widespread agreement from all sectors that there is lots of potential to shift shorter distance trips to walking and cycling away from the car and the web tools demonstrated were welcomed. In particular the EEH First Mile Last Mile tool was seen as a potential breakthrough for transport planning outside cities. The Leeds Institute of Transport Studies web tool can identify 'quick win' cycling infrastructure improvements to take advantage of increased demand for cycling due to Covid-19.

E-bikes

The Centre for Research into Energy Demand Solutions (CREDS) E-bike briefing shows the great potential for modal shift, especially for long trips in rural areas, above all in hilly areas. Some participants were sceptical about how quickly E-Bikes will be adopted at scale without incentives and safer routes.

Speed Limits, Parking Restraint and Local Traders

Some participants felt that restraint policies are essential, such as parking controls and lower speed limits. Representatives from county councils stressed how unpopular any traffic restraint tends to be in rural areas. This stimulated a detailed discussion about how best to work with local traders to persuade them of the economic value of walking and cycling. Some cited the wealth of evidence already available whereas others insisted that only 'hands on' work with traders to carry out local surveys can win hearts and minds, especially in the current fragile economic climate due to Covid-19.

Walking and Cycling Inspectorate

The Government's new focus on and funding for walking and cycling was welcomed but there some disagreement about the likely impact of the new inspectorate and design standards. Some voices felt that the inspectorate needs to have real teeth, whilst another view was that overly high standards might be used as an excuse to do nothing. A more optimistic view was that the new commitment (and funding) from government, in combination with changes due to Covid-19 creates a very different context to the cycling inspectorates of the past. A small number of best practice examples would be very helpful.

Imagining a Different Future

Covid-19 has changed behaviour in ways not previously thought possible and participants underlined the urgent need to build on this. Approaches designed for visioning alternatives in cities are also needed outside cities (rural and suburban). Tools like Commonplace and Widen My Street could be used to engage communities. There was a lively debate about whether demonstration projects (such as car free days or play streets) are useful to demonstrate possible futures or whether it is essential to commit to more dramatic changes before people can experience and understand the benefits of a different approach.

Summary

The chair summarised the discussion by suggesting there were five main areas to work on:

- New build versus retrofit
- Bottom up vs top down approaches. Need to strike a balance between consultation and involvement. Covid-19 and climate emergency both demand top down measures.
- Balance of 'carrot and stick'. Important major change can be achieved quickly by imposing

restrictive measures but carries high risk of backlash. Demonstrating relevant examples and encouraging people to choose to change is slower.

- More powers for local government. Encourage the lowest tier of local government (parish and town councils) to propose actions for highways authorities. In villages where traffic is a problem (e.g. no bypass) we could radically devolve traffic powers to the parish council.
- How to bring people on board in rural areas, where car use is a key part of people's identity and change will meet with resistance? Short term trials (e.g. car free village days) can show what is possible but the benefits of some changes can only be demonstrated with a 'big bang' permanent transformation. It may not always be possible to deliver a phased introduction to a new way of operating.

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Propensity to Cycle Tool

<https://rpubs.com/RobinLovelace/372505>

<https://environment.leeds.ac.uk/transport-research-impact/doc/steering-future-cycleway-investment>

<https://www.cyipt.bike/>

<https://www.pct.bike/>

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Roundtable 8: Demand Responsive Transport

11 June 2020

Questions

Demand responsive transport (DRT) is being looked at for many suburban and rural areas and there are many trials and schemes, with Government funding to be bid for. There is a sense that historically people have had unrealistic expectations of DRT, effectively “throwing money at it hoping some will stick”. So bearing in mind this scepticism, this roundtable examined the following questions:

- What are the different schemes and types of DRT and where might these be best applied?
- What can technology offer to assist DRT?
- How can local and national Government support these while providing people with an attractive service?
- What might the impacts of Covid be on DRT?

Papers and presentations circulated in advance

Peter Hardy, ITP. *DRT: learning from the past – looking to the future*

Jonathan Hampson, ViaVan. *Demand Responsive Transport: What? Why? Where?*

Robin Pointon, Go Travel Solutions. *Is DRT the answer for new housing schemes?*

Sam Ryan, Zeelo. *The Smart bus sharing services for commuting and school runs*

Austin Blackburn, Go-Coach. *New ways to travel in Sevenoaks go2*

Patrizia Franco, Connected Places, Catapult. *Demand Modelling and Assessment through a Network Demonstrator Project Assessing Sustainable Transport Solutions for Rural mobility*

Franco, Patrizia et al (2019). *Demand responsive transport: Generation of activity patterns from mobile phone network data to support the operation of new mobility services*. Transportation and Research Part A
<https://doi.org/10.1016/j.tra.2019.09.038>

Ready for Innovation: the opportunity for innovation in rural transport (2017) Transport Systems Catapult and Future Government.

Presentations

1 Peter Hardy

DRT is not a new concept. In the late 1980s and early 1990s Bedfordshire County Council ran a taxi bus with stops at the rail station and in the town centre, providing services on the hour. This was a simple successful model. Patronage rose and it was operated for only half the cost of the previous bus service. People knew there would be a service on the hour, no pre-booking or technology was required and it worked. So we should keep an open mind on how to design and operate DRT.

Over the past forty years we have struggled to find an optimum model for DRT. The market is always evolving. For example, specialist dial-a-ride is declining to better disability access on buses and rising car ownership amongst people with disabilities. DRT can come and go for various reasons, sometimes it has struggled to ‘stick’. Even the technology-driven “on demand” models, are yet to prove financially sustainable in the long term, especially in rural settings.

In the Netherlands DRT is integrated into a planned transport network whereas, concerningly, much of the DRT in the UK is standalone without any linkage to the wider transport system.

The key has always been and remains knowing, when where and how to deploy DRT. We should keep it simple and not get obsessed with technology. It's essential to have clear objectives and design the attributes of the service accordingly. The objectives will determine the resources needed, the operational costs and value for money. DRT services need to be made attractive to the community. DRT suits areas of diverse need and dispersed demand. Technology is a great help but it is not the only factor. We need better overall planning of public transport networks and coordination to achieve the best use of resources.

For the future we need to see DRT in the wider public transport context, not as standalone services. In the UK,

neither politicians nor wider society value public transport, hence it has suffered. If we valued public transport we would have better policies and more coordinated planning. We would then be able to realise the promised benefits of the Total Transport approach.

DRT is great both for specialist and mainstream transport and we should aim to bring these markets together. We need to take a careful and long term approach to build up engagement and involvement during the development process. Short term funding initiatives for two to three years are not enough. It's a concern that the Rural Mobility Fund might to be another "three year wonder".

2 Jonathan Hampson

DRT terminology can cause problems. The ViaVan model uses two dynamic elements; there is neither a fixed route nor a fixed timetable. Other flavours of DRT include Chariot which is a fixed route bus with no timetable and City Mapper Smart Bus.

We agree that DRT should bridge the gap in the transport mix between personal car and regular mass transport. There is a big need to fill this gap because the private car is so dominant and brings climate, congestion and social isolation problems. DRT can help make public transport as competitive as possible against private mobility. DRT is not a magic wand but it can make public transport more compelling and connect rural communities.

By refining the technology you can meet a wide range of use cases:

- urban mass transport
- rural (e.g. Tees Flex)
- Community transport and non-emergency medical transport
- Employee and school shuttles.

There are many reasons why DRT has failed to survive long term. To be successful:

- A DRT scheme needs to meet a clear need. Technology alone does not guarantee success. Chariot is a good example which failed because London probably did not need another new fixed route bus service.
- All stakeholders must be aligned and present a united front when challenges appear.
- There must be a robust business case, which is difficult but very important. Profitability is clearly desirable but often not realistic and investment will be needed. The business case will often need to make a case for why the investment is a good one in social, environmental and welfare terms.

Covid-19 is a very significant challenge to the transport industry. There are two ways DRT can help. We can think of heaven and hell scenarios. The 'hell' scenario, which shared mobility professionals can see happening right now, is a retreat to the private car being entrenched in people's minds by the government's messaging to avoid public transport. The 'heaven' scenario' is if after a big shock to demand we can look afresh at transport networks and patterns of demand and re-plan public transport services and integrate DRT.

Where demand has been very changeable, DRT has proven it can respond very quickly and offer a compelling service for passengers and also save money.

DRT has 'visibility' on passengers through booking technology. This allows capacity management to ensure social distancing so drivers don't have to turn people away. Covid-19 tracking is also possible.

The Sevenoaks project was a scheme already in development where the schedule was advanced and the service rapidly redesigned in response to Covid-19. The DRT service was launched within two weeks, replacing all fixed route bus services and extended to include local hospitals. All demand was met with reduced bus miles and lower cost. The approach demonstrates a high degree of capability to respond to changing need.

ViaVan also operates the Oxford 'Pick Me Up' and other services. A new multi-operator and multi-tenant app called "flexi", which allows fixed routes to flip to DRT, has been launched in Newport and will be rolled out across Wales. There is another project in the London Borough of Sutton, where despite the dense urban network people are reluctant to use public transport and DRT is helping to change behaviour.

In most applications, ViaVan provides the technology and works with the operators but does not deliver the whole service. In Milton Keynes however, ViaVan is also the operator, providing demand responsive shared transport for a large part of the town, with 50% electric and ultra low emission vehicles. This is a good example of a service complementing the existing fixed route bus services and incentivising people to move away from private car use.

Milton Keynes is a very progressive local authority, looking at transport provision holistically. They are starting to explore the Total Transport approach to include all sources of demand.

3 Robin Pointon

Go Travel Solutions coordinates the Travel Plan for residents of New Lubbesthorpe, an urban extension of 4000 homes five miles west of Leicester, on behalf of the landowner Drummond Estates. The new settlement is approximately a year old and 400 houses are

occupied so far. LocalGo is an incentive scheme for new residents with a mix of stakeholders: City of Leicester, Leicestershire County Council, Blaby District Council. Initially the public transport strategy was for a half hourly fixed route bus services to the City Centre, but this was changed to DRT covering a zone covering the City Centre, rail station and other destinations. Arriva Click provides the DRT service, covering a wider population of approximately 50,000. There will also soon be E-bike and E-car clubs.

The Travel Plan coordinator's role is to engage with residents and provide a range of transport services. Enthusiasm has been good over the first year of operation, with people attracted to use the service who would not have used a conventional bus. There are problems in that the vehicles are capacity constrained, especially under Covid-19 restrictions. Encouragingly one New Lubbesthorpe family has given up their car on the strength of the DRT service. There have been some big improvements in journey time savings over conventional bus. Major employment sites served include Santander in Enderby, where DRT has cut the journey time from 2 to 2.5 hours down to 45 mins to an hour.

DRT usage dropped significantly in the last two months under Covid-19 lockdown. It has been necessary to re-survey to understand changes in travel needs and preferences. As demand has fallen it has been possible to extend the operating area north to include the main local hospital.

It is essential to blend DRT in with the existing public transport network and not assume that it can always be commercially viable.

4 Sam Ryan

Zeelo provides DRT with fixed routes but no timetable. It focusses on serving public transport deserts in peri-urban (suburban and rural) settings by commissioning 40-50 seater vehicles from existing coach operators. There are many different models for DRT. The Zeelo model does not allow e-hailing and is asset light, only running services when required and commissioning fully managed services. In the last three years Zeelo has experimented with direct to consumer and hybrid models but both have failed. The model now in use seeks to deploy with partners such as companies, owners of business parks and industrial estates or schools. Anchor clients subsidise services tailored to their own workforce (or students). From there they can expand to share buses with other companies in similar locations and sell any extra capacity direct to the travelling public. The service isn't commercially viable in a traditional sense, instead stability comes from an efficient hybrid self-funding

model. Currently Zeelo operates without subsidy from the public sector.

Under Covid-19 Zeelo has developed dedicated services with contact tracing.

The Rural Mobility Fund and Flexible Bus Consultation¹⁵ were written before Covid-19 and need to be updated in view of the performance of new DRT models in terms of commercial viability and targeting areas of importance. Zeelo is very keen to talk to Local Authorities.

5 Patrizia Franco: Demonstration from Connected Places Catapult

Assessing Sustainable Transport Solutions (AsSeTS) is a research project started in 2018, which aims to create a model to fully integrate DRT and public transport. It studies and models urban and rural geographies. DRT should always be integrated with public transport and used as a feeder service. Pure DRT has no fixed route and no fixed timetable.

There were previously no modelling tools to assess if DRT is serving a population's needs. The model includes travel patterns from mobile phone data and surveys. Mostly people do simple round trips to work and back. The rest are broadly speaking shopping trips and the school run. It is very hard for DRT to serve these needs. AsSeTS for Rural Mobility applies the model to the rural concept in a case study in Northumberland and Tyne and Wear. Where there is public transport, it is used and valued and helps protect local services. A second project is seeking to adapt business models from urban to rural areas including freight. This has found there are strong links between urban (Tyne and Wear) and rural (Northumberland) areas for deliveries. So it is not true that there is no demand in rural areas, just that people behave differently. Journeys are longer and the purpose of travel is very different for rural transport. There is also a lot of leisure travel in rural areas.

Summary of the discussion

Funding

This was a major theme of debate. Some models can be operated commercially in counties. Others are viable without subsidy only by drawing on community assets and not needing to return a profit. Most accepted that DRT needs subsidy in many locations, which can be justified by wider public benefit. Some models can be operated at lower cost than fixed route buses. Aggregating demand and combining budgets via Total Transport Commissioning might be the only way forward under current financial constraints.

¹⁵ <https://www.gov.uk/government/consultations/future-of-transport-regulatory-review-call-for-evidence-on-micromobility-vehicles-flexible-bus-services-and-mobility-as-a-service>

How can national government help?

County Council representatives suggested that reform of school transport would free up budgets for sustainable travel. The regulatory framework for taxis and buses is outmoded. Councils are underfunded and understaffed. There was some concern expressed that the Future of Rural Mobility Fund risks reinventing the wheel when funds would be better spent consolidating and further developing schemes that are already proving successful.

DRT Operational Models

Participants discussed the advantages and disadvantages of fixed routes that can flex on demand versus total flexibility. Reliability and predictability were felt to be important. The Bedford HomeHoppa was cited as a successful, very simple, low-cost model to consider.

Community Transport

This sector is a vital part of the transport mix in counties. Due to its access to volunteer resources, community transport can provide services in areas which would never otherwise be commercial, albeit typically with a technology deficit.

Understanding and widening the market

There was consensus that there is a need to research the needs of different demographics in counties and tailor services to increase the potential market. There was widespread excitement about the new EEH first mile/last mile decision tool for assessing the market for different interventions by location. Lessons from the design of successful park and ride schemes can be used to make feeder services work.

Case studies

A number of different types of DRT were discussed, ranging from successful models which no longer operate to new models using the latest technology which have been adapted at short notice in response to Covid-19.

Freight

There was considerable interest in opportunities for using DRT for moving goods as well as passengers. There are very few UK examples as yet.

Covid-19

Where DRT involves passenger booking, there is an opportunity to supply contact tracing for passengers and manage capacity before the point of boarding. With shared taxis for regular journeys to work it has been possible to ensure that the same people always travel together. Covid-19 disruption to fixed route services was

generally seen as an opportunity to rethink networks to better meet demand.

Other points

DRT can serve rural mobility/accessibility hubs to aggregate demand. Limitations in broadband/mobile phone coverage need to be factored in when designing technology for rural DRT. Technology should be seen as an enabler not a substitute for good market research, service design and operation.

There is a need for a DRT industry network to share skills and design better solutions.

Conclusions

There is some value in each of the different DRT use cases. Data and technology helps to build on previous success of simple models like Bedford HomeHoppa and Wigglybus. We should seek to enlarge passenger groups and get into new housing developments. It's good to aggregate different funding streams. Rather than aiming for pure commercial income, look to include home to school travel and home to employment. DRT can include freight.

Roundtable 9: Placemaking

16 June 2020

Questions

Many counties are facing pressure for new housing. Hertfordshire for example is looking at nearly 100,000 homes planned across the county in the next 20 years. In this context the roundtable examined the following questions:

- How can these developments be made sustainable in transport, environmental, economic and social terms and avoid building in dependence on cars?
- What is needed to join up planning and housing in areas outside the cities?
- And what does this mean for the future of transport in these areas?

Papers and links circulated in advance

Presentations

Lynda Addison, FCIHT MTPS. *Improving what we do. Better planning, better transport, better places.*

Jenny Raggett. *Visions and Reality, Garden Villages and Garden Towns: which will we actually build?*

Papers

Anthony Downs. *Placemaking and Transport at Gascoyne Estates*

Guidance from CIHT, TPS, RTPi
https://www.ciht.org.uk/media/10218/ciht-better-planning-a4_updated_linked_.pdf

Robin Pointon, Go Travel Solutions. *Is DRT the answer for new housing schemes?* (Roundtable presentation 11 June 2020)

Transport for New Homes. *Visions and Reality, Garden Villages and Garden Towns: which will we actually build?* (2020) Foundation for Integrated Transport
<https://www.transportfornewhomes.org.uk/wp-content/uploads/2020/06/garden-village-visions.pdf>

Presentations

1 Lynda Addison

The Chartered Institute of Highways and Transportation (CIHT) decided a few years ago to coordinate with the Royal Town Planning Institute (RTPI) and the Transport Planning Society (TPS) to fill a gap in existing guidance on how to integrate planning and transport¹⁶. This sits within the current National Planning Policy Framework (NPPF) and regulations. Rather than aim to change planning policy or planning law, the purpose was to help people work within these more effectively. The guidance was produced by a diverse group of people and is designed to meet the needs of professionals and communities. The guidance was launched in August 2019 to very positive feedback.

The guidance exploits the local plan and strategic policies framework in the NPPF. The focus for all local authorities should be for the local plan to drive the right decisions on transport and planning integration. The local plan should express a vision for place within a 15-20 year framework, rather than express the future in terms of housing allocations or individual land use decisions. The local plan needs to establish policies, measures and indicators and use a clear evidence base to address and integrate transport into the vision and all aspects of the local plan in an interactive way.

The vision must relate to a geographical area that makes sense and may therefore cross the boundaries of the local authority. The vision should be aligned with the local investment strategy and include integrated transport from the outset. The strategy should reflect the issues and concerns of the local community depending on local demographics such as health, jobs and the environment.

The key recommendation is that the local plans should establish locations which are either accessible already or can be made so and set out the mode shares and accessibility levels required as part of the planning process for delivery. The evidence base is multi-criteria and looks at whole aspects of place and society for the next 15-20 years.

¹⁶ https://www.ciht.org.uk/media/10218/ciht-better-planning-a4_updated_linked_.pdf

It is important the local plan contains a clear integrated network of routes for walking, cycling and public transport for the life of the plan. This should then be delivered over the life of the plan as early as possible.

We can't continue with a predict and provide approach because so much less is predictable now. A small team has looked at how to get transport appraisal and assessment to change away from predict and provide and be more flexible.

The local plan is not just a document for local planning decisions but also for what the local authority wants to deliver in terms of a vision. So actions should be integrated into the infrastructure delivery plan, kept up to date and integrated into the local development partnership. The local plan should therefore be a living document.

We need elements of the NPPF, such as 'severe' and 'significant' impacts, to be defined properly for the local geographical area covered by the plan, so ensuring a clear link to outcomes in terms of health and economic viability and transport accessibility to services.

Following publication, the CIHT, TPS and RTPI are now looking at education and capacity building so that it can become the norm that planning and transport are developed in an integrated way in all local authorities. Pre-Covid there were discussions underway with DfT and MHCLG about the need for a capacity building programme. Work is underway to further the impact of guidance. This includes: developing the consortium, producing a visual toolkit for communities with the Royal College of Art, developing sustainability indicators and assessment methodologies and looking at how to fit into the decarbonisation agenda. At present the DfT paper on decarbonisation does not refer to planning which is a key omission that must be addressed.

2 Jenny Raggett

New research into twenty garden towns and villages¹⁷ published by Transport for New Homes (TfNH) addresses the separation of planning and transport in the UK. The report is based on site visits rather than using purely desk-based research, following the approach adopted in the first Transport for New Homes report in 2018¹⁸ which examined twenty new housing estates.

The 2018 Prospectus for Garden Communities looked very good when published, especially in terms of integrating transport. Cars were only mentioned in relation to autonomous vehicles and there was no mention of road building. TfNH examined the visions submitted for the garden communities and visited places which have

been built or where work is underway. Mostly these were garden towns but there were also some garden villages. We also looked at the funding bids.

We found some very good visions, exactly on target for the kinds of places TfNH would like to see. But the actual bids and planning documents paint a very different picture. We found lots of bypasses, link roads and enlarged road systems to cope with the anticipated increase in demand for thousands of car trips by new residents. We also found new and expanded motorway junctions. So there is a mismatch between vision and delivery. These garden communities are being marketed on the basis of location on the Strategic Road Network for commuting. The designs anticipate a high demand for car parking and provide layouts oriented around car use. We found severance in some places, where in order to walk or cycle out of the developments people would need to go over motorway junctions or under main roads in tunnels. No conventional public transport will be delivered either because it is unfunded or the developments are in the wrong places to serve by public transport. The basic problem of how to serve dispersed settlement patterns with public transport has not been attended to.

The report recommends that the primary remedy is choosing the right location, followed by very tight project management that is accountable to the public and a funding model that can realise the visions set out in the original documents. If outline planning permission leaves all the details to reserved matters then a large portion of the vision, particularly sustainable transport, evaporates at the development stage.

The report concludes with an ask - now is the time for government to look again at Garden Villages and see how to make them so that people can live day to day without relying on a car for everything. We also need a legal duty to deliver Net Zero and active lifestyles. This is essential otherwise we are simply building in car dependency for the next 20 to 30 years.

3 Anthony Downs

Gascoyne Estates began 15-20 years ago with Herts County Council facing pressure to build 100,000s new homes and they could see that to do this sensitively would need more than just delivering on housing numbers. Debates followed. Collaboration is very important. We need to collaborate with DfT, professional bodies like the Institute for Civil Engineers and the Royal Town Planning Institute, University of Hertfordshire and consultancies like CoMoUK and WSP.

¹⁷ <https://www.transportfornewhomes.org.uk/wp-content/uploads/2020/06/garden-village-visions.pdf>

¹⁸ <https://www.transportfornewhomes.org.uk/wp-content/uploads/2018/07/transport-for-new-homes-summary-web.pdf>

We recognise that a housing crisis exists and ask ourselves how as a landowner we can best respond. We decided to take an active role and lead the debate for a more aspirational vision.

Now we are promoting developments on sites in Welwyn Hatfield District Council with 4000 homes including public realm, schools and public spaces. We want to apply technical rigour and follow best practice. We have led charrettes to facilitate discussion with local and national government at the University of Hertfordshire and with the local community. We welcome debate and discussion. Our key message is this is not just about housing. Desirable places clearly have facilities, sports clubs, public parks and access to the countryside. How can we do this with new places and create some good exemplars? We need these in order to learn. We need to look beyond the red line of the site boundary. The problem with the planning system at present is that it does not do this.

We have a good relationship with the District and County Councils but we sympathise with criticisms of the costs and delays inherent in the existing system. Gascoyne Estates is fortunate in not having to assemble multiple parcels of land with multiple owners. It is very hard to get agreement on a single vision. There are resource problems in local government meaning that there is a lack of passion, low expectations and shortage of time at officer level. The planning system needs to be properly resourced. There is a separate debate about how and where the system should be resourced, whether from national government or developer contributions.

We need a 15-20 year vision but these timescales rarely fit the conventional housebuilders' models. They prefer to play safe with a "quick in quick out" approach. They have a duty to serve their shareholders. Local government is the same, with councillors focussed on the next election. This means that looking at parking standards can be very controversial and there is not much local commitment for improvements. But if we need attractive neighbourhoods it needs to be addressed.

We need to work together in order to:

- overturn the sense that everything is too hard and can't be done
- look to European examples
- Explore opportunities and work with new individuals to embed good practice.

The village model isn't necessarily broken but villages grew up historically because of a good resources in a particular location (rivers for example). Access is clearly still key and we should be choosing locations carefully.

Gascoyne Estates is still two to three years away from breaking ground on new build but we are very committed, as we know we will be judged by future generations and we want to deliver at the highest quality for the future. We are not simply a vanity project. We want to raise the bar on the quality of new settlements and provide a commercially viable model that will be relevant for other developers to follow.

Overview of discussion

Geographical Definitions

The French concepts of agglomeration and peri-urban were suggested for some of the geographies under discussion, to distinguish them from rural areas. Largely peri-urban counties like Hertfordshire have much scope for walking and cycling between settlements, particularly with wider adoption of e-bikes, if suitable routes can be developed. Transport policy in cities determines a great deal of travel behaviour from and through non-urban areas.

Case Studies

Participants shared relevant case study experience, including an ecotown that has developed into a garden town, a new housing development with a travel plan and demand responsive transport and a county council implementing bold measures in high streets for Covid-19 social distancing.

Garden Villages

There was a short exchange contrasting a 'garden' veneer approach with the value of a longer term design process involving the local community. There was support for the assertion that bold strategic visions are often rejected by decision makers and officers at the planning stage.

Rail and Light Rail

Tracked public transport has a strong appeal to car drivers who would never consider using a bus. Garden villages and towns provide opportunities for transit oriented development where there is scope for rail reopening on existing alignments or potential for new routes.

New Developments

Differing views on layouts and designs for car parking in new developments were expressed. Consideration needs to be given to designing suitable parking for e-bikes. There needs to be different ways to plan walking and cycling in new developments to give access to networks of local routes rather than stopping at the site boundary.

Covid-19

In common with other roundtables in the series, the impact of coronavirus was discussed. Emerging evidence suggests a desire to move out of big cities and flight away from public transport which would imply longer commuting distances and increased car dependency. There is expected to be a sustained increase in home working for some, making community hubs in smaller settlements more viable. There was strong agreement that the public's new found appreciation of walking and cycling in quieter streets during lockdown, combined with recent measures to allow social distancing in high streets, provide an unparalleled opportunity to make rapid strides with active travel.

Transport Assessments including a quick win

There was agreement that traditional transport assessment methods are no longer fit for purpose for a wide range of reasons: trip rates and cycle data are out of date; wider context is ignored; prioritises motorised traffic flow; no severe category for walking and cycling. Mobility documents are more flexible, user-centric and can specify longer term measures for modal shift. Adopting Local Walking and Cycling Infrastructure Plans as Supplementary Planning Guidance will help, but to get things moving in the immediate short term there was a suggestion to prepare some examples which transport planners could start to 'crib' from straight away. It was recommended that these examples should start with different assumptions and use available tools for walking and cycling infrastructure.

Planning System and Delivery models

There was a mix of views as to whether the planning system can bring about meaningful change. Some felt that changing planning practice and working more closely with communities could deliver on decarbonisation and liveability but were concerned that pressure to deliver housebuilding volume could undermine progress. Another view was that the current approach to planning is incapable of delivering the step change in mobility required to reach Net Zero by 2050.

There was an extensive discussion of different delivery models for new development. Suggestions ranged from strengthening the planning system and using the local plan to integrate all public service delivery, to different models to forward fund infrastructure: development corporations (new towns) vs the stewardship or mutual model (garden cities) via ground rent. Where there is a large private landowner with a long term vision, master planning can work very well indeed. The need for quick returns undermines quality.

Embedded Patterns and Solutions

There was an impassioned plea not to focus solely on new developments, given the enormous challenge of achieving Net Zero. There was a thoughtful and honest discussion of embedded behaviours and institutional processes which reinforce dispersed patterns of living and high car dependency. This elicited a rich set of suggestions for achieving better placemaking including some visionary and aspirational recommendations.

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Roundtable 10: Consultation

25 June 2020

Questions

The purpose of the roundtable was to explore the following questions:

- How can people and communities be engaged in decisions about the future of transport, especially now in responses to Covid?
- Many counties have articulate and professional people, organised in residents' associations, civic societies, neighbourhood councils and others. How can these be included in decisions about future mobility so they feel engaged and involved but without them dominating?
- How can others – of all ages and backgrounds – be involved?

Papers and links circulated in advance

Presentations

Kris Beuret, Social Research Associates (SRA).
What have I learned about public engagement?

James Gleave, Mobility Lab. *Engaging Citizens in the Future of Mobility*

Nathan Koren, Podaris. *Consultation, Public Engagement and the Future of Transport Planning*

Mike Saunders, Commonplace. *Digital Engagement and Covid-19*

Papers

Rachael Brydges, James Gleave and Anna Rothnie (2020), *Barriers to a Community Paradigm in Transport – A Discussion Paper*, Mobility Lab UK
<https://www.mobilitylab.org.uk/toolset.html#/>

Nathan Koren (2020), *Transport Planning in a Pandemic and Beyond*, Podaris
<https://blog.podaris.com/pandemic-planning/>

Presentations

1 Kris Beuret

Taking the devil's advocate approach, Kris presented an avowedly cynical view of public engagement especially for transport policy and planning.

There is a well known model of engagement from the 1960s called the ladder of participation¹⁹, which suggests levels of engagement from manipulation to full citizen control. The top three levels, partnership, delegated powers and citizens control are very rare indeed in the working world, especially in transport. The reasons for this are many.

- In the UK we have a strong inclination to favour the 18th Century view of representative democracy promoted by Edmund Burke²⁰, which can be summed up as 'we voted for them so leave it to them to sort out'.
- Transport is a technical issue. Technical arguments can be used to rule out participation. An example is road safety audits where a traffic engineer can refuse to implement clearly revealed pedestrian desired lines for a crossing on the basis of safety policies.
- There is a strong tendency to only hear from the 'usual suspects'.
- Lack of experience. We cannot simply assume that any junior staff member can do engagement well just because they happen to have a few friends in a young demographic who can give an opinion.
- Public innumeracy. The polls are not representative. Ultimately when you scratch beneath the surface of polling, you discover that people are paid to take part and groups are screened multiple times to achieve a very carefully selected sample.
- It is expensive to do public engagement well.

SRA have worked over many years with Highways England, DfT and other government bodies and produce a bespoke toolkit to make their techniques available

¹⁹ Arnstein, Sherry R. "A Ladder of Citizen Participation," JAIP, Vol. 35, No. 4, July 1969, pp. 216-224

²⁰ "Your representative owes you, not his industry only, but his judgment and he betrays instead of serving you if he sacrifices it to your opinion". The Works of Edmund Burke Vol 1, 1834

to the public. Success depends on strategic thinking beforehand so that it is clear to all parties what their role in the process is, whether advisory or as an influencer.

The Collective Impact Model²¹ is very good and does better in achieving a higher level of engagement than other approaches. The core elements are: a common agenda; shared measurement; mutually reinforcing activities; continuous communication; backbone of support.

This is the approach is used by Lambeth Black Thrive²². Heathrow Airport used the approach with some success. However, even here things can go wrong, when conflict can arise between groups which feel they should get more or special treatment.

Road user charging is a good case study to consider. There have been surveys on this for at least thirty years. You can determine the output of a survey according to the questions asked, the techniques used, choice of language, the options on offer, taking an individual or social focus, whether you tell people you are aiming for a majority or a consensus view. You can use behavioural insights to nudge people into certain opinions. You can select the sample to determine a certain outcome.

To conclude, there are major challenges in seeking public engagement. Even if you use all the best approaches, where there is a great deal of conflict in a community, you can find opposing factions uniting against the investigator. As a sign that there are problems with public engagement, reflect on how often it is properly reviewed or audited, as happens with other work in transport?

2 James Gleave

James gave an overview of how local authorities, public sector bodies and other actors in mobility are currently conducting engagement and how they could improve.

People think that if the methodology is more engaging and on an attractive platform, then all will be well. This overlooks the fundamental process and ethos of the engagement process.

We have a cycle of poor engagement, with traditional consultation channels at the core where only the keener citizens respond, the results are analysed and the view is partial and provides the same key messages over and over again. This leads to a cycle of cynicism. The local community typically hears nothing and sees no point in engagement. The local authority feels they don't want to consult only to hear from the usual suspects yet other approaches are difficult and expensive. This results in much miscommunication on all sides.

In rural areas the stakeholder pattern is more complex. There will be many people who we typically overlook or don't know how to engage, such as businesses and landowners of all kinds who need not even be local. These are important when looking at new rights of way or a cycle path in a rural setting. Transport professionals tend to talk the language of specialists and transport operators.

Businesses are always difficult to engage. There will also be community groups from competing sectors. If you can get a good understanding of the relevant stakeholders and map them properly, and understand their needs from the beginning, this can lead to a much more meaningful and engaging consultation exercise. It will also avoid wasting time on traditional methods of engagement. So upfront work pays off.

In a rural setting the context is complex. Meaningful engagement is hard, complex and needs to be dynamic, as opinions will change. But this is life. People's positions change over time. They will respond to some methods and not others. You need to build trust with the key representatives. In communities you can't just come in and have it all done in an eight week process.

A one-off project to satisfy the legal minimum of consultation will not deliver the results. You need a big investment of time, in a more meaningful way and build up an understanding over time, then results will be more valid and people will give you more information. Not everyone will get their heart's desire but they will understand and respect what emerges. Your attitude, approach and consultation methods are more important than the technology for getting meaningful engagement.

Key questions to ask are:

- Who don't you know about? How will they be affected by the change proposed? And how will you engage them?
- What decision making authority are you willing to give up?
- This needn't be ceding 100% control to others. But you must understand the power dynamics involved. Are you seeking to collect data or permission to deliver a pre-determined scheme or is there scope for a collaborative project?
- When someone asks 'how will my input change what you ultimately do?' you, need to have an answer. This is very important to help people understand how their contribution will be valued, otherwise they won't contribute.

²¹ <https://sustainingcommunity.wordpress.com/2019/03/11/what-is-collective-impact/>

²² <https://www.collectiveimpactforum.org/initiatives/black-thrive> <https://www.healthwatchlambeth.org.uk/>

Covid-19 and consultation

This has been a unique time for transport planning and delivery. It has provided useful insights and experiments in the field of public engagement. It is disappointing to note that engagement has either been ignored or it has been abstractive in practice. Tools like Commonplace and Streetbuilder have sourced ideas from the public but there has been no process for feeding back from that to show what has been done with the input. The process has been very one-way.

Digital platforms are very good to bridge the gap with traditional meetings and engagement processes. Some zoom meetings have been very good with panels and participation groups, but this excludes people with no or poor internet or those with internet but who struggle to use the technology.

Also during the Covid-19 lockdown there was genuine innovation to be found in offline engagement which has been necessary because people want to keep the conversation going but still observe the 2m distancing rules. There are some very good examples of creativity in the arts and culture sector. A very effective community noticeboard in Nottingham sprung up over a weekend to advertise local businesses and ask people's views on street enhancements, allowing people to pin up their ideas. People have been using walls and fences to state how they feel. In one case people were putting post it notes around their village with examples of improvements people want to see. Will the Covid-19 experience lead to a situation where instead of consulting in the old ways on digital platforms we are committed to talk more with people and do the hard work required to get better engagement?

3 Nathan Koren

Transport planning uses three main approaches: forecasting, scenario planning and 'decide and provide'. Forecasting tends to be good on quantification but it is a black box approach and is not goal oriented. Forecasting accounts for uncertainty by providing a spread of outcomes around a central prediction but if the model fails this approach can go badly wrong. It cannot account for black swan events. Scenario planning focusses on uncertainty by looking for more robust or more agile plans. It is often unclear how to choose between them but at least there is more situational awareness than with a forecasting approach. Decide and provide delivers more of the same based on current desires.

Each of these planning approaches need to be borne in mind when embarking on consultation and engagement. Forecasting has an aura of scientific respectability because it appears to be objective but it is not

transparent and leaves the public feeling excluded. It is hard to feed public feedback which is usually subjective, into a quantitative forecasting model.

We need to be open to change. Developing scenarios can incorporate a feedback loop and thereby help to make the process more transparent to stakeholders.

'Decide and provide' can be good as it is actual co-creation, but there is a problem with it because people's desires are often limited by what they already have. You need to help people get out of their comfort zones. For feedback to work transport planners need to be agile in their response, which is uncommon. Decide and provide needs hard data.

So we need to use a mix of all three planning approaches and iterate between them. Rapid iterations are good.

How to do better? Increase the agility in each step in the project lifecycle. There are usually big gaps between steps, with losses in tacit knowledge at each stage. And the different disciplines in transport planning use separate tools from each other and none of their processes are transparent to each other. So even the experts rarely collaborate well with each other let alone with the public.

Buckminster Fuller said: "If you want to teach people a new way of thinking, don't bother trying to teach them. Instead, give them a tool, the use of which will lead to new ways of thinking."

Podaris is a platform for engineering planning and engagement so you can work in a fast and free flowing way. It allows the users to improve consultation and engagement processes with an interface for non-experts to interact in real time as schemes are going through in the design process. It is an emerging digital ecosystem for everyone to work together and collaborate between disciplines.

Challenges to address:

- Digital collaboration tools like Commonplace are the future but if they are separate from the expert disciplines we need to change that.
- The digital divide is a big problem.
- How can we avoid the natural dynamic of online communities which involves a limbic stimulation cycle of cat videos and outrage?

4 Mike Saunders

Commonplace's aim is to accelerate change and work with the private sector and local authorities. As a social impact company we decided to make Commonplace free for local authorities to use during the Covid-19 emergency response planning and we had a very good

uptake. Around fifty local authorities are now using the tool. Many individuals took part, most in urban areas (particularly in London and the North West) but also some in rural areas.

Commonplace accepts that digital is a tonic, not a panacea. It is a necessary but insufficient requirement for good community engagement. There are three key areas where digital tools help:

- i** building trust by being open
- ii** developing a shared understanding of need
- iii** accelerating collaboration and change

Trust

Using digital technology can prove that there are lots of people in the conversation, so people can understand that participation is not futile. It can help to bring other people in, younger people especially. In a consultation in Lewisham, South East London, a third of respondents suggested closing a street completely to cars as part of the solution. This would not be a likely response in a rural setting.

Shared understanding

From heat map data you can build a view of a community with potentially a very rich data set. In Lewisham, there were 20,000 people engaging with the site. In Bath and North East Somerset, an authority which is very rural in places, three thousand people engaged. Most were concerned about social distancing and the problems of speeding traffic causing danger for walking and cycling.

Accelerating collaboration

Commonplace in Levenshulme, Manchester, allowed people to move beyond a knee-jerk reaction towards a more collaborative position. In Perthshire, with some rural communities, digital tools were used to show a 'before and after' view of streetscapes using crowdsourced information.

Waltham Forest, an urban scheme, was divided into village scale community projects and received over 20,000 responses with over 50,000 people involved. The result has been an improvement in air quality and people have taken the conversation offline to take active roles in caring for new park spaces.

Overview of discussion

Themes

Good practice

There was a discussion about approaches, models and tools. Several participants emphasised the importance of long term engagement as a worthwhile investment to increase the community's trust in the local authority. There are tools and strategies to enable difficult discussions; attitudes are dynamic so can change as a result of engagement. If councils can loosen control over the terms of the debate and consult people earlier in the transport planning process then engagement will be more meaningful. It was accepted that many transport schemes are so long term that it is difficult to involve people early enough to affect outcomes significantly. Participants suggested that Commonplace is a valuable tool and could be improved with a facility to provide feedback on routes as well as point locations.

Challenges for the transport sector

There are ways to engage people who currently feel no need to use their cars less. This can include understanding their issues and priorities and talking about the wider climate, health and social benefits of modal shift. It is very helpful that the public has experienced the benefits of safer streets and cleaner air during the Covid-19 lockdown. Consulting on service delivery is different to asking people about physical infrastructure changes. It is important to find ways to reveal unmet need as well as consult existing users. Journey planning tools can allow people to understand how proposed changes would affect their day to day lives. Satnavs were suggested as a way to reach people who don't use journey planners.

Challenges of rural engagement

Participants from deep rural communities explained that priorities for consultation and engagement in these settings differ completely from other geographies. Transport services are mostly community transport schemes run by the volunteers and there are typically no infrastructure projects. It is therefore very important not to raise unrealistic expectations. There is a complex range of stakeholders to consider, some of whom are physically absent. Rural poverty, poor broadband and mobile coverage reinforce the digital divide. Teenagers are particularly disadvantaged. Consultation can often serve to help people discover what services are available and reveal how to use existing local assets and services better.

Local authority constraints and opportunities

Engagement and consultation are constrained by local authority staff, funding and skills shortages. Sometimes the short timescales to obtain funding prevent consultation. At the other extreme, some schemes are so long term that proposals are either too abstract to engage people or the consultation is at a late stage, when there is little that will be meaningfully changed as a result. There was a range of views on the subject of councillors overruling the results of public engagement. Parish and town councils are well placed to engage the public in areas outside cities.

Covid-19 case study

A county council representative described imposing temporary street redesign in towns as emergency public health measures for Covid-19 and the vocal but mixed response from the public. There are plans to work with behavioural scientists to understand the public response to the measures. Most participants were impressed at the bold decision to go ahead without consultation. Experimentation is helpful since people are rarely given a chance to try out a new street layout before deciding what they think about it. Behavioural data and consultation responses informed by direct experience are more compelling than attitudes based on abstract proposals. Living Labs are a way to extend this experimental approach much further.

Levers for large scale behaviour change

The transport profession can deliver substantial change by working differently within the existing planning framework. Professional bodies have called for new methodology for transport appraisal and assessment. There is a great deal of good practice and existing guidance to draw upon so there is no need to reinvent the wheel. The concept of a 'people-centred business case' was met with enthusiasm.

The climate emergency has led to discussions with local authorities about how to build political consent for action. A long term approach to engagement gives politicians a better understanding of people's aspirations, needs and priorities which builds trust and enables action.

Covid-19 may offer a uniquely powerful 'limbic trigger' to motivate people to change their transport habits, especially having experienced low traffic neighbourhoods under lockdown.

There was support for the plea raised by one participant for a celebrity to advocate for change in the style of David Attenborough on plastics.

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Roundtables 11 & 12: Public Transport

2 July 2020

Questions

The purpose of the roundtable was to explore the following questions:

- What are the opportunities and challenges for improving public transport outside cities?
- How can conventional bus and rail maximise their roles and effectiveness ?
- How can they link with other mobility offers like shared and demand responsive transport?
- Should there be a guarantee of universal mobility services, or Swiss-style minimum standards?
- Will Covid-19 affect this in the longer term?

Papers and links circulated in advance

Presentations

Peter Hardy, ITP. *The future of public transport outside cities*

Glyn Williams, Cornwall County Council.
One Public Transport Service for Cornwall: Customer Experience

Papers

Peter Hardy, ITP. (2019). *The future of rural public transport: Viewpoint*
<https://www.itpworld.net/news-and-views/2019/whats-in-store-for-the-future-of-rural-public-transport>

Sam Ryan, Zeelo. *The Smart bus sharing services for commuting and school runs*

Presentations

1 Peter Hardy

Rural transport has been declining for all the reasons we know about. As a result of Covid-19 we are accentuating this decline. Despite the optimism about 'green shoots' it's likely that we have accelerated this decline forward by 6 to 7 years. This is serious.

I am not optimistic that government support will last long enough to restore bus use. There are lots of redundancies happening or anticipated. I am concerned for the board room discussions underway in the bus industry regarding networks and I wonder where they will be in a few months time. There may be a major restructuring and rural and peripheral services may be lost.

Pre Covid-19, we had a lack of strategic vision for what we want, especially in rural areas. There was a lack of importance attached to the necessity of public transport in rural areas. We tended to treat rural and urban separately because outside urban areas provision is largely subsidised not commercial. The approach to services outside urban areas was piecemeal with little sense of a network and reliant on subsidy from public funds and yet there were still unmet transport needs out there.

A great deal of funds are still being spent on school and non-emergency hospital transport. County councils have highlighted this problem in previous roundtables. Essex County Council has done good work in this area with DRT schemes.

But there are still glimmers of hope. Some aspects of public transport work well. For example inter-urban services were growing consistently pre-Covid 19 and different DRT models are in use. The jury is still out on some models of DRT.

How did we get here? Lack of leadership is a major problem. We need to accept that revenue funding for public transport is important and essential. It is unhelpful that we frame rural transport as a problem and place it in the "too difficult" box. We tend to tinker with short term, small scale initiatives which don't address the issues.

For the future we need some strategic and fresh approaches that build upon rather than wipe away what is already in place and working.

The Dutch approach is regionally based but centrally franchised and contracted. Commercial interests are incentivised to raise private funds to build and encourage public transport use.

Limburg in the Netherlands takes a central approach and it is working very well, with a good balance with operators. The key is that public transport is seen as an essential and necessary service for all.

The Dutch model is perhaps not as strong as the Transport for London or Greater Manchester approach to franchising but offers a good model for the UK to emulate. For example, Greater Cambridgeshire is considering a similar partnership approach rather than franchising.

It is good that political acceptance of public transport emerged during the Covid-19 crisis. Government quickly supported public transport financially because it realised its essential role for key workers. But government has not helped with the messaging to avoid all non-essential public transport.

The key for a future blueprint for public transport outside cities is to gain political acceptance and visionary leadership. We are lacking this vision at present. The National Bus Strategy is still awaited from DfT and it may not demonstrate the scale of leadership we now need given the Covid-19 setback. If we can achieve the political acceptance and leadership then policies and funding should follow.

There is scope for central control and maybe franchising will be an easier ask in rural areas where operators have more to gain and less to lose, since services are already subsidised outside cities.

The Total Transport approach has a crucial role to play, to make better use of existing resources but it has proven difficult to achieve. The Cornwall approach shows strategic thinking and leadership of the kind required.

For the future we need to face up to the need for subsidy in rural areas. We need to adopt a fresh approach and build on what works.

In conclusion, there is already a great deal of transport outside cities but it is segmented into silos (school, health etc). There are lots of weaknesses as well as opportunities. We need to 'get a grip' before it's too late.

2 Glyn Williams

Background

The presentation was developed for briefing elected members at Cornwall County Council on One Public Transport Service (OPTS).

Strong leadership is important. Over many years Cornwall's politicians have agreed that public transport is important for people without access to a car. This provides a good base of support for OPTS to draw upon. Cornwall's bus services are 50% commercial and 50% subsidised.

Strategy and Funding

OPTS has been designed entirely around the customers' transport needs. Investment from DfT, Cornwall Local

Enterprise Partnership and private enterprise allowed a series of parallel programmes. CRIP1 (Cornwall Rail Improvement Programme) was £36.5m for rail only, CRIP2 added a half hourly pulse service to upgrade rail signalling and a new rail depot in Penzance. In addition to £60m for rail, the second phase of investment also included local authority and DfT funding for bus services which allowed the council to consider measures to integrate bus and rail. Phase 3 is funded from the Local Transport Plan, the LEP and operators to enhance bus services and integrate with rail where possible. The programme was going well until Covid-19.

Rail investment has totalled £59 million and bus £12.5m, the latter including some contribution from private sector operators. The bus funding started at £10.5m under the growth deal and related to the area between Falmouth and Heston, including the Lizard peninsula. Following transport devolution to the county, members asked for the project to be extended county-wide, which was very challenging and left a funding gap. Funds have been found from many different sources and there's not now much left to find. The elements of the programme still to be delivered are digital ticketing for rail and integration with bus.

OPTS has a unified vision for delivery, consisting of many small elements. It was challenging whether to go for bus franchising or not, so this decision was initially left open. As the plan developed, each element was examined to see if there was a case for franchising. After the bus services bill was published the 'enhanced partnership' approach was chosen because it was more affordable.

Customer experience

The OPTS programme will use a single logo with independent branding from the County Council. The network has three layers with hub to hub and rural feeder services. The app is nearly ready for release and uses all available tools and service technology to provide the best possible customer experience. This includes car parking fill rates and walking and cycling routes, so that journey planning can be as multimodal as possible. The ticketing feed on the journey planner app allows people to choose the exact bus home and time their shopping accordingly. The May 2020 launch was delayed by Covid-19.

Market research

OPTS worked with Transport Focus on customer satisfaction measures, to understand what makes a great bus journey in Cornwall with extensive surveys of users and non-users, including at big events including agricultural shows with a mixture of visitors and locals. Experian Mosaic was used to analyse personas. Some people will never use a car but many are on the cusp of change so susceptible to being tipped one way or the other.

Plans were developed using big data metrics and heat mapping of employment sites and the workforce population. ANPR data from car parking was used to look at travel patterns, desired routes and gaps in services. This informed whether to use demand management or consider community transport.

Market testing panels for three age demographics explored timetable ideas and collected feedback on the mobile app. This was done without revealing the County Council's involvement to avoid contamination from existing perceptions about the authority.

Designing the service

The research gave a very clear steer on what a 'basic' and a 'good' timetable needed to look like. Quality related factors such as cleanliness and driver behaviour feature prominently, whereas journey time less so. Perceptions of value for money consistently fell short in customer surveys so a fares pilot was devised to address this, along with upgrades to bus stops and rail infrastructure. Perception of value for money was a major problem, because longer trips are cross-subsidised by shorter journeys. We needed a plan to address this.

There has been major investment in the bus fleet, including tables on upper decks in places and Wi-Fi. First Group decided to put additional investment into the bus fleet and then Go-Ahead followed. Under the new tender vehicles will all be Euro VI engines. All available technology and systems were deployed for the integrated ticketing. The network coverage is designed to deliver the previous network between towns with a supplementary network.

The major rail change, post signalling improvements, was to upgrade "InterCity 125" carriages with sliding doors to allow faster departure from platforms enabling a half hourly service. The half hourly rail service allows better integration with bus. The final rail timetable change was due to start in May 2020, but this has been delayed due to Covid-19.

The app has been designed as a 'transport companion' and will be marketed for anyone to use, car drivers, car club users, pedestrians, cyclists and public transport users. Nudge technology will be used to encourage modal shift, for example showing car park fill rates and costs. Later the app will show the carbon emissions and prices for the comparable public transport journey.

Tendering

In 2019, tendering for a new eight year contract for bus services was an opportunity for a fresh approach.

Funded from the Local Transport Plan and DfT, the new tender provided a very good long term commitment to support operators but in return the council made a big ask on school travel, climate, integration and partnership approach. There were four options in the tender, all outcomes-based not focussed on inputs. The politicians had the appetite to accept an exceptionally good offer which came in at a price £5m more than specified. They wanted the climate change programme to be bold which gave them the courage to 'bite the bullet' and agree to fund the gap from other budgets. The deal was signed at the end of 2019/20 and in negotiation with operators for an April launch when Covid-19 hit.

The first step is to integrate bus and train and later aim to include other modes. It was essential to have a single branded point of contact for the customer, to focus the service and the product. The operators must preserve this single point of customer contact but have flexibility over delivery. They can manage the supply chain as they wish with subcontractors, so long as minimum quality standards are guaranteed. Glyn had used this kind of approach in other sectors²³ so was confident it could be made to work. There is a customer charter in the contract which is tough on the quality of the vehicle fleet and key metrics on fares, performance and ticketing.

Ticketing

The county council funds the capital equipment for ticketing and the operator pays for licensing with an agreement to share data. This allows an integrated and high quality service. The digital ticketing for rail has proven very difficult, due to Network Rail's constraints, although there is a local pilot on some branch lines.

Fares pilot

The fares pilot was designed to appeal to the customers who neither qualify for supported nor free bus travel. There will be a basic level of support to allow all rides in town to be £1 and a maximum single anywhere in the county to be capped at £6. It helped that we were able to prove to government that Cornwall had committed to a major investment in the bus contract. The mindset in designing the fares pilot has been to attend to electability and the realities of political capital. Politicians are fickle and needed the comfort of more 'carrots' in the first year, leaving 'complementary' (demand management and restraint) measures to later years.

Covid-19

This programme was mostly ready for launch in April 2020, but was paused due to Covid-19. Recent government

²³ Glyn is an electrical engineer by training.

announcements to avoid public transport have not been helpful. The modelling work is now 'history'. People are now largely staying close to home. Therefore OPTS may simply concentrate on high frequency services between towns with DRT in local rural areas. The council is currently working on a regeneration plan and continues to work on the fares pilot with DfT as it still has value. The fares pilot could be used as a stimulus to attract passengers back after the Corona virus. Councillors' ongoing commitment to the council's climate emergency policy will determine how the pilot evolves.

Overview of discussion

A main focus for the discussion was Glyn William's presentation on OPTS, with the group using the Cornish example as a lens through which to examine the future of public transport in counties. This stimulated discussion on future mobility, Covid-19 impacts and wider insights for the future.

OPTS approach

There was praise for Cornwall County Council's clarity of purpose and strategic vision which in turn has reinforced political commitment and succeeded in gathering funding from a range of sources. OPTS owes some of its success to the wide range of transport functions which Glyn's role encompasses.

There was a great deal of interest in how Cornwall approached tendering of contracts, branding, network integration and delivering quality and a sense of stability to the customer. The Jersey Liberty Bus was cited as another successful model of partnership working.

School transport was universally recognised as a huge challenge for counties, increasingly so under Covid-19. Post Covid-19 traffic flows appear to be stabilising with flatter broader peaks, which may prove favourable to timetabled service schedules.

Tourism's significant role in many rural economies makes leisure travel a delicate target for restraint measures, for example surfing in the South West. Cornwall's OPTS aims to encourage visitors to explore more locations by walking, cycling and public transport so relieving the pressure on honeypots and spreading the tourist spend more widely. Demand management measures require political commitment and attention to the electoral cycle. Climate emergency declarations may increase the political space for stronger measures.

Future mobility

Demand responsive transport and community transport were discussed at length, echoing themes that emerged in the earlier roundtable on the subject. There are several

promising models in operation making more efficient use of the existing rural vehicle fleet, meeting unmet need and attracting customers who would otherwise not use the bus. However there was consensus that DRT is not a magic bullet and subsidy is required to provide stable services to deliver modal shift and integrate into the wider transport network. Several participants noted an increase in volunteering for community transport schemes as a result of Covid-19 and emphasised the need to build upon successful schemes which already have high social value. Low technology services are valuable as well as those driven by smart phone app-based systems. Rural hubs can concentrate demand for shared transport in areas of low population density.

Covid-19 impacts

Participants almost universally feared for the future of public transport operators as a result of Covid-19 social distancing guidelines from government. There was agreement that there is no 'normality' for the sector to return to, although it was pointed out that commercial operators have weathered recessionary downturns in the past. There was also a recognition that Covid-19 has presented a unique opportunity to fundamentally reassess public transport services.

Insights for the future

There was agreement on the non-monetary benefits of rural public transport and some fresh ideas on how best to achieve this, including exploration of the concept of a national universal minimum level of service.

Drawing on a wide range of experience in the UK and elsewhere, some participants set out their recommendations for the key elements for a successful rural public transport system.

References and other resources

Campaign for Better Transport (2018), The future of rural bus services in the UK
<https://bettertransport.org.uk/sites/default/files/research-files/The-Future-of-Rural-Bus-Services.pdf>

Campaign for Better Transport (2020), Covid-19 Recovery Renewing the Transport System
https://bettertransport.org.uk/sites/default/files/research-files/Covid_19_Recovery_Renewing_the_Transport_System.pdf

Roundtables report summary and conclusions

As we said in the introduction, transport policy and research have tended to focus on cities, but the roundtables showed that there are major transport issues and challenges outside cities. The reliance on cars to get around leads to road congestion, and there was consensus that road building will not deal with this. Alternatives to cars – notably bus services – have been declining and those that remain have been getting more expensive for those without concessionary passes. As the roundtable on placemaking showed, many new housing developments are very car dependent, both in terms of where they are located and in their design and layout.

These trends lead to wider problems. Those without cars have limited access to jobs, education and services. They also face social isolation and loneliness, leading to wider health and social care problems.

Over and above this, there is the climate crisis - transport is the main UK contributor to carbon emissions, and many places outside cities have high carbon emissions per head. Many authorities covering areas outside cities have declared a climate emergency, but the pathway to decarbonising transport in such places has been unclear.

The roundtables were a start in addressing these challenges. Some conclusions that can be drawn from the roundtables follow.

Overall, they showed that **it is possible to reduce car use and car dependence in places outside cities**; they featured a wide range of plans, ideas and initiatives which are moving away from reliance on cars in places outside cities, and they brought together many people working on these. However, as Professor Karen Lucas said in the first roundtable, **issues of climate change and social equity in places outside cities need to be tackled together**. 24% of households do not own a car, and even in car owning households some members do not have access to cars.

There is an issue of **definitions**; we need to be clear what and where we are talking about. “Outside cities” can sometimes lead to a narrow focus on remoter rural communities, but the roundtables were drawn deliberately to encompass a wider range of places

- Professor Karen Lucas issued a plea in the first roundtable for the focus to include the urban periphery and small towns, and the roundtables heard from many participants about the issues in such places (which, as we noted in the introduction, include places like Hertfordshire as well as the Lake District and the Scottish Highlands). However, we also heard in the roundtables of initiatives that are addressing transport issues even in the most remote areas.

Following this, **places outside cities vary widely in their transport patterns**, even where they appear to be similar, and this means that places and authorities can learn from each other in terms of opportunities and new ways of thinking on transport. As Richard Walker said in his paper for the roundtables on decarbonising transport, “there appears to be plenty of opportunity for pro-active levelling up of performance between comparable districts” and that “a district’s population density, deprivation level or car ownership rate gives context, but does not justify not acting”. The roundtables heard from WSP and England’s Economic Heartland about their first/last mile tool that allows comparisons of travel patterns and connectivity²⁴. Since the roundtables, a “Place Based Carbon Calculator”²⁵ has been developed by the University of Leeds with support from the Centre for Research into Energy Demand Solutions (CREDS). This calculates the carbon footprint of each neighbourhood in England, with explanatory data to show why footprints vary and what can be done about it.

This and other examples cited in the roundtables show the opportunities of using **data** to provide better services and to address the transport challenges outside cities. A number of organisations and companies in the roundtables are making use of data – whether in running transport services (for example by aggregating demand) or managing networks (for example roadworks)²⁶. However, a major theme of the second roundtable was the fact that some potentially valuable data is missing – for example pavement mapping – and it was noted that there is a gap between the data that planners and public bodies would find useful and the data that has commercial value to the firms that collect and manage it.

²⁴ see <https://www.englandseconomicheartland.com/our-work/local-connectivity/> and <https://www.wsp.com/en-GB/insights/human-decision-making-in-transport-choice>.

²⁵ <https://www.carbon.place/>; <https://www.creds.ac.uk/why-we-built-a-place-based-carbon-calculator/>

²⁶ <https://www.elgintech.com/>; <https://sparelabs.com/en/>

Linked to this, the roundtables threw up challenges to traditional **transport modelling and appraisal**. As many participants pointed out, there is suppressed demand for transport, which new services can release (one county council officer reported an 86 year old who had been housebound for 4 years using a new demand responsive bus service). Similarly, good infrastructure for cycling and walking can release suppressed demand for active travel, and the coming of e-bikes could exacerbate this. Transport modelling tends to look at those already travelling, so will miss those who are not, and will therefore understate the benefits to them and to wider society of new services and technologies that enable them to travel, or to access a wider range of services. Other issues raised included the valuations in appraisal from reducing carbon emissions.

The roundtables also raised the importance of **long term planning and funding**. While many opportunities were identified for better and more efficient transport services for places outside cities, these do require funding. For example, there appears to be an expectation from some that demand responsive or community transport services can be much cheaper than fixed route bus services, but there was a consensus that these too will need public funding, and that there are wider benefits – social inclusion, increased access to employment and services and reduced car use – that such funding can produce and need to be considered. Cities are now getting multi-year intra-city transport funds and Transforming Cities funding but there is no equivalent long term funding for areas outside cities²⁷.

The roundtables also went into some detail on **practical ways forward**.

Public transport: the roundtables discussed the decline in rural bus networks, and the sense this has engendered that it's not possible to provide a good public transport network in areas outside cities. However, the roundtables on public transport heard an impressive presentation from Cornwall Council which is showing this need not be true – the council has developed the “One Public Transport System for Cornwall” project²⁸. Key features include an integrated timetable linking buses and trains with good interchanges, a single ticketing system with contactless payment on all operators and a single brand. Covid interrupted its introduction but the council still plans to roll it out, and to experiment with reduced fares.

There was a lot of discussion in the roundtables about the

importance of joining up the different transport services commissioned by public bodies – non-emergency patient transport, social services, education transport etc. This has been called “Total Transport”; it was the subject of pilots 2015-7, and it was suggested that this idea could be extended and implemented more widely, bringing together bespoke transport contracts and co-ordinating transport for different public services²⁹. It was pointed out that this could result in better services and at less cost.

The roundtables heard of other examples of good practice in public transport outside cities. Hertfordshire has had the “Intalink” partnership which provides high quality public transport information and some multi-operator ticketing. This has now become the first “enhanced partnership” under the 2017 Bus Services Act. Go-Coaches talked about their new services around Sevenoaks³⁰, which include some demand-responsive transport services.

The roundtables preceded the Government’s national bus strategy³¹, which picks up some of these themes and commits more funding to bus services.

Demand responsive transport: alongside conventional public transport services, flexible demand responsive transport (DRT) is often seen as a way forward for more rural and suburban areas. The roundtables saw significant debate on the value and benefits of these services, as against fixed route buses. There is a wide range of DRT services now running – some are reshaped bus services responding to apps or phone calls, like ArrivaClick, powered by ViaVan³² -, while others are aggregating demand for business or education travel and co-ordinating existing coach or taxi operators to provide the services³³. There was debate on how far DRT can and should supplement or replace fixed route services, and about the quality of DRT services; even those involved acknowledge that some authorities have unrealistic expectations of what it can do. However, there was consensus that DRT has some role in some places, and this emerged clearly as an area for more research. Alongside this, there was also recognition of the importance of community transport³⁴, which provides good transport services in many rural areas (and some urban ones).

Shared transport: one roundtable discussed opportunities for shared transport, and this, with new mobility options like mobility as a service (MaaS) and micro-transit, came up in others. Before the pandemic,

²⁷ see <https://bettertransport.org.uk/sites/default/files/research-files/The-Future-of-Rural-Bus-Services.pdf> and https://bettertransport.org.uk/sites/default/files/research-files/Covid_19_Recovery_Renewing_the_Transport_System.pdf

²⁸ <https://www.cornwall.gov.uk/transport-and-streets/public-transport/ongoing-developments/> and <https://www.transportforcornwall.co.uk/>

²⁹ <https://www.gov.uk/government/publications/total-transport-feasibility-report-and-pilot-review>

³⁰ <https://www.go-coach.co.uk/>; <https://www.kentonline.co.uk/sevenoaks/news/changes-to-bus-services-in-sevenoaks-225574/>

³¹ <https://www.gov.uk/government/publications/bus-back-better>

³² <https://www.arrivabus.co.uk/arrivaclick/> and <https://www.viavan.com/solutions/>

³³ <https://zeelo.co/> and <https://www.ridetandem.co/>

³⁴ <https://ctauk.org/>

car-sharing for journeys to work was widespread and, given low densities and spread out travel patterns in places outside cities, could be a practical measure to tackle the transport challenges there³⁵. There was debate about the value of MaaS in places outside cities, and this seems to be a good area for further research (some is already being undertaken by the University). Liftshare described their system of benchmarking commuter travel emissions and methods of tackling these. Car clubs and shared bike and e-bike schemes, and the current e-scooter trials, also offer alternatives to traditional single-occupancy/private owned cars in rural areas³⁶. However, in discussion of this and options for demand responsive transport, the issue of taxi regulation was raised; there was a consensus that this was out of date and needed to be addressed if more integrated services were to be developed.

Short journeys: a roundtable discussed these and highlighted that even outside cities many journeys currently made by car are very short and could transfer to active travel modes with the right conditions, infrastructure and support. Various tools and initiatives were described that can help communities and authorities to develop these strategies – for example, the “propensity to cycle” tool developed by Dr Rachel Aldred and colleagues at the University of Westminster has been applied to many smaller towns and rural areas³⁷. The importance of safe routes and good infrastructure, and some of the barriers to providing these, were highlighted in the roundtables, especially given the controversies around some of the measures introduced during the pandemic to support walking and cycling.

However “short journeys” may be a bit of a misnomer with the coming of e-bikes: there is good evidence of the potential for these in providing an alternative for longer car trips, and some other countries have seen very high levels of adoption³⁸, though some roundtable participants were sceptical about how far e-bikes will be adopted without incentives and safer routes. One presentation noted that e-cargo bikes can offer first/last mile distribution even in small rural settlements³⁹.

Mobility /accessibility hubs: a roundtable discussed these hubs and the opportunity they can present to bring transport services together in a single place. This is a theme in other countries – Germany, Belgium, Norway and Austria have “mobility hubs” where bus, trains and tram services meet, local (shared) taxis and e-bikes

can be hired and there can also be local car hire or car clubs⁴⁰. However, it was argued that we should think about “accessibility hubs” or “community hubs” – with local services, cafes and workspaces, where people can work remotely but not at home, can receive deliveries of goods and can meet others. Sub-national transport bodies Midlands Connect and England’s Economic Heartland - have done work on this concept⁴¹.

Placemaking: this theme again came up in a number of the roundtables, as well as being the focus of one of them. The Government seeks to build 300,000 homes a year in England to tackle housing shortages. Where these homes are built and the design of the developments will have an impact on travel and on carbon emissions. There was concern that the current planning system appears to take limited or no account of the transport impacts of new development⁴². Opportunities for local authorities to address this were highlighted (for example one ArrivaClick service serves a new housing estate in Leicester⁴³) and one council had made its Local Cycling & Walking Plan a part of supplementary planning guidance. However, Government action was also suggested: reform of transport models and assessments was raised here too. Strengthening the National Planning Policy Framework so as to increase requirements for local facilities and for active and sustainable travel as part of the design, and reorienting Government funding like Housing Infrastructure Funding, were also suggested.

Consultation – bringing people with you: the need to find ways to get public involvement and support for changes in transport was raised in a number of roundtables, especially in the light of the controversies on Low Traffic Neighbourhoods and active travel measures. One roundtable focussed on this. A number of practitioners showed the different methods and technologies for involving people in decisions on transport⁴⁴, and there was optimism that the techniques presented in this roundtable were very helpful. There was however agreement that to garner trust and support, public engagement had to be continued over a long period, rather than just in short bursts for specific projects, and feedback to the public to show how their contribution had changed things was important. However, the staff and other resources this requires may not be available. Engagement in deeper rural areas with low densities may also be difficult and the problems with a “digital divide” were noted.

³⁵ For research on shared transport see <https://www.creds.ac.uk/publications/where-now-where-next/>

³⁶ <https://como.org.uk/>

³⁷ <https://www.pct.bike/> and see case study of Kenilworth in Warwickshire - https://npct.github.io/pct-shiny/regions_www/www/static/03b_case_studies/kenilworth-case-study.pdf

³⁸ <https://www.creds.ac.uk/e-bikes-could-slash-transport-emissions-and-get-britons-back-to-work/>

³⁹ <http://www.beatekubitz.com/#/cargodale>

⁴⁰ see <https://como.org.uk/shared-mobility/co-mobility-themes/mobilityhubs/>

⁴¹ <http://www.englandseconomicheartland.com/Documents/Draft%20Transport%20Strategy.pdf>; <https://www.midlandsconnect.uk/news/a-spotlight-on-rural-mobility/>

⁴² See research by Transport for New Homes - <https://www.transportfornewhomes.org.uk/>

⁴³ <https://newlubbethorpe.co.uk/we-are-connected>

⁴⁴ <https://www.commonplace.is/>; <https://www.podaris.com/>; <https://www.mobilitylab.org.uk/#/>; <https://sraltd.co.uk/>

Leisure and visitor travel: this was mentioned in a number of roundtables, as a particular challenge. It accounts for a lot of car mileage and carbon emissions; the National Parks and other tourist areas have huge levels of car traffic and have not been able to find ways to curb it or to provide alternatives, though there are some good examples⁴⁵. It was noted that the Glover Review of designated landscapes⁴⁶ had recommended that there should be a pilot in giving the Lake District Park Authority transport powers. At the roundtables it was noted that Center Parcs makes a good business out of requiring people to cycle and walk in their sites and not use cars, and that this approach could be applied elsewhere.

After the roundtables: next steps

The roundtables were successful in bringing together a wide range of practitioners and researchers interested in aspects of transport for places outside cities. Since they were held, those involved have taken the issues and discussions further.

Most importantly, the Department for Transport is developing a “Future of Transport: Rural Strategy”. It issued a call for evidence for this⁴⁷ in November 2020 and is expected to respond to this later in 2021. The Department has also produced its Transport Decarbonisation Plan and the National Bus Strategy⁴⁸, both of which take forward themes discussed at the roundtables.

The other sponsors of the roundtables have also been active. England’s Economic Heartland has produced its transport strategy, submitted to the Transport Secretary in February 2021⁴⁹. The Connected Places Catapult has published the results of its “Assessing Sustainable Transport Solutions for Rural Mobility” (AsSeTS) project which looked at the use of data to measure demand for new mobility services⁵⁰. Hertfordshire County Council has implemented a number of active travel schemes during the Covid-19 pandemic and is consulting on whether to make these permanent. Gascoyne Estates is developing a “Transport for Hatfield” vision for east-west connectivity in Hertfordshire.

The University of Hertfordshire Smart Mobility Unit is also looking at how to build on the roundtables. It is launching a new MSc in transport planning in September 2021⁵¹ and will use this and other channels to carry out research on the future of transport outside cities. The roundtables identified a number of areas for further research, such as:

- options for decarbonising transport outside cities
- the social and economic benefits of improved transport in communities outside cities
- Use cases for demand-responsive transport
- the use of data to identify unmet needs and manage networks better
- the opportunities for mobility as a service
- improving public transport in areas outside cities
- the potential for mobility hubs, shared transport and micromobility
- Reducing car dependency in housing and other new development (“20 minute neighbourhoods”)
- Reducing car use for leisure and tourism
- Mode shift from car to active travel and e-bikes in towns and villages

These are all areas where further research can help policy-makers.

The roundtables are therefore a start – they have highlighted the importance of tackling the challenges of transport in places outside cities and have indicated some practical ways forward. We hope that the University’s Smart Mobility Unit and its partners will be able to develop these discussions and help communities and policy-makers with new ideas and evidence.

⁴⁵ See for example Snowdonia: <https://www.snowdonia.gov.wales/visiting/plan,-discover,-protect>

⁴⁶ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833726/landscapes-review-final-report.pdf

⁴⁷ <https://www.gov.uk/government/consultations/future-of-transport-rural-strategy-call-for-evidence/future-of-transport-rural-strategy-call-for-evidence>

⁴⁸ <https://www.gov.uk/government/publications/transport-decarbonisation-plan>; <https://www.gov.uk/government/publications/bus-back-better>

⁴⁹ <https://www.englandseconomicheartland.com/transport/our-strategy/>

⁵⁰ <https://cp.catapult.org.uk/project/assessing-sustainable-transport-solutions-for-rural-mobility-executive-summary/>

⁵¹ <https://www.herts.ac.uk/study/schools-of-study/life-and-medical-sciences/business-support-and-consultancy/smart-mobility-unit/Smart-Mobility-Unit-Study>

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