Future of Mobility in Counties
Smart Mobility Roundtable 1 May 2020
Shared Transport, MaaS and Microtransit

This report documents the third in a series of roundtable discussions organised by the Smart Mobility Unit at the University of Hertfordshire and sponsored by Department for Transport and others. The format was a 90 minute virtual meeting via WebEx due to Covid-19 social distancing restrictions.

1.0 Participants

There were 18 participants from the following sectors: national, sub-regional and local government, technology/innovation, transport provider, transport consultancy, academic research, non-governmental organisations. Stephen Joseph chaired the discussion.

2.0 Aim

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 might 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?

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- Beate Kubitz, The Centre Will Not Hold Without the Suburbs: Mobility as a Service and Outlying Areas, (March 2020 unpublished)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

4.0 Presentations

4.1 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, it will not be possible to eliminate commuter cars. It is therefore essential to address the lack of transport density in the suburbs.

4.2 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 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 CO_2 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 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 CO_2 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 COBR 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 there will be at least 50% fewer people in each office in 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. Public sector should help in these cases. 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 bus. Demand Responsive Transport (DRT) may be useful in rural areas in the daytime but not for the commute to work.

5.0 Overview of discussion

Although not referred to in the discussion questions circulated in advance of the roundtable, the immediate and near term effects of Covid-19 were a major theme throughout. Each main discussion theme can be summarised as follows:

5.1 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 bus should be discounted altogether for cost and emissions reasons.

5.2 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. The high economic value of tourism in some rural locations may lead to innovations in socially distanced transport.

5.3 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 Scotland, a substantial project with a dedicated investment fund which launches an integrated service in 2021.

5.4 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.

5.5 Walking and MaaS

This has been a theme in each roundtable to date. Poor conditions for walking in rural areas was contrasted with the relatively high proportion of journeys to work on foot.

5.6 Rural Taxis

In deep rural locations taxis are important and can be competitive with bus or designed to integrate with bus and train services.

6.0 Detailed notes of Discussion by Roundtable Participants

The following abbreviations indicate the sector making comments

ACAD   Academic

NGO   Non-governmental organisation

CONS   Consultant

CC   County council

REGG   Regional transport body

GOV   National government

TP   Public Transport operator

INNOV   Innovation sector

TECH   Technology sector

6.1 Covid-19 and Public Transport

The discussion began with a question about people's willingness to use public transport and sharing any kind of vehicle after Covid-19; might conventional public transport be a thing of the past?

NGO: Evidence is emerging of big reluctance to use public transport, not least because of the tragic deaths of bus drivers. People know that even in an empty bus, there could have been 200 people in that space earlier in the day. Taxis are similar. Previous users are a perceived threat. With regular lift sharing people feel safer because it is a known circle of trust. PHE was initially unclear in its advice on car pooling. It has now been clarified that car pooling is allowed but people should limit the number of people per car[1]. It seems likely that public transport will take a permanent hit. So it seems reasonable to predict that levels of lift sharing will return but these will be a larger proportion of trips overall. Train travel will probably fall after Covid-19.

Recent polling data[2] shows 61% of people are uncomfortable with public transport. There is much industry discussion on how best to communicate with passengers to allay fears.

ACAD: Are some of the traditional alternatives to the car no longer viable, whether in rural areas or towns and how is the bus industry responding?

The two public transport operators at the meeting made very similar responses as follows:

TP: Covid-19 has strained rural bus services. There needs to be a process to put collaborative networks in place for public transport so buses can play a full role in the future. In the next few months the bus fleet will be kept

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[1] "If the journey is essential, such as travel to work, and there is no option but to share a car with people who are not part of the same household, journeys should be shared with the same individuals and with the minimum number of people at any one time." https://www.gov.uk/guidance/coronavirus-covid-19-uk-transport-and-travel-advice#private-vehicles-and-car-pooling accessed 10/5/20

[2] https://www.ipsos.com/ipsos-mori/en-uk/majority-britons-uncomfortable-sport-music-bars-coronavirus

on the road by better co-operation because of emergency legislation, but this is not permitted under normal legislative circumstances. There is no legal way to parcel out routes, causing wasteful competition on the most attractive routes.

TP: In the bus sector once capacity has gone it is very difficult to replace. The industry is shrinking and will shrink further. Maybe if there was scope for more co-operation (by overriding the competition acts) operators and the transport authorities could rationalise coverage, thereby maintaining some levels of viable service. It is also reasonable to assume that there will not be much public money to support socially necessary services, so there needs to be more co-operation and co-ordination.

CONS: The changes to bus services under Covid-19 lockdown are an opportunity to reconfigure services.

ACAD: Now that DfT controls the bus and train sector, there is an opportunity for some consistent data-driven integrated transport planning.

ACAD: There are some rural geographies that might suit bus services better than others. For example it is easier to serve a rural settlement in a Pennine valley with a city or town at one end compared to a similar location in East Anglia with more 360 degree travel patterns.

NGO: The average bus currently only has 8 people on it.

NGO: Mapping bus services to Birmingham NEC before and after Covid-19 reveals large geographies where employees have now been cut off from access to work by public transport. This will be very hard for many people. Though some could walk or cycle many people won't be able to because of distance. People are not going to change jobs or move house in the next few months – so there's an urgent problem here .

ACAD: There is some sign that the bus industry has acquired an appetite for franchising, whereas there was violent opposition before. This could be extended to multimodal 'Mobility Franchising', (similar to the Total Transport concept) to include buses on main corridors, extended with DRT and e-bikes. There is an opportunity to pilot mobility franchises for places such as, for example, Stevenage or Warrington.

NGO: Doubling buses in rural areas will not scratch the surface of the carbon emissions problem. Instead rural areas need excellent broadband, good walking and cycling routes, DRT in the daytime and taxi-share for access to essential services. Policy makers should not get obsessed by rural bus; it is very expensive and goes against the tide.

6.2 Covid-19 and Economic Downturn

CONS: Covid-19 will have huge economic impacts so that rather than reducing the number of cars on UK roads or restoring confidence in public transport, the major issue will be people facing serious economic hardship. Lots of businesses are shedding jobs already. The car industry is already suffering. It is very unlikely that travel patterns will return to the status quo before Covid-19. Importantly, public transport and shared transport can offer cheaper ways to travel.

TP: Maybe it is time for "Total Transport"[3] including as many types of provision as possible - public, private, voluntary sector?

TP: "Total transport" needs to include all providers not just private or local authority. Hopefully community transport providers will survive the effects of Covid-19 and do great work in rural areas.

ACAD: A valuable experimental project in Sevenoaks Kent is combining transport for Age UK, special needs transport, commuter access to rail stations and taxi-buses. This is led by Austin Blackman[4].

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[3] https://www.gov.uk/government/publications/total-transport-feasibility-report-and-pilot-review
[4] https://www.sevenoaks.gov.uk/news/article/140/funding_boost_gets_community_transport_scheme_rolling

ACAD: The definition of rural in Scotland is according to how long a car journey takes. This assumes you have a car and can afford it. Poverty and transport in rural areas is a major issue, as revealed in the Poverty and Inequality Commission in Scotland report from 2019.

ACAD: The Scottish Government is concerned to address the major issue of rural tourism and how to release the Covid-19 lockdown in a controlled way. One option might be Toyota's Ha:Mo a network of electric rental mini-cars[5] designed for single occupancy and maximum speed 12km/h. The scheme provides the driver with an iPad and headsets to communicate between 'cars'.

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

CONS: Local government should make alternatives to the car more prominent to challenge the assumption that it is essential to own a car. Due to Covid-19 people have discovered that it is not essential to shop by car. Local government should support business to provide alternative means to access their goods and services.

CONS: Car clubs and bike hire schemes should be promoted as genuine alternatives by local authorities by providing them with prominent locations in public spaces.

CC: Many local authorities have problems working out how to support temporary social distancing whilst supplying essential transport services. This is an opportunity to set a new pattern of expectations on how to use alternatives to the car. There is much work underway in in English local authorities at present. This includes examining reallocation of road space to enable social distancing, especially near retail centres. Local authorities are planning for 12 months of social distancing.

CC: The local authority sector needs to be thinking now about tools such as car park charges and workplace parking levy schemes to encourage modal shift back to public transport once a vaccine is available. Electric bikes are a potential game changer.

Several other participants agreed that government should be more directive on parking policies in urban centres, with workplace parking levy and parking charges and agreed that e-bikes have a major role to play.

ACAD: Some driving behaviour has changed during Covid-19 lockdown. RAC research[6] and government data is showing concerns about speeding as traffic levels have fallen, including on rural roads. It will be important to monitor to see if this trend continues.

GOV: Central government has noted the incredible amount of behaviour change, such as home working, under the Covid-19 pandemic. There are many good lessons to feed into scenario planning.

GOV: Government must keep a long term focus (5-10 yrs) despite the immediate challenges of Covid-19.

ACAD: With Covid-19 there is an opportunity to 'lock in' short term changes in travel behaviour for the longer term. This could be through road space reallocation for cycling or walking and normalising home working.

TECH/INNOV: Individualised travel planning is very important. Based on a pilot project at Manchester airport to encourage employees away from single occupancy car commuting revealed a huge scope for education. It was surprising how little awareness drivers had of the options for switching to train and tram journeys.

TECH/INNOV The Scottish Government is doing good work to facilitate collaboration between transport operators, with financial support to upgrade back office systems to use APIs to enable data sharing across services. Transport Scotland is administering the funding. As a result, in 2021 car rental will be integrated with local transport options in the Scottish Highlands (ferry, plane, car) to offer incentives and increase choice. The consumer will be able to access integrated journey planning in real time.

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[5] https://www.toyota-global.com/hamo/about/index.html

[6] https://www.rac.co.uk/drive/news/motoring-news/lockdown-speeders-more-drivers-seen-breaking-the-limit/

ACAD: Recommended signing up to MaaS Scotland's newsletter https://maas-scotland.com/ for updates on projects and a second round of funding later in 2020. Also recommended the European MAASiFiE project which concluded in 2017 and the European roadmap for MaaS (see section 7.0). There are many good case studies for rural MaaS overseas: NZ, Upstate New York, Finland, France.

There was agreement from several sectors that transport decarbonisation will re-emerge as a priority very quickly because of the very serious scale of the challenge. The focus for all levels of government should be getting people back to work after the virus and achieving more modal shift.

6.4 Regulation, Taxation and Guidance

DfT call for evidence on Micromobility, MaaS and Flexible Bus closes on 3 July. All submissions welcome; details from francine.gilmore@ccav.gov.uk

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

TECH/INNOV The sector must look beyond Covid-19 with recovery packages for public transport and other modes. Look at incentives, regulate to advocate for mobility credits and choice of modes to save carbon. Operators need to understand what support and information people need to access car clubs and bike hire. Any new or changed regulations must enable innovation with shared transport for commuting. Government needs to stop being 'hands off' on the commute and travel for work and publish good guidelines.

TECH/INNOV: VAT is currently payable at 20% on shared vehicles of fewer than 9 seats, but not on bigger vehicles. This is effectively a tax on the residents of towns where it's not viable to run big buses. This is a block for building a taxi sharing (microbus) solution outside metropolitan settings.

ACAD: Research with stakeholders in the UK has proved that we need flexibility in the regulations.[7] Central government needs to relax legislation (for data, permits, licenses etc) drawing on evidence from overseas on how innovation can fill transport gaps.

TECH/INNOV: Planning policy should support and guide the development of mobility hubs.

ACAD: How to find the right balance for planning policy and regulation? It's important to support innovation but also avoid the downsides, for example dockless bikes abandoned and obstructing pavements.

CONS: We also need to address the grey fleet to stop people commuting to work in single occupancy vehicles. There is a major problem that even a workplace has good public transport accessibility, staff are incentivised to use their car for work purposes at 40-65p per mile. This needs addressing.

ACAD: Need to involve HM Treasury in discussions in these roundtables.

6.5 Walking and MaaS

CONS: Walking is needed to connect people into transport options otherwise they can't reach them. We have a real issue with lack of rural pavements and walking routes.

NGO: Total transport needs to include walking. The MaaS model in the DfT Future of Transport document doesn't include walking, because it doesn't get monetised. There are health and environmental benefits that are being overlooked.

ACAD: In the Netherlands employers usually take responsibility for staff journeys to work[8]. Because employers cover the cost of the journey to work, they have an incentive to lobby for better infrastructure for low cost modes such as walking or cycling.

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[7] Research in progress by academic participant
[8] https://business.gov.nl/regulation/work-related-costs-scheme/ and https://www.dutchumbrellacompany.com/travel-allowance-netherlands

CONS: WHIM, the MaaS app used by Transport for the West Midlands, was launched without walking but it has now been included[9].

NGO: MaaS needs to model end-to-end journeys and include walking.

NGO: Census data shows a surprising level of commuting by foot in rural areas. This might be due to the inclusion of small rural towns? However, as the third most popular commuting mode it should not be discounted.

ACAD: Pedestrian access to locations such as business and retail parks is often poor or non-existent. We need to eliminate the assumption that no-one will ever walk to these sites and ensure design includes the final 500m.

6.6 Rural Taxis

ACAD: In practice, in rural Scotland the 'last mile' is 5 - 15 miles. E-bikes are unsuitable for the average commute and the demography does not support car sharing. The population density is low and older people will not want to share with younger people due to fears about Covid-19. However, research shows that taxis are a key mode, filling the gap where there are no buses. In rural Scotland, taxis are competitive with bus, where a bus fare can be up to £14 for a 7 mile trip. However licensing rules make it more burdensome for a taxi to make return trips (such as for essential services like health care) across a local authority boundary. Whereas one way trips to a location 'out of area' (e.g. drop offs to an airport or a holiday cottage) are not restricted.

TP: Taxis are expensive.

INNOV/TECH: Taxis need not be expensive if shared. For industrial sites shared taxis can provide a competitive commuting option at shift handover times. Just such a pilot in Northants is working well.

NGO: Prof. John Whitelegg (2019) has documented how taxis are fully integrated with trains and bus in Germany to cover the 'last mile'.

7.0 Reports referred to in the discussion

Marsden, G., Anable, J et al (2019) Shared mobility – where now, where next? Second report of the Commission on Travel Demand   https://www.creds.ac.uk/wp-content/uploads/CREDS-Shared-mobility-comm-report-WEB.pdf

European Road Map for MaaS http://publications.lib.chalmers.se/records/fulltext/249639/local_249639.pdf

Transport and Poverty in Scotland (2019) Poverty and Inequality Commission https://povertyinequality.scot/wp-content/uploads/2019/06/Transport-and-Poverty-in-Scotland-Report-of-the-Poverty-and-Inequality-Commission.pdf

MAASiFiE project reports (2016-2017) https://projectsites.vtt.fi/sites/maasifie/www.vtt.fi/sites/maasifie.html

Whitelegg, J. (2019) Shropshire Bus Report, Foundation for Integrated Transport http://integratedtransport.co.uk/wp-content/uploads/2019/03/FIT-Shropshire-Buses-Report-web.pdf

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[9] https://whimapp.com/uk/